Comfort in adventure: the role of comfort, constraints and negotiation in recreational SCUBA diving

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COMFORT IN ADVENTURE:
The Role of Comfort, Constraints and Negotiation in Recreational SCUBA Diving

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Submitted in fulfilment of the requirements of the degree of
Doctor of Philosophy
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I certify that the work presented in this thesis is, to the best of my knowledge and belief, original, except as acknowledged in the text, and that the material has not been submitted, either in whole or in part, for a degree at this or any other university.

I acknowledge that I have read and understood the University’s rules, requirements, procedures and policy relating to my higher degree research award and to my thesis. I certify that I have complied with the rules, requirements, procedures and policy of the University (as they may be from time to time).

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Abstract

Adventure leisure activities are increasingly being sought by those who desire experiences ranging from extreme risk and danger, to simply satisfying curiosity or witnessing a different type of natural environment. The approach taken in much adventure research has been towards the risk and challenge involved, and this attention has possibly obscured opportunities to examine other aspects of the adventure experience.

The focus of this thesis addresses a gap within the adventure leisure literature by investigating the role of comfort in adventure, specifically within the experiences of recreational SCUBA divers. An interpretive, qualitative methodology was used to examine the experiences of twenty-seven recreational divers. The study participants defined comfort in SCUBA diving in four contexts: physical, social, psychological and visual. By moving the attention in adventure research away from the traditional considerations of risk and challenge, a more expanded understanding of what occurs during adventure leisure can be revealed, including experiences with comfort.

Leisure constraints were also identified within SCUBA diving as in-situ barriers to divers’ comfort. Constraints to comfort introduced uncertainty and risks to SCUBA diving according to physical, social, psychological and visual contexts. An investigation of the nature of, and participant responses to, constraints during SCUBA diving builds understanding of what occurs during adventure leisure, while extending knowledge of constraints during leisure.

Divers pursued one of three approaches to negotiate constraints to their comfort. These were to continue, co-operate or cancel. Negotiating to continue meant divers worked independently to remain within the marine environment. A co-operate strategy required seeking the support of their diving buddy. Use of a cancel strategy involved an unplanned end to the dive, and exiting the ocean.

Through the experience of comfort, constraints and negotiation in-water, divers confirmed their desire to engage with their underwater experiences. Grounded in the statements and views of twenty-seven recreational SCUBA divers, this thesis offers that comfort is a complementary experience during adventure to that which is
traditionally recognised in adventure literature. Comfort was defined as a component of adventure leisure able to be experienced within specific contexts. The presence of constraints to comfort contexts will influence a process of negotiation to remove the constraint, or enable continuation of the adventure leisure encounter. The study argues in favour of extending research foci to incorporate additional components of participation with adventure. In doing so, a broader view of what transpires during adventure leisure engagement becomes available.

**List of Publications Arising from this Thesis**

**Publication**

During the completion of this thesis, some aspects of this study have been accepted for publication as a peer-reviewed article in:


**Conference paper**

One of the central elements of this research was presented as a conference working paper:

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The road of a PhD student is filled with solitary and deeply personal periods. There has been a wealth of these for me. The support and guidance of many people from varied and rich areas of my life are the reason we have arrived at this place now.

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Chapter 1: Introduction

This thesis explores the role of comfort in adventure leisure and in recreational SCUBA diving in particular. In this chapter the study’s central elements of comfort, constraints and negotiation will be introduced. Human engagement with marine locations provides background to the evolution of SCUBA diving as a leisure activity. The concept of comfort is then introduced, with attention given to what comfort means from a range of disciplines. Following this, the use of the term comfort in adventure, leisure and tourism research is reviewed.

Divers’ constraints to comfort are also briefly examined here in this introduction, to build understanding of how comfort can be experienced during adventure, and SCUBA diving. Leisure constraints-negotiation research is discussed briefly and linked to SCUBA diving experiences. The objectives of this study are then presented prior to introducing the qualitative research paradigm that guides the research, and the thesis outline.

1.1 Humans in Marine Environments

Humans have entered the marine environment for centuries. Recreation and leisure was certainly not the objective for the sponge divers of Ancient Greece, who laboured under physical duress and difficult conditions. They were far from comfortable in their quest, as survival was dictated by sheer luck (de Latil and Rivoire 1956). Pearl divers in the Mediterranean and the East Indies were part of the civilizations of the Middle Ages whose lives focused on the sea. They too accessed the ocean with little support, using equipment that was unsafe and crude at best (Ashcroft 2001). Divers continued to face extreme physical and psychological risks when they went underwater as hunters, explorers, for science or in times of warfare (de Latil and Rivoire 1956, Higham and Lück 2008).

Equipment to survive underwater continued to be developed during the 18th century (Diole 1954), and in the 19th and 20th centuries designs for independent diving equipment emerged (Ecott 2001). Self contained diving apparatus became reliable in 1943 when enthusiasm and desire to spend time independently and comfortably below the ocean surface led Jacques Cousteau and Emile Gagnan to develop a critical
feature, the demand-valve regulator, that provided a functioning prototype for modern SCUBA diving (Cousteau 1989, Stone 1999).

SCUBA is the acronym used by its original inventors for ‘Self Contained Underwater Breathing Apparatus’, although modern usage has seen its adoption into the language as the generic word to describe diving with independent air support (Moore 1996). SCUBA diving involves using portable air supply, a mask and fins, as well as weights and usually an insulating suit. The development of SCUBA equipment provided reliability and independence underwater. Demand for SCUBA diving emerged from its original role as a search for survival to become an interest as a sport pursued by skindivers and underwater hunters. The first recreational SCUBA divers were spearfishermen who used the equipment to gain advantage over their quarry (Eyles 2005). Still many years were to pass before the underwater environment assumed a recreational focus where features other than skill and survival were important.

1.2 SCUBA Diving for Recreation

While people used SCUBA equipment to hunt for food, and other commercial products, a more recreational interest in the underwater world was helped by the release of the first leisure publication with a diving focus in the 1950s. Skin Diver magazine reached many who had an interest in diving and stimulated diving-related activities including underwater photography and SCUBA related travel (Eyles 2005). A fledgling SCUBA industry began to form. People continued to be intrigued by the ocean, and SCUBA diving was an adventurous opportunity for those who sought to satisfy curiosity, the desire for novelty or held a fascination with underwater landscapes and marine life (Cropp 1977).

The adventurous feature of SCUBA diving was prominent in its early days, as the industry was initially unregulated. Divers discovered their own limitations because there were few, if any, formal guidelines from which to learn. Many early instructors were self-taught and SCUBA diving was unrestricted (Davis 1996). The culture of the activity was surrounded by language related to excitement and danger, testing one’s limits against the sea.
Training organisations were formed to assist amateur participants in SCUBA diving. The emergence of the Professional Association of Dive Instructors (PADI) in the 1960s as a commercial competitor to not-for-profit training organisations that existed in particular locations (such as Confederation Modials Activities Sub-aquatique or CMAS in Europe, the British Sub-Aqua Club and the Australian Underwater Federation) commenced the globalised approach to SCUBA education and training. PADI is now one of several international bodies responsible for commercialising SCUBA education for millions of divers worldwide (Davis 1996, Ecott 2001). International SCUBA training is now provided by organisations such as SCUBA Schools International (SSI), National Association of Underwater Instructors (NAUI) and Global Underwater Explorers (GUE). On completion of training, divers can obtain certification to their level of completed skill development. In Australia the minimum skills and knowledge obtained during entry-level certification conform to a national standard (AS 4005.1-1992). This licence allows qualified divers access to marine environments and necessary equipment through the services of commercial SCUBA diving operators.

The formative components of a SCUBA diving industry provided the public with access to the equipment, training and management necessary to swim independently underwater for an extended period of time. Much of the development in this industry has occurred in tropical locations where coral reefs, diverse geophysical and biological features provide attractive settings (Inglis, Johnson and Ponte 1999). However, recreational SCUBA divers also access other marine environments including shipwrecks, kelp beds and underwater caves (Edney 2006, O’Neill, Williams, MacCarthy and Groves 2000).

SCUBA diving appeals to those with an interest in discovery, exploring marine habitats and viewing flora and fauna in a range of ocean conditions. The features said to be representative of adventure recreation experiences have definite relevance to SCUBA participation. The presence of risk and uncertainty are rarely far from discussions that focus on SCUBA diving (see for example Miller and Taubman – Ben-Ari 2004), and authors note that simple mistakes made underwater can quickly have dramatic consequences (Benchley 1998, Coxon 2006).
The meaning of concepts like risk and uncertainty has been important to understand participant motives for involvement with SCUBA diving. Studies have recognised divers’ attraction to the thrill and the unfamiliarity associated with taking a SCUBA dive (Ditton, Osburn, Baker and Thailing 2002, Tschapka 2006, Todd, Graefe and Mann 2002). Further, knowledge of the risks associated with the activity has been valuable to improve techniques for managing and mitigating potential risks (Coxon, Dimmock and Wilks 2007). Greater understanding of possible physiological impacts from undertaking a SCUBA dive is also important (Miller and Taubman – Ben-Ari 2004). Perhaps one inherent attraction, as with other outdoor recreation activities, is the knowledge that there will always be risk and uncertainty in SCUBA diving. Taking such a risk can include the chance to see a new type of fish, or to experience another underwater location.

Any efforts to broaden understanding of SCUBA diving require exploring participant views of their experiences, in order to become familiar with the detail and features associated with underwater encounters. Working from a perspective that ongoing participation has included positive underwater situations; knowledge of experiences – such as comfort – as part of the whole experience, can be revealed.

There are discrete elements of an adventure recreation, like risk, that are recognised components of the SCUBA experience. However, participants’ interpretations of their in-water SCUBA experiences have not been given any detailed academic or theoretical examination. By undertaking a study of what happens during SCUBA diving, there is the opportunity to explore participants’ comfort within the underwater world. Giving attention to divers’ accounts of events that unfold in-water provides a clearer picture of the adventure leisure setting. More information then becomes available to build understanding of the broader spectrum of adventure experiences. Within this spectrum is a chance to reveal if and when comfort is evident during underwater excursions albeit at an individualised interpretation.

### 1.3 Comfort

The idea that comfort can be experienced during an adventure activity has been identified but not been specifically addressed in academic research. The inclusion of comfort as part of an adventure experience supports what Cant (2003:68) describes as
a ‘disruption to conventional constructions’. That is, traditional adventure research adopts a somewhat uncontested view that risk and challenge are inherent parts of adventure recreation (Dowd 2004, Lipscombe 2005). The focus in these studies has been to look specifically at an assessment of experiences with risk and challenge (Priest and Carpenter 1993). Findings then lead to implications for the management and delivery of adventure recreation which provides experiences which are undertaken with a confidence that real risk is minimal, even though perceived risk can remain (Cater 2006, Morgan and Fluker 2002).

A dominant focus on risk in adventure recreation can obscure the attention of other experiences, such as comfort and satisfaction (see for example Kane and Tucker 2004:220). Comfort has been identified as a component of adventure which presents when one is working within one’s capabilities (Panicucci 2007). Being comfortable suggests that certain features should be present in the adventure experience such as the opportunity for a sense of calm or experiencing physical relaxation. These features draw from various sources within the social sciences, and together contribute to an overall view of comfort. Those disciplines that have recognised comfort include social psychology, environmental psychology, leisure, recreation and tourism.

Many people are aware of, and indeed anticipate, being in a position to live with convenience and comfort. A feature of modern society is the continued search for ways to improve the quality and amenity of life, in an effort to make it more comfortable. There have been advancements in areas such as design and technology which seek safer and easier ways to achieve the function and goals of human endeavour. As a consequence of the willingness to create an easier life, people anticipate being comfortable in many areas of their life (Sointu 2005). Of note is the focus on urban and domestic comfort, where attention in the literature shows there is an ongoing effort being given to creating physical, psychological and environmental comfort to improve the quality of individual experiences within built environments (Bernardi and Kowaltowski 2006, Woodward 2003). There has also been attention given to aspects of design which support the ergonomic function and amenity of workplaces where comfort aims to enhance safety and productivity outcomes (Brien 2006, Simmer-Beck 2006, Tebben 2004).
Contemporary approaches in nursing have also considered what it means for the elderly and the infirm to be comfortable during the provision of care (Hamilton 1989, Hayward 2002). Gauging client perceptions assisted in developing service-based health delivery. There is also widespread opinion which supports customer-focused service delivery in tourism and hospitality (Kandumpully 2002, Lovelock, Patterson and Walker 2001). Giving a focus to the human experience within service delivery reinforces a view that people will be comfortable during their experiences (Arnould and Price 1993, Butcher 2005, Schuchat 1983).

Outside of the workplace, there is positive acknowledgement given to the role of leisure and recreation as a feature of healthy and balanced lifestyles (Iwasaki 2003, Ji-Sook and Patterson 2007, Kleiber 1999). Indeed, Pieper (1965) holds the view that leisure is fundamental to the survival of a culture because it provides opportunity to experience inner calm and relaxation as a complement and balance to other life demands. The status that is accorded a life which features leisure involvement might also be considered as an approach to find comfort and well-being in life. The possibility of leisure participants being in a position to achieve comfort resonates with activities that pursue a gentle approach or involve low personal impact (Culp 1998, Kearsley and Coughlan 1999) and few constraints.

1.4 Constraints to Comfort in SCUBA Diving

Many features can present as barriers to, and within, an adventure experience such as SCUBA diving. Early literature on leisure constraints generally falls around three dimensions: namely, interpersonal, intrapersonal and structural (Crawford, Jackson and Godbey 1991). The three dimensions respectively consider personal, physical or psychological constraints to participation; one’s social situation might limit recreation involvement; or there could be external factors that prevent engagement (Alexandris and Stodolska 2004, Iso-Ahola and Mannell 1985). The negotiation of constraints to participation was recognised as possible, which enabled leisure involvement (Daniels, Drogin Rodgers and Wiggins 2005, Henderson and Bialeschki 1993, Kay and Jackson 1991). Research continued to build on the early knowledge of leisure constraints arguing that participants also experience constraints during an adventure activity (Little 2002). Further still, authors revealed that a process of negotiation may
be undertaken to manage or overcome these in-situ constraints (Johnson 2000, Wilson and Little 2005).

Each of the three constraint dimensions that were recognised by Crawford *et al* (1991) has the potential to be a hindrance to comfort in recreational SCUBA diving (Todd 2003). Not only might they prevent a person’s access to SCUBA participation, but leisure constraints might also be disruptive during SCUBA diving. As well as the technical aspects of training needed to undertake the activity, there can be numerous challenges from being underwater that SCUBA divers confront. Constraints have the potential to affect a diver physically (see for example Taylor, O’Toole and Ryan 2003) and psychologically, by impacting on the health of a diver underwater, or via the conduct of other divers, the quality of the ocean environment and marine flora and fauna. It may be that leisure constraints play a role in a diver’s interpretation of an underwater experience and affect a diver’s ability to realise comfort during a SCUBA dive.

### 1.5 Objectives

The overall objective of this research is to explore the role of comfort in adventure leisure experiences. The particular focus will be on the experiences of recreational SCUBA divers. Achieving this study objective will occur by addressing the following sub-objectives; which are to:

1. explore the role of comfort within adventure leisure experiences;
2. examine how comfort is defined and described in recreational SCUBA diving;
3. explore recreational SCUBA divers’ constraints to comfort;
4. examine the methods of negotiation adopted during recreational SCUBA diving to manage constraints to comfort.
1.6 Study Design

1.6.1 An experiential perspective

It has been said that contemporary literature in leisure and tourism has made an ‘experiential turn’ (Gyimothy and Mykleton 2004) by giving a focus to research which examines the experiences that arise during adventure recreation. Participation in adventure recreation has been known to generate any range of experience responses (Galloway 2006, Morgan 2005). For example, Williams and Donnelly (1985) examined the process of transformation which participants experienced from climbing, while Cant (2003) explored the ‘sensuous mystery’ associated with caving. Both of these studies revealed personal and subjective interpretation within individual encounters. While literature attests to positive responses that result from leisure involvement, researchers also hold a view that more research is needed to examine all types of experiences that individuals have when they are within natural locations (Iwasaka 2002, Lee, Dattilo and Howard 1994, Manzo 2003).

This research will be conducted using a methodology that seeks to reveal new information about participants’ experiences during recreational SCUBA diving. With attention given to an adventure leisure activity, the research is focused on building explanation of participant experiences. More specifically, the experience perspective will be deliberately applied to focus on issues associated with comfort, constraints and negotiation during recreational SCUBA diving.

Use of the experience perspective in recreation and tourism is not uncommon. Experience research in leisure has focused on a number of broad areas: theoretical and conceptual considerations, attempts to define experience characteristics, and behavioural aspects that stem from involvement with an activity. Theoretical and conceptual work has sought to define the experience phenomenon (Bouchet, Lebrun and Auvergne 2004, Cohen 1979, Gunter and Gunter 1980, Lengkeek 2000), with Uriely (2005) contending that typologies can reveal the diversity and subjectivity of experience types.

A leisure experience is made up of components including pre-involvement, experience and post-involvement stages (Hammitt 1980, Knutson and Beck 2003, Walker, Hull and Roggenbuck 1998). The plurality of involvement types is

1.6.2 Interpretive, qualitative approach

This study of comfort, constraints and negotiation in recreational SCUBA diving required broad exploratory research questions in order to consider the two predominant features that underpin the work. Firstly, the concept of comfort has not been examined empirically in adventure or leisure. Instead, the traditional research focus has been towards risk within adventure, as research considered issues such as motivation to pursue adventure (see for example Kiewa 2001, Slanger and Rudestam 1997) or one’s ability to manage risk and challenge (Kane and Tucker 2004, Ewert and Hollenhorst 1994). The literature on adventure shows a preoccupation with risk and challenge, with little consideration given to comfort. This is surprising given that knowledge of participants’ comfort offers constructive detail of adventure experiences and personal assessments of involvement with an activity or a location, and looks at assurance and achievement in an experience.

Adventure and leisure studies in marine environments also indicate that apart from preliminary work by MacCarthy, O’Neill and Williams (2006) and Cater and Cater (2007), there is little research which uses SCUBA divers’ voices to reflect their underwater experiences. In response to this gap, the personal accounts of the participating SCUBA divers are valuable. Using divers’ own words and accounts was deemed important as it gives credence to the richness of individual expression (Hollinshead and Jamal 2007, McIntosh 1998).

As a result of these factors, an interpretative, qualitative approach was considered the most appropriate means of achieving the study’s aims. Qualitative studies provide a rich body of data which contains detail of the experience under study (Henderson 2000). Richness and detail is obtained from the breadth of individual stories which assist the researcher to recognise the characteristics of a phenomenon. Using an interpretive paradigm gives support to a subjectivist epistemology and multiple
Comfort in Adventure Chapter 1: Introduction

participant perspectives (Jennings 2001). These are valuable to the design of this study into underwater experiences with comfort and constraints to comfort as they encourage the creation of meaning from participant perspectives through inductive approaches of interpretation and analysis. A grounded approach to analysing a rich body of data is also relevant, as the approach contributes to building conceptual theory from the data collected for the study (Charmaz 2005). Explanation of what occurs amidst adventure leisure experiences of comfort and constraint is then available from the study’s research findings.

Qualitative research methodologies have become part of the body of adventure leisure literature and offer a complement to quantitative-based studies. The opportunity is being taken by researchers to gather thick data which can inform understanding by giving breadth and detail to adventure leisure experiences (see for example Elsrud 2001, Hunt 1995, Jennings 2001). More so, researchers are examining existing perspectives and views of concepts at the core of adventure leisure. This includes giving consideration to positive approaches and voluntary involvement with risk-taking (Lupton and Tulloch 2002, Parker and Stanworth 2005) and the expansive meaning of adventure experiences (Varley 2006).

A great deal of the research that relates to SCUBA diving has been conducted from a quantitative, positivist perspective (Davis and Tisdell 1995, Ditton and Baker 1999, Meisel-Lusby and Cottrell 2008, Musa 2003, Rouphael and Hanafy 2007, Van Treeck and Schuhmacher 1998) which is premised on a priori research assumptions. Quantitative research methods have examined factors such as motivation for involvement, or satisfaction with the activity (Meisel-Lusby and Cottrell 2008, O’Neill, Williams, MacCarthy and Groves 2000, Tschapka 2006, Thapa, Graefe and Meyer 2006, Wilks 1991a). Findings from quantitative studies have helped to uncover the type of factors that participants seek in their recreational diving goals (McGreedy 2004).

Yet only pockets of information in empirical knowledge shed light on SCUBA diving experiences (Carter 2003). The possible range of situations that might present during SCUBA diving suggests a need for greater understanding of what transpires during the activity. Quantitative approaches do not best incorporate the individual perspectives and richness available from individual encounters. This is one of the
advantages possible from research which takes a qualitative perspective (Lincoln and Guba 1985, Neuman 2006). In response, interpretive, qualitative research methods provide the best support and direction needed to expand our understanding of the role of comfort in adventure leisure and SCUBA diving in particular.

Within this thesis the terms recreation, leisure and tourism have been interchanged. The recreational and leisure components are well recognised in tourism literature (Ryan, 1997; Leiper, 1991). In fact, Hall (1991) remarks that a main theme in tourism research is the relationship of tourism to recreation and leisure studies, suggesting the distinction between them is really a matter of degrees. Others concur (Kim, Scott and Crompton, 1997; Stewart, 1998) that overlap, rather than difference and distinction exist between what is considered as leisure, recreation or tourism (Leiper, 2003; Moore, Cushman and Simmons, 1995; Stebbins, 2001; Williams and Buswell, 2003). Reference has been given to one as a subset of another with tourism identified as a sector and recreation an activity undertaken within the parameters of leisure (Cushman, Veal and Zuzanek, 2005; Leitner and Leitner, 2004; Lengkeek, 1996; Ryan, 1997). Some authors contend that defining tourism allows for economic organisation to assist data collection that categorises tourists from non-tourists rather than having concern for the kinds of experiences visitors have (Haywood, Kew, Bramha, Spink, Capener and Henry, 1995). Ambiguities also surround efforts to succinctly conceptualise and define leisure (Gunter, 1987). While acknowledging that differences exist in the development of theoretical research into tourism compared with leisure (Moore, Cushman and Simmons, 1995) any relationship between participant experiences has been considered to be inconclusive (Ross, 1998; Mannell and Iso-Ahola, 1987).

1.7 Thesis Outline

The structure of this thesis introduces the reader to the broad disciplinary elements of interest to this study, before moving to consider previous literature and then the empirical core of the study. The current chapter has introduced the central concepts of recreational SCUBA diving, comfort and constraints. Background discussion on SCUBA diving and comfort was presented, and the importance of extending the research focus in adventure experiences was raised. Leisure constraints research is valuable in recognising in-situ barriers to divers’ comfort. The study objectives were
then introduced before considering the merits of using an interpretive, qualitative methodology to guide the research.

Chapter Two offers a more detailed review of the literature relevant to SCUBA diving, adventure, comfort and leisure constraints. The review provides an historical discussion on SCUBA diving and comfort, and considers a shift in the research focus on adventure experiences. The evolution within leisure constraints literature is also presented, including recent debates focused around constraints-negotiation research.

The study’s methodology is the focus of Chapter Three. Firstly, my role as an active recreational diver and insider to the diving world is explained. Processes that were used to source and obtain recreational divers’ involvement are then discussed, as are the research methods, including data collection and analysis methods which shed light on the divers’ in-water experiences. Methodological limitations of the qualitative context are also recognised within the chapter.

Chapters Four, Five and Six comprise the results sections of the thesis. Chapter Four presents the meanings and defining views the divers had of experiences with comfort during recreational SCUBA diving. In Chapter Five the focus shifts to the divers’ discussions of constraints to comfort. The strategies that were adopted by the divers to negotiate constraints to comfort are explored in Chapter Six.

Analysis and discussion of the overall meaning of the study outcomes forms the basis of Chapter Seven. A conceptual model which depicts the process of comfort, constraints and negotiation is provided along with the research outcomes as they address the study objectives. By consolidating the empirical findings, linkages are formed between this research and existing literature. There is also explanation of the contributions to current knowledge which emerge as a result of this thesis. Chapter Eight brings the work to a conclusion with a summary of the thesis and key findings. Limitations of the research are included, with suggestions given for future research which builds from this study.
Chapter 2: Review of the Literature

2.0 Introduction

This chapter provides a review of literature relevant to the notion of comfort during recreational SCUBA diving. Section 2.1 focuses on the historical association between humans and the underwater world. Section 2.2 examines the history and development of recreational SCUBA diving. Here consideration is given to the popularity of recreational SCUBA diving, involvement with SCUBA diving, and the growth of dive tourism.

Literature dealing with adventure is reviewed in Section 2.3, introducing some of the conceptual models which have contributed to the development of adventure research and the concept of risk within adventure. The influence of socio-cultural attitudes towards risk and adventure are also part of the discussion. Section 2.4 explains what previous research from several disciplines has revealed about comfort, before introducing comfort within adventure.

The concepts of comfort, adventure and constraints as part of SCUBA diving are linked to form section 2.5. In section 2.6 the chapter concludes with a summary of the gaps within the literature which this research seeks to address. This study of comfort has taken a multi-disciplinary approach, thus the literature discussed in this chapter is sourced from several disciplines within the business, social and environmental sciences including leisure, recreation, tourism, nursing and environmental sociology.

2.1 A History of Human Contact with the Ocean

Going below the surface of the ocean has long been a human endeavour. In ancient and medieval times, some civilizations had a familiarity with the sea that was possibly formed on their endeavours to go underwater in search of food. Later, the ocean was visited for commerce, science and discovery (Diole 1954, Miller and Koblick 1984). Professional activities were commenced within the sea to advance exploration and for science or military purposes (Diole 1954). Danger and complexity formed a substantial part of those roles, yet a strong affinity with the sea was important to endure those periods in-water (de Latil and Rivoire 1956, Nissen 1993).
The sea has been a central feature of a number of cultures, particularly as a source of food and financial livelihood. For example, the Kalymnian community in Greece has a history extending from 4500 BC, where for many years the island’s population relied on divers to collect sea sponges from the Mediterranean (Ashcroft 2001). In 2450 BC Babylon, the pearl divers were critical to a flourishing jewel trade for the Persian Empire (Miller and Koblick 1984). Similarly, the ocean waters of Korea and Japan are where the Haenyo and Ama women divers became professional food gatherers, diving unaided to collect abalone and other marine edibles (Ashcroft 2001, Grenald 1998) that provided food and income. Underwater hunters or ‘skin divers’ also entered the ocean in search of food. They too tested their skills as breath-hold divers with the help of spearguns to catch their prey (Eyles 2001). Communities throughout the world, including China, had a strong association with the sea as it provided opportunities for commerce, as well as food (Diole 1954). Diving for pearls, sponges and abalone attracted international attention. Greek fishermen were part of the international export businesses built around the sea sponges that were harvested (Ecott 2001).

Before the introduction of crude breathing equipment underwater activities were mostly achieved by divers holding their breath for up to several minutes as they worked (Ecott 2001, Maynard 1999). With time, divers were gradually provided some comfort underwater with the introduction of protective clothing and improved breathing apparatus. However, the Ama and Haenyo made only minor adjustments to their equipment utilising masks and some supportive clothing. They continue to work without breathing support. These women divers’ lives revolve around the sea with many continuing in their profession for decades (Grenald 1998, Maraini 1962, Pfeiffer 2007).

Humans’ capacity to remain underwater on breath-hold dives has also been practised as a sporting achievement (Ecott 2001). Without being encumbered by equipment, breath-hold diving, called ‘freediving,’ involves diving to depth and remaining underwater for as long as a single breath will last (Bielec 2007, Eyles 2005, Olivier 2006). Freedivers spend time in the ocean as leisure seekers, or competing for world records. An attraction to being in the sea is a common bond they share (Watman and Smith 1999).
As a contrast to other cultures forming early association with the sea, prior to the 19th century, the ocean rarely existed in Anglo-American minds except as a ‘highway’ from one place to the next. The sea was considered to be a great void: empty and featureless (Rozadowski 2005). Towards the middle of the 19th century the ocean began to enter Western consciousness as a workplace for activities including exploration (Rozadowski 2005). By the 20th century, advances had sought to improve the wellbeing and therefore comfort of those who worked in the sea. Improvements were being made to breathing apparatus and diving suits had been designed as protection against cold, while efforts to resolve other negative effects of diving at depth were being explored (Diole 1954, Miller and Koblick 1984).

### 2.2 SCUBA Diving as a Recreational Activity

It was around the 1940s that self-contained diving apparatus became sufficiently comfortable to be used for extended periods of time underwater. The modification made by Jacques Cousteau and Emile Gagnan in 1943 to self-contained diving equipment meant that a portable and manageable supply of air was possible for divers underwater. Prior to the development, air that was transported to divers flowed freely, rather than on demand, and time underwater was very short.

The impact to divers’ comfort and the duration of their time underwater was substantial (Ecott 2001). The Cousteau-Gagnan discovery opened the way for the commercial development of reliable SCUBA diving equipment soon after World War II. Other components of divers’ equipment, such as fins and masks, were already available. Cousteau and Gagnan brought about the opportunity for many people to discover for themselves what lies under the ocean’s surface (Dimmock 2007, Miller and Koblick 1984). Underwater heroes began to emerge in popular culture as Jacques Cousteau, Ben Cropp and Hans and Lotte Hass transformed the ocean in people’s minds to become a place that contained wonder, beauty and excitement. In many ways these combined developments gave more people permission to enter the sea, and to see for themselves (Byron 1994, Coleman 2006, Cousteau 1973, Ecott 2001).

Among its descriptors, SCUBA diving has been defined primarily as an adventure recreation activity. Public access to recreational SCUBA diving became possible after the Cousteau and Gagnan development, discussed previously, and the later
commercial production of SCUBA equipment by 1948. Since that time, participation has formed a global phenomenon of interest in diving, with marine environments in tropical, temperate and even arctic locations being accessed (Creyer, Ross and Evers 2003, Ecott 2001, Ewert 1985, Kenchington 1990).

SCUBA equipment became commercially available, initially in the USA, to an interested public in the late 1940s with 30,000 SCUBA units sold globally by the mid 1950s. Following closely behind came a need for adequate training and instruction. This had previously been accessible in the United States through the Young Men’s Christian Association (YMCA) and in the United Kingdom from the British Sub Aqua Club (BSAC). In Australia training was initially provided by the Australian Underwater Federation (Davis 1996). It was not long before organisations such as SCUBA Schools International (SSI), National Association of Underwater Instructors (NAUI) and later Global Underwater Explorers (GUE) began providing formal SCUBA instruction. In 1967 the Professional Association of Dive Instructors (PADI) commenced business. PADI quickly became a dominant international provider of recreational SCUBA training by following a standardised approach to SCUBA skill development. By 1994 PADI had issued 5 million SCUBA certification licences. Global recognition of certification licences allows divers to travel and access international marine locations by using the services of commercial dive operators to access diving sites, obtaining further training or hire necessary diving equipment (Dimmock 2004, Tabata 1992).

Current estimates indicate there are 9 million certified divers worldwide (Anon 2006). Yet another source suggests there are in the vicinity of 10 million certified divers in the USA alone (Ecott 2001). Davis (1996) indicated that it was difficult to determine an exact number of recreational divers. While many certified, as well as non-certified divers may no longer be active, the existence of SCUBA diving clubs, SCUBA publications and email chat lists, together with commercial organisations dedicated to arranging travel for SCUBA divers, points to a diverse and global recreational SCUBA diving community (Tschapka 2006). It is recognised that not all SCUBA diving is considered to be adventure diving. There are divers who enjoy the chance to view the marine world in a relaxed and leisurely social situation as part of their recreational activities (Garrod and Gössling 2008). As well there are professional
divers who perform paid work and conduct scientific or construction work underwater in their capacity as commercial or military divers where the completion of a task is the objective and focus of the dive.

Global interest in SCUBA diving continues as training organisations provide opportunities to develop skills and encourage participation by following a dive rating ladder, complete with exit points, that ranges from novice through to advanced technical specialisation and certification as a SCUBA instructor (www.padi.com). Based on a premise of ongoing competence-building and skill-development (with additional training), the system allows divers to increase their in-water abilities and equip themselves for additional diving challenges. Training is accessed through commercial SCUBA diving operations that are licensed to one of the international dive training organisations.

The process of undertaking several days’ training to receive the basic open water SCUBA licence requires minimal commitment and financial investment. After obtaining the licence divers can travel and access other marine environments. In an effort to encourage divers’ wellbeing and safety, certification agencies recommend people dive in conditions compatible or better than those they trained in (Wilks 1991b). Continuing education is available to extend skills and diving parameters to include deeper sites, night, wreck and cave diving. Wilks (1991c) contends that training agencies encourage advanced training because initial open water certification is really only a licence to learn how to dive.

However, the view that every new diver will remain involved with the activity and progress along the dive ladder has been contested by McCarthy (1978). McCarthy (1978:40) sees the process of ‘natural selection’ which occurs in other recreation and sporting activities to be relevant to recreational SCUBA diving. According to the process of ‘natural selection’, an individual will participate in an activity as long as they obtain enjoyment and competence from involvement and continue to have the opportunity to participate. Meanwhile, ongoing involvement with recreational diving and dive training in Australia is reported to be constrained by factors such as lack of time, cost and personal issues (Wilks 1991a). Thus while further development might occur, there are evident constraints to recreational SCUBA participation.
2.2.1 The attraction of recreational SCUBA diving

Indeed, technical advances have been a positive influence on contemporary recreational SCUBA diving. Yet it is the marine environment which continues to be the main attraction for divers. Commercial operators have been instrumental in providing access, training and equipment to assist divers to discover the natural attraction and amenity of marine environments that they might not witness otherwise (Dimmock 2004, Kenchington 1990). SCUBA diving provides a chance to closely examine marine flora and fauna including live coral and fish in their natural habitats (Dearden, Bennett and Rollins 2006, Wilks 1992). Tabata (1992:154) notes the visual appeal of marine environments, stating that divers travel extensively to ‘view wrecks, coral reefs, caves and sleeping sharks’ and that ‘destinations near the Equator are especially popular’. Cater (2008) draws attention to the attraction that seeing sharks underwater has for some divers. Edney (2006:205) also considers shipwrecks to offer ‘unique, spectacular and fascinating diving’ through their cultural, recreational and aesthetic attraction.

Writers have pointed to the focus divers place on marine life during SCUBA diving (Garrod and Gössling 2008). Williams and Polunin (2000) recognised the importance of marine fauna to divers in tropical marine protected areas in Jamaica. Divers travelling to the Spanish Medes Islands to SCUBA dive also confirmed the rich quality of marine life was a high priority (Mundet and Ribera 2001). A great deal of the amenity and experience that is sought by SCUBA divers is available from visiting marine parks because of the abundance and diversity of marine life which led to their protected status (Davis et al 1995, Green and Donnelly 2003). Thus there is increased likelihood and chance to witness marine wildlife in natural habitats (Davis and Tisdell 1996).

More temperate marine environments also attract divers because they provide alternative flora and fauna to that existing in tropical marine ecosystems. Colder water temperature means divers require extra thermal clothing to remain comfortable underwater, with anecdotal comments from divers claiming cold water is not appealing. Yet there remains an active community of divers who frequent cooler marine locations. Tabata (1992) reported on research with divers in cold water marine environments in New Zealand and Canada. Those divers considered the water quality,
natural geological formations and diversity of marine life to be as important to the experience as safety and access to sites.

A synthesis of previous studies on recreational SCUBA diving was undertaken by Musa, Syed A. Kadir and Lawrence (2006), which lists the top 5 underwater features that appeal to divers. Findings reveal the importance that divers place on observing the marine environment. Features such as underwater geology and the quality of ocean conditions, including the amount of ocean current, water temperature and level of visibility were rated highly. As Table 2.1 shows, the presence of marine life is a common theme that is evident in the features divers’ consider to be important to their in-water experiences.

<table>
<thead>
<tr>
<th>Authors</th>
<th>USA</th>
<th>Canada</th>
<th>Hawaii</th>
<th>Malaysia</th>
<th>Australia</th>
<th>Sipadan</th>
<th>Maldives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st important feature</td>
<td>Coral reef</td>
<td>Visibility</td>
<td>Marine life</td>
<td>Visibility</td>
<td>Marine life</td>
<td>Marine life</td>
<td>Staff</td>
</tr>
<tr>
<td>2nd important feature</td>
<td>Wreck</td>
<td>Geology</td>
<td>Visibility</td>
<td>Staff</td>
<td>Visibility</td>
<td>Staff</td>
<td>Safety</td>
</tr>
<tr>
<td>3rd important feature</td>
<td>Photography</td>
<td>Marine life</td>
<td>Photography</td>
<td>Management</td>
<td>Uncrowded</td>
<td>Good buddies</td>
<td>Marine life</td>
</tr>
<tr>
<td>4th important feature</td>
<td>Ice diving</td>
<td>Safety</td>
<td>Calm sea</td>
<td>Marine life</td>
<td>Site Access</td>
<td>Water temperature</td>
<td>Boat size</td>
</tr>
<tr>
<td>5th important feature</td>
<td>Spear fishing</td>
<td>Site Access</td>
<td>Ocean current</td>
<td>Coral reef</td>
<td>Cost</td>
<td>Site Access</td>
<td>Equipment quality</td>
</tr>
</tbody>
</table>

Source: Musa, Syed A. Kadir and Lawrence (2006)

Contemporary public interest in viewing wildlife in their natural environments is seen as an anthropomorphic attraction with certain animals, according to Curtin (2005). Curtin adopted an experiential perspective in her review of wildlife tourism literature and acknowledged that emotional, psychological and physical benefits are possible from human proximity to wildlife as part of the authenticity of an experience. However, Woods (2000) reminds us that humans have preferences for different animals, and not all animals hold equal status. Tremblay (2002) concurs with authors like Woods, stating that deliberately seeking out dangerous animals such as sharks is relevant to adventure and wildlife tourism experiences; it is part of the thrill.
As well as an opportunity to witness marine flora and fauna, divers also acknowledge the motivation to dive simply because it is something they have always wanted to try (Wilks 1992). Garrod (2008) suggests the range of motivations for undertaking diving tourism is extensive. He refers to a number of typologies including those which aim to categorise divers according to the level of challenge or interest in flora/fauna (citing Rice 1987) or those who seek adventure or education (citing Tabata 1992) ultimately calling for a robust study which segments the diving tourism market. In Australia, the Queensland State Government profile on ‘dive tourism’ considers ‘the main influences on decisions to participate are the experiential components available from the activity’ (www.tq.com.au/research) which follows a point by McCarthy (1978:40) that the new diver is merely ‘exploring one of a number of recreational activities’.

Social trends in travel and tourism towards active nature-based recreational experiences have complemented the development of recreational SCUBA diving as a niche market, with dive tourism forming part of the activities and marketing lexicon of destinations including Queensland, Norfolk Island and the Philippines (Arin and Kramer 2002, Davis and Tisdell 1995, Karacsonyi 2004). Dive travel became one of the fastest growing sectors of the SCUBA industry, with divers visiting tropical coral reefs such as the Great Barrier Reef, Pacific Basin, Caribbean, and Micronesia. The USA, Europe, Japan and Australia were the major generating markets (Anon 2006, Davis and Tisdell 1995, Tabata 1992). Cater and Cater’s (2000) suggestion that dive tourism is a form of mass ecotourism conveys the popularity and level of interest in SCUBA diving. In Australia, the importance of dive tourism to the state economies of Queensland and New South Wales was a point recognised in research by Tschapka (2006).

The interest in SCUBA participation may not always be a desire for ongoing involvement. In their reflections of safety and risk in SCUBA diving, Coxon (2006) and Wilks (2000) categorise these people as ‘tourist divers’. One analysis of the recreational SCUBA diving industry that reported on the rate of diving dropout contended that ‘people take dive courses for their enjoyment and the experience rather than any long term or regular commitment to the sport’ (Anon 2003:30). Thus, a situation is created in which tourists involve themselves with SCUBA diving as a
holiday activity because they can witness underwater environments and marine wildlife (Coxon 2006, Tschapka 2006, Wilks and Davis 2000). In an appraisal of contemporary adventure tourism trends, Buckley (2004) outlines the scenario in this way:

\[\textit{unskilled clients show up in street clothes and a tour operator provides transport, equipment, specialized clothing, skilled guides and \ldots on the spot training\ldots to enjoy a safe and \ldots short set of thrills.}\]

The emergence of a ‘curiosity’ market involved those looking for some form of adventure and challenge. Thus, it would seem that dive tourism has been able to extend the scope and interest in SCUBA diving to participants who might not have previously become involved (Wilks and Davis 2000). Commercial providers enable access and other specialist elements which increases the opportunity for people to enter the marine world. However briefly participants remain involved, their approach to involvement with adventure experiences remains a feature of the activity.

### 2.3 Adventure

A solid body of literature has contributed to the development of the concept of adventure recreation. As an adventure leisure activity, there are many aspects of that body of literature which are appropriate to a study of recreational SCUBA diving. Efforts to define the meaning of adventure have been approached from various perspectives, with each seeking to satisfy their individual research objectives (Varley 2006). However common to these discussions is the view that adventure is the deliberate choice to be involved with an activity which is separate from everyday life and involves a degree of risk (Davidson 1996, Ewert 1987, Kjelsrod 2003, Kane and Tucker 2004, Simmel 1971, Sung, Morrison, O’Leary 1997)

From the adventure literature particular themes emerge as relevant to this thesis, and these themes can be organised according to three stages. Each stage represents a subtle shift in research foci, and aids the chronological presentation of research trends which are applicable to this thesis. A summary of these three stages and a selection of the contributing authors is presented in Table 2.2. The contents of Table 2.2 also form the major basis of discussion in this section of the literature review.
**Table 2.2: A Thematic Summary of Adventure Literature**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Selected Contributors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging Adventure</td>
<td>Challenge diminished within daily life. Adventure as challenge offers new</td>
<td>Ewert (1989)</td>
</tr>
<tr>
<td></td>
<td>recreation and leisure choice. Quantitative focus.</td>
<td>Ewert and Hollenhorst (1990)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pigram (1993)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Simmel (1971)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weber (2001)</td>
</tr>
<tr>
<td>Discovering Adventure</td>
<td>Research identifies core components of adventure leisure. Measuring</td>
<td>Ewert and Hollenhorst (1990)</td>
</tr>
<tr>
<td></td>
<td>experience components and conceptual adventure models. Quantitative focus.</td>
<td>Priest (1992)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Priest and Bunting (1993)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Robinson (1992)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stebbins (2002)</td>
</tr>
<tr>
<td>Experiencing Adventure</td>
<td>Individual experiences are emphasised. Research methods include subjectivity</td>
<td>Beedie (2003b)</td>
</tr>
<tr>
<td></td>
<td>Experiential aspect recognises positive engagement with risk.</td>
<td>Cater (2007)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Green and Singleton (2006)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Holyfield (1999)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lupton (1999a)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lyng (1990)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pereira (2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zuckerman (2007)</td>
</tr>
</tbody>
</table>

**Emerging Adventure**

The first stage of adventure leisure research, *Emerging Adventure* recognises an historical connection with the past where pre-industrial societies faced risks as a regular feature of daily life (Ewert and Hollenshorst 1990, Pigram 1993). Interestingly, daily life was full of risk, yet not considered adventurous. Adventure was associated with travel and exploration to faraway lands (Sung, Morrison and O’Leary 1997, Weber 2001). With time and progress, daily life introduced comforts which diminished many of the risks of daily existence and society became increasingly urbanised (Shove 2003).

Urbanisation and the industrial age brought increased free time, automation and transport which formalised the focus of social involvement in leisure, recreation and tourism (Ibrahim and Cordes 2002, Juniu 2000, Leitner and Leitner 2004, Orthner and Mancini 1991). National Parks were being established and became venues for relaxation including spiritual and mental rejuvenation. Outdoor recreation in natural settings offered respite from new challenges associated with the pace and stresses of urbanised, industrial life and society (Ewert and Priest 1990, Meier 1990, Miles and...
Priest 1999). Pigram (1993) draws attention to the leisure environment, noting that places high in natural quality are often the venue for human respite, relaxation and possible comfort. Leisure and adventure were still emerging.

**Discovering Adventure**

In the second stage, *Discovering Adventure*, the literature acknowledges that as society developed, leisure was pursued in various environments, including those which featured risk and challenge (Ewert and Hollenhorst 1990, Stebbins 2002). Risk recreation was a descriptor first used to identify adventure activities because they were undertaken outdoors in locations considered to be dangerous and risky (Meier 1990, Schreyer and White 1979). Challenge and risk were recognised by researchers as important components of what defined adventure, (Ewert 1989, Dickson, Chapman and Hurrell 2000, Little and Wilson 2005, Weber 2001, Vester 1987). Studies examined the development of participants’ skill and ability as features that were necessary to deal with the complexity of an adventure situation (Ewert 1989, Bryan 1977) amidst the presence of uncertainty.

By identifying and labelling the terms risk, challenge and uncertainty, research had revealed what were to become core components of adventure recreation research. Those concepts became the focus of many quantitative studies (Ewert and Hollenhorst 1989). Identification of the conceptual elements of adventure also provided a basis for the development of conceptual models and theories of adventure recreation participation (Miles and Priest 1999). These models and theories were applied to adventure experiences in order to measure participant perceptions of the central components as well as the relationships between experiences with risk and challenge (Robinson 1992, Carpenter and Priest 1989, Morgan 2000, Priest and Carpenter 1993).

**Experiencing Adventure**

In the third stage, *Experiencing Adventure*, the literature reflects an expansion of research foci towards experiential engagement or transaction between an individual and the adventure setting (Kyle, Bricker, Graefe and Wickham 2004, Lyng 1990, Piereira 2005, Holyfield and Fine 1997). The shift in focus has moved some of the
research attention from measuring involvement with the core concepts of adventure to include a more holistic examination of the adventure experience itself. These efforts have begun to reveal what makes each adventure experience unique and what contributes to the appeal of involvement (Beedie 2003a, Cater 2007). Pursuit of adventure activities as experiences of challenge, risk and uncertainty was being discussed in other ways, such as undertaking experiences which contained levels of arousal, sensation or thrill (Ewert 1989, Green and Singleton 2006, Zuckerman 2007). The literature began to engage with the idea of a positive approach towards involvement with risk recreation.

Western society's approach to risk appears to have shifted with the passage of time. In the 18th century, the meaning of risk was considered relevant to uncontrollable acts of natural disaster. Managing risk was associated with large mercantile businesses which dealt with major catastrophes, rather than individual experiences. Today, risk is a subject raised in many areas of human behaviour, including leisure (Ewald 1999, Ferudi 2002). Authors acknowledge there are different ways of thinking about risk, and make the point that individuals construct their own view of risk, based on their social relations and each person's identity formation (Green and Singleton 2006, Lupton 1999a).

A positive approach to risk in the context of adventure tourism has been recognised. Making an argument in support of the appeal of risk in leisure, Cater (2006) reminds us that risk can be a positive element of an adventure, because of the thrill gained from the opportunity to play with fear. This is also a premise of the adventure education experience, where a risk-taking experience is considered to be good for one's confidence and character (Holyfield and Fine 1997, Panicucci 2007). In this way, adventure education participants can extend their involvement to a point where 'senses are enlivened' as they embark on experiences beyond comfort (Panicucci 2007). A sense of thrill is realised when one confronts the fears, perceived risks and uncertainty which is possible from adventure (Cater, 2006, McGillivray and Frew, 2007).

Simmel (1971:187) acknowledges one of the roles of adventure is representing that part of life which is inconsistent with the usual continuity of life. As a discrete event separating an individual from the 'entanglement' characterising normal reality and
usual life, adventure recreation has thus evolved to feature prominently in modern contemporary society. Predictions are that growth in demand for adventurous activities will continue as people search for novelty and sensory stimulation (Buckley 2006, Muller and Cleaver 2000, Williams and Soutar 2005). Researchers contend that adventure tourism has become the focal sector for much commercial adventure activity that is being undertaken (Buckley 2006, Ewert and Jamieson 2003), with industries such as SCUBA diving and skiing offering the necessary components for some types of adventure experiences (Beedie 2003a, Buckley 2005, Millington et al 2001, Olivier 2006).

Authors have examined engagement with the components of adventure and give consideration to the level or intensity of risk, challenge and uncertainty that is involved with an activity. For example, Bonington’s (2000) exposé of adventurous feats, which were undertaken by participants including mountain climbers and sailors, holds that the number of participants involved with extreme adventure recreation reflects varying levels of adventure involvement. Other authors also refer to degrees of involvement in adventure. For example, a soft adventure–hard adventure ‘continuum’ was reported by Ewert and Jamieson (2003) as one way of responding to popular demand for adventure tourism, while Buckley (2006) made the point that commercial providers offer different levels of risk, challenge and uncertainty to meet the variation in demand. Varley (2006) also recognised disparity in the provision of adventure experiences. He developed a continuum of commodified adventure which included commitment, risk and responsibility as critical components that ranged from shallow to deep levels depending on the adventure providers position on the continuum.

Authors such as Beedie (2003) and Cater (2006) recognise experiential elements have become a feature of some markets, with the opportunity being taken to trade in the economy of safe and comfortable settings (McGillivray and Frew 2007, Schott 2007). Varley’s (2006) conceptualisation recognises there is considerable variation in adventure experiences, with the point made that true adventure experiences are unable to be commodified or contained as products of the market.
Thus, adventure leisure can be seen as an emerging feature in the development of modern industrial society (Schott 2007). Former challenges of pre-industrial life were removed in the creation of urbanised societies. Industrial advancements complemented the choice to pursue rejuvenation and release in natural locations. Discovering adventure involved risk-taking and pursuing challenge in recreation locations perceived as dangerous, where skills were needed to manage perceived risks. Research agendas identified and measured core components to construct models of adventure experiences.

Demand for adventure experiences continued, and engagement with adventure experiences became the focus of research agendas. Experiencing adventure revealed additional approaches to research that extended understanding of the activity and including positive association with risk. Authors pointed to an ironic juxtaposition in which modern society is more likely to accept risk and uncertainty in leisure and adventure, rather than in other areas of life where risk has been progressively reduced over time (Cater 2006, Ewert 1989, Holyfield 1999).

The opportunity for research to extend knowledge and examine the area of experiencing adventure has been assisted by the solid research foundation that was established within the stage labelled as Discovering Adventure in Table 2.2. Within that period a substantial body of work contributed to theoretical conceptualisations of adventure experiences. The following section will introduce conceptual models and themes which have been central to literature on adventure research.

### 2.3.1 Conceptualising adventure

Within the leisure, recreation and tourism literature there are a number of conceptual models that describe adventure participation. As this thesis focuses on comfort within an adventure leisure experience (SCUBA diving), it is necessary to briefly review these models. In doing so, the review seeks to emphasise the complex, dynamic and multiple features of adventure experiences rather than presume that every experience contains predictable static components.
Research into outdoor recreation has contributed substantially to understanding the potential scope of participant experience states. Mortlock (1984) is acknowledged as an early proponent of the dynamic feature of adventure experiences (Robinson 1992, Priest 1992). Mortlock (1984) found four stages of adventure participation. These are: play, adventure, frontier adventure and misadventure. According to Mortlock (1984:24) in any one experience ‘a person may go through several stages, perhaps several times, in an experience’.

Variation in adventure experience stages is said to affect the overall quality of the experience (Csikszentmihalyi 1992, Hammitt 1980, Lee, Shafer and Kang 2005). Examples of this variation can be seen within the Adventure Experience Paradigm (AEP) (Martin and Priest 1986). Building on the principles of adventure recreation, the Adventure Experience Paradigm represents the interplay between participants’ perceptions of risk and their actual competence with an activity. The AEP model (Figure 2.1) is based on the premise that risk involves the potential to lose something of value, while competence reflects one’s ability to cope with the demands of the situation (Priest and Bunting 1993).

![Figure 2.1: The Adventure Experience Paradigm](image)

Source: Martin and Priest 1986
According to Priest (1992), adventure can result in one of five outcomes identified in Figure 2.1. These outcomes are described by Priest (1992:129) as:

- **Exploration and experimentation:** risk is low and competence is high
- **Adventure:** as risk increases with competence still greater
- **Peak adventure:** risk and competence are matched
- **Misadventure:** can occur when risk exceeds competence
- **Devastation and disaster:** prevailing risk exceeds competence

To be in a position to achieve positive outcomes from risk recreation, Robinson (1992) contends that a participant must respond effectively to various tasks in the adventure environment – an environment that is rich in sensory stimulation. The model of enduring risk recreation posits that participation involves moving through five phases from initial attraction to appraisal, approach, experience and reflection during an adventure. A critical comment that Robinson (1992) makes is that risk recreation participants have a need for stimulation and autonomy.

The dynamic context of adventure is also recognised in what Morgan (2000) calls the Adventure Tourism Process. The Adventure Tourism Process identifies points within an experience where potential gaps result from a shift in participant perception as the reality of the adventure is confronted. Morgan (2000) contends that perceptions of fear and control will change between pre-adventure and post-adventure because a participant will assess the risks and learning that occurred during the activity.

Adventure recreation contains many opportunities for action that require skills to meet the challenge. Executing skills and the resulting feedback present immediate outcomes and responses. When participants can balance their level of skill with the required challenge, the potential for ‘flow’ or enjoyment during an activity exists (Csikszentmihalyi 1992). While not initially considered as a model of adventure experience, Csikszentmihalyi’s (1975) theory of flow (or optimal experience) relates to the adventure literature because it recognises the shift in experience states that can occur amidst the presence of uncertainty and risk. Csikszentmihalyi (1975: 49) identifies four states form the flow theory. These are apathy, when a participant has
low skill and there is no challenge; boredom, which results from too much skill compared with too little challenge; anxiety, which occurs when the skill is exceeded by the challenge, and flow, which is the matching and balance in skill and challenge. A flow state ‘is intrinsically rewarding and has the potential for engagement to be richer, more intense and more meaningful’ as individuals are able to transcend their usual state of awareness during flow (Csikszentmihalyi 1992:70).

Mitchell (1983) used a phenomenological approach when he applied the theory of flow to mountaineering. The study recognises that the presence of each phase of flow is managed by the mountaineers’ attitudes and their response to the uncertainty of each situation. For example, mountaineers work through the challenges and constraints of apathy, anxiety and boredom to complete unexpected and mundane tasks in a climb, which then led to opportunities for balance and flow experiences.

Other authors have also contributed to understanding the concept of flow within leisure (Ewert 1989). Martin and Priest (1986) for example, recognise that as a result of a peak experience an individual can transcend normal experience limits through discovery and exploration. Transcendence is described as a highly expressive stream of consciousness that is a significant feature of adventure experiences (Vester 1987). The flow experience is enjoyable because an individual has sufficient skills to apply to the necessary challenge, and can thus concentrate on a limited stimulus field (Smith and Theberge 1987). The skill-challenge balance was the focus of a study of competence-building processes during adventure and recreation development by Dustin, McAvoy and Beck (1986) who contend that human desire for achievement in recreation is ongoing, and that optimal experience is a shifting experience state to achieve.

2.3.2 Adventure and risk

Section 2.2 explained that participation in adventure activities like SCUBA diving is often associated with risk. Descriptors used to describe involvement with adventure include ‘risky’ behaviour or voluntary risk-taking (Lyng 1990, Vanreusal and Rensen 1982). Walle (1997) and Lyng (1990) draw attention to a psychological approach that views rewards or positive outcomes as the primary motivation for adventure involvement. There are some researchers who use the term ‘sensation seekers’ to
describe people who are psychologically disposed to participate in activities with greater degrees of risk because they seek novelty and sensory stimulation (Pizam, et al 2004, Zuckermann 2007).

Lyng (1990) and Watson and Pulford (2004) suggest that personality predisposition helps us understand why people choose to be involved with adventurous activities. At the same time, they acknowledge a deficit in that there is a lack of causal explanation for participation. Perhaps it is as Walle (1997) offers: that the pursuit of risk is an end in itself where self-actualisation or peak experience exists. Or, the thrill of risk-taking is an ‘embodied’ experience (Cater 2007:322), meaning that people choose to participate in an activity for reasons that include a desire to ‘know’ what the experience is like. Using surfing as an example, Stranger (1999) was able to establish a clear link between risk-taking and thrill-seeking. He maintains that thrills experienced in small surf become harder to capture as one’s ability and skill levels improve.

Stranger’s (1999) findings acknowledge that perceptions of risk are likely to diminish when a participant increases their skills and ability to manage themselves during an activity. This is so because the participant is developing towards specialisation and a renewed assessment of risk (Creyer et al 2003, Ewert and Hollenhorst 1989, Martin and Priest 1986). The process occurs because, in the early stages of skill development, risk is considered as the participant’s perception of risk. With further development of skill, dependence on external or managed control declines and is replaced by internal self-reliance. As skill improves, a participant will be likely to adjust aspects of his/her adventure participation, such as the setting or other experience components. Stranger (1999) refers to the process of reducing the perception and reality of risk as rationalisation.

In a study of experiences with risk in recreation, Creyer, Ross and Evers (2003:251) studied mountain bikers to gauge factors affecting their participation. They found that as experience was acquired, perceived risks did diminish, while participants’ outcome expectancies increased. Experience enabled participants to ‘push the envelope’ and increase the level of challenge they were prepared to confront. In such a circumstance, perceived risks either diminished or became real risks and challenges

2.3.2.1 Risk and SCUBA diving

Creyer, Ross and Evers (2003) note that successful risky behaviour will often be repeated because it can lead to a sense of confidence. In turn, this confidence can reduce the perception of risk compared with the anticipated outcomes (Miller and Taubman – Ben-Ari 2004). In her work with deep sea divers, Hunt (1995) refers to the process of risk reduction as ‘normalising risk’. By undertaking initiatives such as risk socialisation, which can include becoming a member of a SCUBA diving social club or subscribing to dive industry magazines, divers are supported in their endeavours to become familiar with, or to normalise, perceptions of risk that are linked with the activity (Hunt 1995, Todd 2004). All perceived risks are not entirely removed from SCUBA diving, of course. This point was evident in Tschapka’s (2006) work with SCUBA divers. Tschapka studied SCUBA diving club members’ dive site preferences, involvement and motivation to dive, finding within his sample group that ‘generally SCUBA diving club members enjoy neither the physical risk nor the problems that can occur with the activity’ (p.151).

Repeated and ongoing participation should also lead towards socialisation with the risks that are part of an activity. Todd, Graefe and Mann (2006) compared divers’ level of specialisation with their marine based environmental behaviours. Increased skill level leads to a change in attitudes, values and behaviours related to the activity. It can be suggested that these altered perspectives include a participant becoming socialised in terms of risk. Some of Todd et al’s (2002) findings are in contrast with the intrinsic nature of leisure theory. When divers first commenced the activity, they were motivated by the challenges of SCUBA diving, but this initial appeal shifted to an attraction with status and related visible outcomes. This shift was the result of a desire for collecting artefacts and trophy hunting on shipwrecks (Todd, Graefe and Mann 2002).

Todd, Graefe and Mann (2002) suggested that as divers become familiar with the challenges of SCUBA diving, they discovered a renewed challenge in trophy hunting. Respondents became motivated by social values and the extrinsic rewards of their
material success, rather than intrinsic leisure motives that were first identified, and are evident elsewhere (Csikszentmihalyi 1975, Debridge 1982, Pearsall and Trumble 2003). For example, another study conducted with SCUBA divers in Australia found the efficacy of developing diving skill was important to divers’ satisfaction with the SCUBA experience (MacCarthy, O’Neill and Williams 2006). However, divers in both studies did recognise the need to develop skills to be prepared for the challenges of the SCUBA diving setting.

As participants continue their involvement in an activity greater understanding of the associated risks occurs. As risks become part of usual practice, or renewed in a shift towards other challenges, the participant is forming greater and more realistic understanding of the challenges that are part of the activity, at the same time as improving their ability to manage within the adventure environment.

2.3.3 The role of the environment in adventure

One aspect that can affect the adventure experience is the location or site where the activity is undertaken. The response a participant has to the immediate environment and the conditions present at the site will feature in some way towards the experience outcomes. A discussion of the human-environment interaction is valuable to a study of comfort in SCUBA diving because the underwater environment is so unique and alien to humans’ everyday lives (Cousteau 1989, Diole 1953), as well as being seen as an unpredictable location. The process of ascertaining when and how divers are comfortable in-water is likely to include reference to the marine setting as part of the discussion.

Adventure offers participants experiences involving personal enjoyment and the chance to appreciate a natural location. Environmental psychologists focus on the interaction between individuals and their immediate environment, including natural environments (De Young 1999). Research in environmental psychology does not directly address adventurers and their environment however the field does acknowledge natural landscapes as locations for recreation activities. Theories from environmental psychology indicate that exposure to particular environments leads to positive or negative stimulation, which then has consequences for a person’s behaviour. Factors including the intensity of the interaction and diversity of features
at the site are dimensions which have been suggested as influential factors (Fisher, Bell, Baum 1984). Gibson (1966) posits that environments offer psychological values and meanings beyond what is contained on the physical surface of a location. That value is perceived by what it offers each individual. Reactions to an adventure environment have the potential to cause emotional responses and influence a person’s choice to approach or avoid a particular setting.

2.3.3.1 Marine environments in leisure and adventure

The popularity of marine locations as the venue for certain kinds of leisure and tourism activities is being recognised. Authors note that while land and coastal recreation has occurred for some time, the marine landscape has been a more recent phenomenon (Orams 1999, Higham and Lück 2007). The growth in demand for wildlife viewing opportunities, such as boat-based whale watching involves visiting marine environments to observe wildlife in their natural habitat. For some people, recreation involves much closer contact with the marine environment in such pursuits on the surface as sailing, surfing, windsurfing or kayaking (Morgan and Dimmock 2006, Ryan 2007). Technical advancements in the 1940s helped those interested in more adventurous activities to go below the surface. Masks and swimming fins greatly benefitted spearfishing and bluewater hunting. Eyles (2005) recognises the period from 1940s to 1950s as when that sport was at its zenith. Freedivers were drawn to the ocean ‘where thrill-seekers, athletes and adventurers pushed their way into the sport’ (Eyles 2005:59).

Orams (1999:15) contends that it was the Cousteau-Gagnan innovation to SCUBA diving equipment and the subsequent development of the aqualung that changed attitudes towards the marine landscape. Once humans could venture into and breathe below the ocean, attitudes commenced a fundamental shift towards all things marine. Over a period of a little more than 50 years attitudes towards the ocean appear to have traversed an expanse of approaches. These approaches include considering the marine environment only as a place for hunting, through to those who are curious and passive observers or recreationists within the sea (see for example Higham and Lück 2008, Shackley 1998). More recently questions which surround the sustainable use of marine resources have stimulated greater awareness of the ecological management of many marine-based activities including SCUBA diving (Cater and Cater 2007,
Continuous and increased participation in outdoor adventure has seen a shift in the psychological value that is placed on specific destinations. The popularity of certain sites has brought with it a desire to witness a natural spectacle, to see wildlife in its native habitat or to enjoy a feeling of space or place (Cloke and Perkins 2002, Curtin 2005, Duffus and Dearden 1990, Henderson and Frelke 2000, Lipscombe, Howard and Porter 2001, Sharpe 2005, Valentine, Birtles, Curnock, Arnold, & Dunstan 2004). Literature also attests to the restorative powers that humans achieve from their experiences with nature (Cant 2003, Ewert and Shultis 1999, McIntyre and Roggenbuck 1998). Feelings of ease and quiet, or to be able to slow down and hear sounds of nature, are examples of experiences said to provide comfort in natural environments (Kaplan and Kaplan 1989:134).

2.4 Comfort

The preceding section of this review has revealed there are subtle shifts evident in the research focus into adventure leisure and risk away from identification and measurement of core elements towards clarifying experiential aspects of adventure involvement. The research emphasis reflects positive and voluntary engagement with adventure activities, as well as the opportunity for participants to minimise the impact of engagement with risk.

The notion of comfort has been explored across a range of disciplines, including sociology, nursing and environmental psychology. Dictionary definitions generally refer to comfort as a state of being relaxed and feeling no pain, which extends beyond a physical experience. For example, comfort has been defined in one dictionary as being ‘free from worry or disappointment’, with reference made to mental comfort as possible through ‘relief of anxiety and stress’ (Anon 1999:275). Comfort is also defined as a ‘condition in which somebody feels … relaxed …, free from pain or anxiety’ (Procter 1982:275). Comfort indicates satisfaction with the capacity to ‘calm or soothe, provide euphoria, repose, wealth, happiness, contentment, cheer, give hope and condolence: a positive mood or emotion, a state of physical wellbeing, consolation or relief’ (Davitz 1969: 289). Use of the term ‘comfort zone’ is present in
research on teaching, with reference to a pleasant ‘place’ where teachers might spend
time rather than confronting new challenges in their profession (Radford 1991).
Achieving comfort is recognised as more powerful than the rewards of overcoming
challenge (Jackson and Csikszentmihalyi 1999).

Comfort plays an increasingly important role in contemporary western society. The
centrality of comfort to modern daily life is evident in trends that seek to remove
difficulty and restore harmony to life. As the boundaries between daily life and
leisure become less defined (Ewert and Hollenhorst 1990) it is considered that the
comfort concept will remain an anticipated and desired feature of life. The recognised
elements of adventure that are known to be features of SCUBA diving also provide
opportunity to consider whether participants can achieve a comfortable state while
being involved in a ‘risky’ activity.

2.4.1 Finding comfort: Definitions and theories
Prior to the 18th century, classical and Christian philosophers viewed comfort as the
 provision of offering hope. During the 18th century there were shifts in many areas of
social and economic life which created new attitudes towards patterns of
consumption. The emergence of the term comfort in an academic sense can be traced
to the 18th century when philosophical and religious influences dissuaded symbols of
luxury as disrespectful. The use of the term comfort originally referred to a means of
satisfying spiritual needs through condolence and support (Shove 2003). After the
18th century, comfort began to represent the capacity to meet physical needs through
the design and construction of furniture and other functional improvements that were
introduced into the houses of those sufficiently affluent (Crowley 2001). Those new
attitudes in turn created new interpretations, as comfort was seen as a luxury for some
and for others, a convenience in daily life. In the 18th century, comfort was valuable
as a sign of material worth, when consumer needs became a cultural form, rather than
a natural process, and physical comfort was asserted as one’s right. A discourse of
comfort, suggesting luxury, convenience, necessity, gave new meaning to the
consumer revolution of 18th century Anglo-American society and reconceptualised
comfort as a symbol of value, status and worth (Crowley 2001:752).
With time, industrialisation and changes in consumption, people’s views shifted in terms of what was necessity and what was convenience. This saw comfort transcend the arena of everyday demands, to become an anticipated and inherent part of life (Kolcaba 1991), and ultimately a dimension of subjective well-being (Nieboer, Lindenberg, Boomsma and van Bruggen 2005). Crowley’s (2001) work for example, explained how design and construction introduced comfort to mainstream society. With a focus on the process of consumption, Shove (2003) argued that demand for comfort became universalised into human need and was sustained by global forms of commercial interest that shaped expectations and experiences to become usual practice. Shove’s social theory perspective on consumption and comfort takes a physiological view that explored comfort’s relationship with the goal of meeting physical needs. In her study, need is constructed by commercial and scientific interests and comfort is viewed as a material reality; a symbol of value as well as necessity (Shove 2003:21).

Confirming there is great disparity among the conditions that create comfort, Shove (2003) suggests that achieving comfort is at heart a social process that is in tune with ordinary habits and routine aspects of life. Her research focused on processes of consumption and argued for the co-evolution of technology and practice. Shove found that materialisation and socio-technical change are global drivers in the move towards modernity. Shove’s (2003:198) central claim is that when something is accepted by the broader public, such as comfort, it is followed by high levels of demand and acceptance.

It is not only in areas related to domestic development and consumption trends that comfort emerges as relevant to social practice. Comfort is also often defined in terms of the physical or material contexts that support daily life. Further, human needs extend to include other comfort contexts including physiological and emotional comfort. The nursing profession, for example, recognises different forms of comfort. Kolcaba (1991) suggests there are multiple contexts within which contemporary society anticipates and experiences comfort. A search for clarification of the meaning of comfort provides insight to the nursing discipline. In nursing, comfort is crucial in meeting patients’ life needs and maintaining dignity, and aligns with Shove’s (2003) view that comfort is one of the many ‘invisible’ aspects of normal life. Hamilton
Kay Dimmock (1989) studied comfort from a patient perspective and recognised that comfort emerged from one’s self-esteem, as well as one’s physical, social and environmental needs.

Several authors within nursing recognise that a definition of comfort is an illusive and difficult concept (Kolcaba 1991, Tutton and Seers 2003). Others have identified the reluctance to associate nursing practice with comfort because use of the term might bring forth ‘notions of femininity and weakness’ within the discipline, even though it is a substantive need humans have throughout life (Ferrell and Ferrell, cited in Malinowski and Leeseberg-Stamler 2002:599).

Kolcaba (1991, 1994) has further acknowledged the spiritual context of comfort in nursing care, which suggests that the original meanings of consolation and moral support referred to by Crowley (2001) and Shove (2003) has not been abandoned. Rather, the term has been extended to include a broader definition. To assist this broadening Kolcaba (1991:239) created a taxonomy to explain the multi-faceted nature of comfort. The taxonomy incorporates three sense states that were identified within the nursing literature and include meanings associated with comfort, that extend from one’s fit with their environment (ease), the absence of a negative experience (relief), through to a feeling of renewal (transcendence).

Kolcaba (1991) also developed the work of Hamilton (1989) by proposing four contexts of a comfortable experience for patients: physical, social, psychospiritual and environmental. Together, the three sense states and four contexts provide breadth and depth to the range of options that might encompass comfort. Others within nursing have the opinion that comfort has most often been assessed on physiological dimensions, with psychological and emotional considerations often neglected (Malinowski and Leeseberg-Stamler 2002). Tutton and Seers (2003) seem to share the views of Malinowski and Leeseberg-Stamler (2002) and Kolcaba (1991), recognising that comfort includes physical, physiological, social and environmental contexts. Tutton and Seers (2003) add that comfort involves growth, development and internalising freedom from factors that inhibit self-control and prevent individuals from achieving their full potential.
The context of comfort as transcendence is seen as a renewal state that results from extraordinary performance (Kolcaba 1991), and could be aligned with Csikszentmihalyí’s (1975) thoughts on ‘flow’, in which an individual has the potential to transcend. Kolcaba (1991) also adds that to gain understanding of comfort there is a need to delve into understanding individual experiences.

### 2.4.2 Comfort in adventure and leisure

This thesis explores the notion that individuals are able to recognise comfort in ‘risky’ adventure activities like SCUBA diving. A comfortable ‘place’ within an adventure recreation activity would allow involvement that is less demanding than having to achieve or exceed optimal levels of skill and ability. In the context of leisure, Jackson and Csikszentmihalyí (1999) refer to comfort as achieving a state of equilibrium, where one is pleasantly relaxed. Being in the ‘comfort zone’ reinforces freedom from stress and anxiety, and is considered to be relevant to participation in sport when the activity is used as a form of relaxation (Jackson and Csikszentmihalyí 1999). Jackson and Csikszentmihalyí (1999) also state that comfort can be a form of complacency for those who are involved with competitive sports. Comfort zones are also discussed by Panicucci (2007) within her research that focuses on adventure education. The work adds further support for the view that comfort is an experiential ‘place’ where it is possible to obtain respite from confronting challenge.

Morgan and Lok’s (2000:397) opinion is that recreational comfort means visitors expect freedom – freedom from being unfettered to pursue their recreational goals, including the opportunity to experience solitude in a natural setting. Comfort is identified as one of four experience zones possible in adventure, ‘where pleasure is obtained from the activity; it engages the participant’s skill levels, but the experience is comfortably within the competency level of the participant’ (Ryan and Trauer 2004:148). More recently, Trauer (2006) indicates that comfort can be achieved through development and specialisation with adventure recreation.

McAvoy and Dustin (1990) and Dustin (1987) appear to consider comfort as something that can be created in adventure recreation. They dispute the need for recreation managers to provide comfortable experiences in calling for the right to sanction taking risks in wilderness areas. From a recreational manager’s perspective,
McAvoy and Dustin (1990) add that the pursuit of comfort in the name of pleasure will diminish opportunities for challenge, development and growth. Support for the absence of comfortable provisions in remote locations is evident in work by McArthur (1994) on leisure wilderness experiences. Findings indicate that providing support and conveniences to improve physical comfort in remote areas actually diminished psychological comfort levels because visitors had anticipated a sense of isolation in their experience. However, another recreational user’s perspective appears in Culp’s (1998) study of constraints and programming experiences in outdoor recreation, when the emergence of the concept of comfort was noted. Culp commented that for some participants, the prospects of roughing it were unpleasant, whereas others found ways to make the outdoor environment seem comfortable.

This section has identified the existence of comfort within adventure recreation experiences. Researchers now recognise that there is an experience state within which individuals can realise the absence of stress and anxiety during recreation, while still achieving their recreation goals. Yet, reference to and consideration of comfort has been deduced by way of quantified measures (Morgan and Lok 2000) or inclusion of the concept within conceptualized frameworks (Panicucci 2007, Ryan and Trauer 2004, Trauer 2006). It is acknowledged that Culp (1998) used qualitative research methods to reveal the emergence of comfort. However, there does not appear to be detailed examination of experiences with comfort evident within the adventure recreation literature.

### 2.5 Comfort, Adventure and Constraints

An individual’s experiences with comfort are likely to be bound by features of the particular environment that intervene to disrupt the experience in any way. Leisure constraints theory provides a conceptual framework to support a perceptual position from which recreational SCUBA divers might experience comfortable in-water encounters.

Earlier discussions in this literature review on risk socialisation and normalisation aligned with the process of making one’s worldview more positive, which is further linked to an individual’s self-esteem (Hunt 1995, Miller and Taubman 2004, Stokowski 1994, Stebbins 2002). SCUBA divers’ self-esteem and self-efficacy were
explored by Miller and Taubman (2004:270) using a ‘terror management’ theory. They found divers tended to take risks, even when they were aware of the potential for disaster. The study found high self-esteem divers were less likely to participate in risky diving behaviour. Miller and Taubman (2004:279) propose that ‘esteem can act as a kind of anxiety buffer’. They add that internal resources and unconscious anxieties might motivate risk-taking behaviour. The notion that SCUBA divers are hardier because they successfully negotiate challenges was also a point raised by Todd (2004), who suggests that participants cope with difficulties because they desire the risk, thrill and positive challenges that they gain from diving.

It has been argued that the dangers and risks associated with SCUBA diving are de-emphasised because of the increasing commercialisation of managed SCUBA diving experiences. There remains contention surrounding the level and amount of safety training that divers undertake (Jablonski 1999, Roos 1979). Concerns relate to developing visitors’ awareness of ocean conditions and their water safety competence. Both of these features have been considered to be prominent risk factors for beginning divers and those who are unfamiliar with ocean conditions at a destination (Coxon 2006). They also offer the potential to be constraints to the underwater experience for SCUBA divers.

Participants’ experiences with leisure and recreation constraints have been the focus of a substantial body of literature (Henderson and Allen 1991, Kerstetter, Yin-Yen and Yarnal 2005). Two decades of research has provided broad discussion on constraints. Constraints have been identified as a psychological and subjective experience originating from a perceived deficiency of something that impacts leisure participation along interpersonal, intrapersonal and structural dimensions (Crawford, Jackson and Godbey 1991, Iso-Ahola and Mannell 1985, Raymore, Godbey, Crawford and Von Eye 1993). The ‘deficiency’ or ‘barrier’ was found to be caused by personal, social or external factors that prevented access to leisure (Alexandris and Stodolska 2004, Hung and Crompton 2006). These theoretical ideas held a view that constraints hindered access and involvement with leisure activities including nature-based tourism (Crompton and Kim 2004, Jackson and Scott 1999, Pennington-Gray and Kerstetter 2002).
Figure 2.2 presents the leisure constraints model proposed by Crawford, Jackson and Godbey in 1991 to reflect the perception at the time that constraints to leisure hindered access in a hierarchical order from intrapersonal, to interpersonal and structural constraints.

As research into leisure constraints continued, authors saw that access to leisure could still occur ‘despite constraint’ (Hung and Crompton 2006, Iso-Ahola and Mannell 1985, Kay and Jackson 1991, Samdahl and Jekubovich 1997). The reasoning shed light on constraints as dynamic phenomena with potential to be overcome, or negotiated (Hung and Crompton 2006, Mowen, Payne and Scott 2005, Samdahl and Jekubovich 1997). Motivation was a factor recognised in negotiation success (Jackson, Crawford and Godbey 1993, Hubbard and Mannell 2001). Alexandris, Tsorbatzoudis and Grouios (2002) found that intrapersonal constraints interacted with motivation and participation, while McGuiggan (2004) found that personality can be influential to an individual’s perception of intrapersonal constraints. Similarly, one’s belief in the ability to negotiate leisure involvement has also been linked to the motivation necessary to cope with leisure constraints by individuals with chronic muscular pain (Loucks-Atkinson and Mannell 2007).

For some leisure participants, constraints can be ongoing factors that require continual negotiation if involvement with leisure or adventure is to be achieved (Crawford, Jackson and Godbey 1991, Little 2002). Other authors feel that individuals continue to negotiate, and in some way accommodate, a constraint situation to continue their involvement with a leisure experience (Johnson 2000, Wilson and Little 2005). For example, perceptions of constraints remained stable over

![Figure 2.2: Early Conceptualisation of Constraints to Leisure](Source: Crawford, Jackson and Godbey 1991)
10 years for park users in Ohio (Mowen, Payne and Scott 2005). Similarly, Bairner and Shirlow (2003) reveal that fear of entering a particular place required regular negotiation to access leisure in Belfast.

The view that constraints always have a limiting and negating effect on adventure experiences has been challenged because of the recognition and negotiation processes that individuals can take (Crawford and Godbey 1987, Henderson & Bialeschki 1993, Kay and Jackson 1991, Raymore et al 1993, Shogun 2002, Shaw et al 1991). For example, Little (2000) found that some women were successful at accessing adventure by using strategies that paralleled the intensity of involvement. Little’s (2002) work showed that when confronted by barriers to access, some women negotiated by substituting one adventurous activity for another. In another context, cultural and spatial constraints were negotiated for leisure and travel to be achieved by Muslim Americans in the period Post-September 11 (Livengood and Stodolska 2004). Moreover, in-situ constraints can be negotiated by solo women travellers during their travel experience, according to work by Wilson and Little (2005) and Jordan and Gibson (2005). That is, women constrained by a lack of local knowledge and explicit cultural understanding negotiated by taking precautions to enable their travels to continue (Wilson and Little 2005).

Discussions and debate throughout the constraints-negotiation literature centre predominantly on access to involvement with leisure and adventure. Indeed, authors such as Henderson and Bialeschki (1993) and Stalp (2006) have argued that negotiating constraints to pursue leisure and adventure is achievable. Others have indicated that work has begun to extend this examination by considering leisure and adventure experiences once constraints to access have been negotiated (Elkins, Beggs and Choutka 2007: Little 2000).

A review and consideration of the relevance of leisure constraints research in the Twenty-first Century by Jackson (2000) calls on researchers to move beyond current practices as they conduct investigations into leisure constraints. New directions in constraints research are called for, such as examining why people are successful in negotiating those barriers to leisure involvement (Jackson 2000). In light of preliminary work on in-situ constraints negotiation, it seems feasible to continue with
consideration of leisure constraints and negotiations to explore what transpires once an adventure leisure activity, such as recreational SCUBA diving, has commenced.

2.5.1 Constraints and SCUBA diving

In one study of recreational SCUBA diving, Todd (2004) suggested constraints were inherent features of the activity. Divers in that research identified factors which hindered their access and ongoing participation. Results were categorised according to Crawford, Jackson and Godbey’s (1991) hierarchy of constraints (see Figure 2.2). Todd (2004) was able to reveal the intrapersonal, interpersonal and structural constraints which impeded access to SCUBA, combined with features of the activity which introduced divers to difficulties during diving, including weather conditions and equipment issues.

Barriers and impediments that can potentially confront a diver have been central in several studies about performance and completion of professional work-related tasks underwater (Bowen 1968, Miller and Koblick 1984, Weltman, Christianson and Egstrom 1970). Even though the focus of those studies has been on divers’ physiological performance for purposes of industrial work underwater, several studies were conducted in shallow water environments using novice divers to examine the effects of exposure to being in-water. The physiological and psychological findings have relevance to recreational SCUBA diving because they contribute to our understanding of human behaviour in-water and during times of stress.

The depth limits of recreational SCUBA diving are generally recognised as shallower than the depths used for many professional underwater activities. Further, findings from studies conducted using novice divers can aid knowledge of the behaviour of beginning recreational divers. For example, Weltman et al (1970) used a sample of novice and experienced divers to test motor and problem-solving accuracy. They found that diving experience helps to improves underwater motor skills, and that psychological stress was significant even at shallow ocean depths for novice divers. Adverse effects of the ocean experienced at the beginning of a dive overcame the divers’ ‘free reasoning’ ability. What this means is that any issue that confronts the recreational diver at the outset of the dive, and on immersion, is likely to hinder concentration and affect the overall underwater experience. Findings from Weltman
et al’s (1970) work also suggest that rational reasoning can be inhibited for novice divers. The outcomes help to emphasise the formal elements to be dealt with as part of an underwater experience. The beginning stages of a SCUBA dive require participants to be cognisant of the technical, physical, psychological and environmental issues that the diving group might confront, so that group members can interpret the situation and communicate satisfactorily.

The term ‘water effect’ has been used to indicate a specific type of constraint faced by divers (Bowen 1968:461). Water effect distracts the divers’ attention from the dive objectives because they are occupied with in-water issues such as buoyancy, reduced sensation, encumbering equipment and attention to personal safety. Other researchers agree that there are restrictions imposed on a diver by SCUBA equipment, and the controllability of the ocean can present challenges (Weltman and Egstrom 1966). Meanwhile, Bowen (1968) contends that water effect is a contributor to the process of rapid physiological changes in a diver just after immersion which can lead to considerable discomfort.

### 2.5.2 Negotiating constraints

A broad range of literature explores behaviours that seek to deal with leisure constraints. In one area, the concept of coping has emerged as a position from which to examine experiences which constrain a leisure experience. Stress and coping literature has looked to explain how individuals deal with difficulties during an encounter (see for example Johnson and Dawson 2004, Kim and Duda 2003). The stress-coping literature is not based on use of the term constraints or negotiation, yet the research does offer insight of participant behaviours with stress during recreation (see for example Miller and McCool 2003, Schuster, Hammitt and Moore 2006). In this study of underwater adventure leisure experiences knowledge of responses to stressful situations is informative.

Authors have discussed the potential for research into leisure stress and coping to form association and links with constraints-negotiation research (Schuster, Hammitt and Moore 2006, Iwasaki and Schneider 2003). Yet there are paradigmatic differences between the views of stress-coping researchers and leisure constraints-negotiation researchers. Stress-coping researchers acknowledge their positivist
approach (Schneider and Wilhelm Stanis 2007a) whereas the socio-cultural constraints-negotiation view is supported by qualitative interpretive thinking and ontologies (Little 2007, Samdahl 2007). Coping literature focuses on the role leisure plays in our ability to deal with everyday stress (Iwasaki 2002). However, authors also make direct reference to an individual’s appraisal and response to experiences in outdoor recreation (Johnson and Dawson 2004). For example, Schuster, Hammitt and Moore (2003) used the term ‘hassles’ to describe irritating and frustrating recreation situations.

Coping is a behavioural and cognitive process used to manage the demands of the environmental context that has been appraised as stressful and has interfered with recreation goals (Johnson and Dawson 2004, Miller and McCool 2003). Discussions of response strategies state that coping will be either problem-based or emotion-based depending on the individual’s perception and ability to control the situation (Lazarus and Folkman 1984, Rosario, Shinn, Morch and Huckabee 1988, Schuster, Hammitt and Moore 2003). When coping strategies have been initiated, reappraisal and coping continues until the situation is considered tolerable (Schuster, Hammitt and Moore 2006).

The decision to consider the concept of coping within the negotiation literature is not unique. Proponents of the stress-coping model proposed by Lazarus and Folkman (1984) have utilised it as an alternate conceptualization to the constraints-negotiation model, contending that it offers a ‘deeper understanding of constraints negotiation’ including the capacity to explicitly define negotiation and refine responses for measurement (Schneider and Wilhelm Stanis 2007b:391).

However, constraints-negotiation researchers argue that apparent similarities between concepts of stress-coping and negotiation are insufficient to extend understanding beyond current thinking (Samdahl 2007), and that the stress-coping suggestion fails to explain the wealth of socio-cultural background and influence that underpins the approaches taken to negotiate leisure constraints (Little 2007). The constraints-negotiation concept considers more than removing or reducing negative experiences from leisure, because participants are often motivated to overcome the challenges as part of the intrinsic and rewarding nature of leisure experiences (Samdahl 2007:410).
The wealth of influences which support understanding of leisure constraints-negotiation includes Raymore’s (2002) proposition of facilitators to leisure. As a complementary perspective from which to view leisure, facilitators are those factors which help achieve leisure participation including successfully negotiating constraints. Shogan (2002) is another author who adopts a complementary position within the field of constraints-negotiation research. The presence of leisure constraints provides an opportunity to enable an alternate course of action to occur, rather than be seen as hindering participation.

Importantly, debate between the stress-coping and constraints-negotiation research streams is in agreement that future research should continue to contribute to explaining and understanding the negotiation of leisure constraints (Little 2007, Schneider and Wilhelm Stanis 2007b, Walker 2007).

The constraints negotiation process has been the focus of research attention using qualitative and quantitative methods. Hubbard and Mannell (2001) and Livengood and Stodolska (2004) were interested in negotiation responses to leisure constraints. While Hubbard and Mannell (2001) used quantitative measures to test constraint-negotiation in a corporate leisure setting, and Livengood and Stodolska’s (2004) used semi-structured interviews to examine discrimination and constraints, both studies identified modified forms of participation. Respondents in the two studies acknowledged that though constraints decreased leisure participation, they used negotiation strategies such as making adjustments to relations with others and increasing their awareness of constraints to help overcome them.

Recent studies on constraints negotiation strategies have given attention to the role of motivation as a mediating influence in constraints negotiation. Alexandris, Kouthouris and Girgolas (2007) focused on constraints negotiation influences with recreational skiers and White (2008) examined experiences with park users. The role of motivation was found to be a substantial mediating influence in both studies, and the constraints negotiation process was recognised as a process of dynamic interaction and influences (White 2008:342).
2.6 Chapter Summary

Adventure leisure offers participants involvement with activities that contain bearable amounts of ambiguity and uncertainty (Cater 2006, Vester 1987). Researchers recognise there are developmental aspects from involvement including building competence to confront challenges and a sense of self-determination that might be achieved through control (Holyfield and Jonas 2003, Morgan, Moore and Mansell 2005, Olivier 2006).

The idea of experiencing comfort has been briefly recognised by adventure researchers, but not given any in-depth attention, particularly in a qualitative experience-based way. Similarly, qualitative experience studies within adventure have not yet addressed SCUBA divers’ interpretations of their in-water encounters. Rather, studies into SCUBA diving have sought to quantify factors related to satisfaction and motivation (see for example Musa, Syed A. Kadir and Lee 2006, Tschapka 2006, Wilks 1991a).

This review of the literature recognises a gap in the research that relates to participant experiences with adventure which can extend current knowledge on comfort and in-situ constraints-negotiation. The present study seeks to contribute to these apparent gaps in understanding by investigating the in-water experiences of recreational SCUBA divers with comfort, constraints and negotiation based on participant interpretations of their SCUBA diving experiences.
Chapter 3: Research Methodology

3.0 Introduction

This thesis focuses on recreational SCUBA divers experiences of comfort. This chapter seeks to provide detail of the qualitative research methodology used to carry out the research, and is formed around four key sections. Section 3.1 focuses on the philosophical considerations which locate the study within a qualitative research paradigm and discusses the ontology, epistemology and methodology that ground the research. Section 3.2 explains the reflexive position of me, as the researcher, within the research process. The research strategy is outlined in Section 3.3, including the methods used in the generation of data such as the collection, analysis and interpretation of interviewee responses. Section 3.4 concludes the chapter with a discussion of research ethics and methodological limitations.

3.1 Philosophical Considerations

3.1.1 Research paradigm

This research uses a qualitative, interpretive paradigm to study how recreational SCUBA divers experienced and defined comfort. The study’s goal is to reveal a rich understanding of SCUBA divers’ perspectives of their in-water experiences. A paradigm reflects the systematic set of beliefs that inform and guide the research (Denzin and Lincoln 2003, Hemingway and Parr 2000, Lincoln and Guba 1985, Ponterotto 2005). As this thesis specifically examines participant discussions of comfort, constraints and negotiation during SCUBA diving, the choice of paradigm acknowledges and considers the participants’ direct and lived encounters with SCUBA diving as a leisure experience.

Shifts within research traditions in the social sciences away from positivist approaches have brought about a relative acceptance of qualitative research as necessary in order to address a different set of aims and objectives (Denzin and Lincoln 2005, Hollinshead 2006). The positivist paradigm evolved from the natural sciences where predominantly quantitative measures are used. In the positivist approach the researcher also adopts an intentionally objective position that seeks to measure or explain human behaviour in value-free language (Marvasti 2004, Veal...
In contrast, the use of a qualitative research paradigm supports different assumptions to those of positivism, including that multiple meanings can account for human actions and that the language used to describe and interpret social behaviour is often value laden (Jennings 2001, Lincoln and Guba 2003, Schwandt 2003). In a positivist paradigm the research focus is guided by scientific rules that seek to measure and explain phenomena, whereas a qualitative paradigm recognises multiple realities and seeks to build understanding about the subject under study (Henderson 1991, Jennings 2001). Conventional benchmarks such as rigour and validity, and a focus on theory testing are anticipated within a positivist perspective, (Symon and Cassell 1998). In contrast, qualitative approaches are based on establishing trustworthiness, achieving authenticity and discovering what is ‘real’. Qualitative research contributes by constructing theoretical interpretations and generating new theories (Lincoln and Guba 2003, Neuman 2006, Symon and Cassell 1998).

Researchers in leisure and recreation have also seen that qualitative approaches are useful for uncovering meaning (Aitchison 2005, Stewart 1998, Weissinger, Henderson and Bowling 1997). Within the field of tourism, there is also a noticeable shift from traditional positivist approaches towards qualitative, interpretive research. Qualitative research offers greater insight into the meanings ascribed to tourism and leisure experiences (Hemingway and Parr 2000, McIntosh 1998, Phillimore and Goodson 2004, Veal 2006, Westwood, Morgan and Pritchard 2006). For example, Hollinshead and Jamal (2007) recognise the evocative power of qualitative studies to give emphasis to meaning and feelings by using the voice or words of research participants. Further, the causes and consequences of leisure travel decisions were better understood when qualitative approaches were used to collect rich data in a study by Woodside, MacDonald and Burfood (2004). From a philosophical stance the increased use of qualitative studies creates a blurring of disciplinary boundaries (Denzin and Lincoln 2003) that Mair (2006) contends can strengthen leisure and tourism research.

Qualitative studies do not represent a unified set of techniques or philosophies. However, in broad terms, qualitative studies fall within the sociological tradition which is concerned with how the social world is interpreted (Denzin 2002, Mason 1996). Qualitative studies have also been called ‘naturalistic’ because the researcher
does not attempt to manipulate the research setting as is often done in positivist research. A naturalistic research approach attempts to capture the essence of people’s real lives or actions as they are experiencing them, and the data presented involves detailed, thick description with every participant’s situation assumed to be unique (Neuman 2006, Patton 2002). In seeking to explore what divers consider to be comfortable and uncomfortable experiences when they are underwater, it was important to meet and discuss these types of situations with active recreational SCUBA divers. Over the course of these discussions, the research aims were to learn about the issues, similarities and differences that are specific to each diver’s underwater experiences of comfort.

In seeking to engage an interpretive, naturalistic approach the divers’ words, stories and voices were placed as central. The uniqueness of every SCUBA diving experience meant there was a need to retain as much meaning and emphasis from each recollection as possible. With these goals in mind, the philosophies and processes within a qualitative paradigm, rather than a quantitative, positivist paradigm were relevant and necessary. Interpretive social science research is based on principles that seek to understand lived experiences of people in specific settings (Neuman 2006). Interpretive studies examine how experiences are organised, perceived, constructed and given meaning by interacting individuals (Denzin 2002). As the researcher in this interpretive study, I take the position that every diver views their world and every underwater situation as a unique experience (Denzin 1989, Henderson 1991). One goal of interpretive research is to reveal meaning and create understanding from these individual and unique behaviours (Little 1997, Mason 1996).

Studies within leisure, recreation and tourism have been broadened through the gaze of qualitative researchers (Hemingway 1995, Jennings 2005a, Kane and Tucker 2004, Weber 2001). Researchers explained how a qualitative paradigm provided richer information for their research. By using a qualitative approach to study recreation, Patterson, Watson, Williams and Roggenbuck (1998) conducted interviews with recreationists to examine the nature of their outdoor experience. The researchers adopted the perspective that recreation experiences emerge because each event is unique and variable. Coble, Selin and Erickson (2003) also used interviewing
techniques in their study which took an explicit focus on examining fear and negotiation strategies in women’s solo hiking experiences.

In another study, Wheaton (2003) worked as an ‘insider’, or one who has experience with the activity, when she studied windsurfing. Having the perspective of an insider was helpful to her research which explored issues of identity and commitment to windsurfing using interviews and a grounded theory approach. Beedie (2003b) also acknowledged that his previous experience as a mountain guide was of benefit to accessing and getting close to the field of study in his ethnographic reflection of mountain guides and adventure tourism. In a similar way, Sharpe (2005) was able to draw on her prior experience as a guide when she examined issues surrounding the work of adventure tour guides, with a particular focus on how guides manage their emotional experiences over the duration of an adventure trip.

Qualitative approaches give prominence to the context of human behaviour which broadens our understanding of subjective experiences (Henderson 1991). Using an interpretive, qualitative paradigm offers the chance to extend understanding of a situation that is grounded in real life (Jennings 2001). This occurs because interpretive studies are interested in examining the lived experience of the subject being studied (Bartlett and Payne 1997). Hollinshead (2006:49) supports efforts to use interpretive research in this way, ‘… through such fresh but difficult advances in interpretivism … the field can hopefully engender much richer reconnaissance of the ways in which the world is then further normalized and naturalized.’

### 3.1.2 Ontology

Ontology is concerned with our world view and ways of seeing in the world (Mason 1996, Ponterotto 2005). As a qualitative study which explored divers’ in-water experiences, it was necessary for me to learn about the divers’ thoughts and feelings towards the marine environment in order to uncover meaning (Berg 1995, Neuman 1997). As the researcher, I attempted to understand by looking at the detail of the social world being examined; that is, the underwater world of SCUBA diving. The process involved getting closer to divers through methods such as in-depth discussions and observations (Denzin and Lincoln 2005).
Ontology allows the researcher to identify and acknowledge his or her philosophical positioning within the context of the research study. Researchers use the term ‘emic’ in contrast to an ‘etic’ perspective to recognise the insider position of the researcher. An ‘emic’ perspective occurs when the researcher has experience or understanding of the issue being studied. An ‘etic’ perspective reflects that of an outsider with much less knowledge of the situation under study (Jennings 2001, Kane and Tucker 2004, Patton 2002, Woodside, MacDonald and Burford 2004). As a regular recreational SCUBA diver myself, I approached this research from an ‘emic’ perspective.

The qualitative ontology contrasts with a quantitative ontology in a number of ways, including that interpretivism views reality as multiple, constructed and holistic rather than being singular, linear and objective (Creswell 2003, Hemingway 1995, Denzin and Lincoln 2003). Interpretivists deny the existence of an objective reality, and assume a relativist ontology in which the world consists of realities which are influenced by each contextual situation (Mills, Bonner and Francis 2006, Samdahl 1999). The ontological position taken within this thesis upholds that participants’ reality of comfortable SCUBA diving experiences is based upon their socially and culturally constructed meaning. To be able to reveal divers’ stories of comfort, constraint and negotiation included allowing for the emergence of common types of experiences as well as those which were distinctly different across the sample group of SCUBA divers. What became evident from the analysis and interpretation of stories was a complex array of themes and contexts which acknowledge the individual as well as the overlapping perspectives of the divers.

The philosophical underpinnings of this research recognise that each diver’s experiences are unique and form their world view of SCUBA diving. At the same time they highlight the wealth of stories that contribute to understanding SCUBA divers’ experiences with comfort, constraints and negotiation in-water. Denzin (2002) contends that obtaining multiple experience stories assists in capturing the phenomenon which is valuable to the interpretive process. Hollinshead (2004:69) emphasises that researchers need to articulate and ‘map the contours of the worldviews of populations as they pertain to the context in question’. Botterill (2001) concurs, suggesting that researchers have an opportunity to experiment with the ontological sphere.
3.1.3 Epistemology
Epistemology refers to the ways in which knowledge is acquired, known and constructed. Epistemology also identifies the relationship between the researcher and participants (Aitchinson 2005, Denzin 2002, Hollinshead 2004, Jennings 2001, Lincoln and Guba 1985, Zahra and Ryan 2005). Within an interpretive paradigm, the roles of the researcher and respondent are linked as co-creators of understanding (Denzin and Lincoln 2003, Henderson 1991, Jennings 2001, Ponterotto 2005). Lyon and Busfield (1996:xv) consider relations between the researcher and the researched to be ‘changing conceptions because the researcher is an inquiring participant with insider knowledge, who becomes important to enhance the voices, ideas and images of the issue being examined which seek to reach an intimate sphere of social life’.

Authors argue for more attention to be given to the epistemology underlying empirically-based research methods in leisure studies, contending that qualitative approaches provide an opportunity for getting close to the people and situations under study to better understand their lives and realities (Henderson 2000, Hemingway 1995). This occurs through developing shared experiences and confidentiality (Patton 1990). As an active member of the recreational SCUBA diving world, I asked divers to discuss their views and opinions about their times underwater. While seeking other divers’ views I also shared stories of my diving experiences to build a situation of trust. Formal assurances were also given that the discussions were held in the strictest confidence.

3.1.4 Methodology
The qualitative methodology used in this thesis has followed an interpretive approach that was achieved by way of inductive, grounded methods. Qualitative research designs are particularly oriented toward exploration and inductive logic. Inductive approaches begin with specific observations and build towards general patterns of understanding (Jennings 2001, Patton 1990, Veal 2006). Inductive approaches work from the premise that theory will be generated from the data collected through constant interplay with, and interpretation of, the data (Bartlett and Payne 1997). The inductive approach stands opposite the positivist, deductive approach. Positivism begins with a theory or set of propositions that are used to furnish an explanation for the phenomenon under study (Denzin 1989), whereas inductive techniques begin with
real world observations that occupy the researchers attention as data are generated and reflection moves towards abstract thinking and propositions (Neuman 2006).

When a grounded approach is taken to develop theory the result is obtained by the concurrent collection and analysis of data (Decrop and Snelders 2005, Henderson 1991, Lincoln and Guba 1985). An inductive grounded approach allows categories of analysis to emerge as the researcher comes to know the world under study. No \textit{a priori} theory can anticipate the many realities the inquirer will encounter in the field (Lincoln and Guba 1985, Mills, Bonner and Francis 2006). Rather, the researcher attempts to refine and understand realities without making prior assumptions, and follows the tradition of inductive research that seeks to build theory on the basis of empirical research (Creswell 1994, David and Sutton 2004, Neuman 2006). Further, a qualitative, interpretive methodology presupposes the researcher will be immersed in the world of the respondents for longer periods of time (Ponterotto 2005).

As explained previously, underpinning this thesis was my desire to make divers’ voices and experiences central. The process required me to become intensely familiar with each diver’s story, before I could recognise the many aspects that signalled the characteristics of diver’s experiences of comfort, constraints and negotiation during SCUBA diving. To recognise that an individual’s experiences emerge from interactions with situational contexts is to recognise a personal story (Stewart 1992). As a recreational SCUBA diver, it was also necessary for me to reflect on my role and influences upon the process of understanding these personal stories.

\textbf{3.2 Reflexivity – Locating the Researcher}

Reflexivity insists that researchers look into a rear-view mirror, and acknowledge how their role and positioning may impact on the conduct of the research (Denzin 1997, Foley and Valenzuela 2005, Hall 2004). A reflexive position can extend from weak to strong, with a weak reflexive methodology acknowledging the researcher in the study. When a strong reflexive methodology is used, the researcher and their involvement is recognised through continual reference to themselves showing their position and influence on the project (Jennings 2001:116).
However, authors including Ateljevic, Harris, Wilson and Collins (2005) argue that reflexivity is more than writing oneself into research, showing that the relationship between the researcher and researched is important to reflexivity and the generation of new knowledge. Dupuis (1999) is also among those who present a strong case favouring reflexive methodologies in leisure research, acknowledging the influence humans have on their output, and the difficulty of removing that influence from the research. Westwood, Morgan and Pritchard (2006) also agree that reflexive approaches offer potential for greater meaning and understanding of tourism experiences.

It would seem then, that the research environment is appropriate for the application of reflexivity to adventure leisure research. There appears to be some evidence. Beeton (2008) used a strong reflexive methodology (Jennings 2001) which included auto-ethnography to review the association between film and tourism and the creation of place meaning for tourists. Fleming and Fullagar (2007) also used auto-ethnographic approaches within a reflexive methodology to examine forces shaping involvement with leisure and their subsequent careers. Beeton (2008) as well as Fleming and Fullagar (2007) credited the opportunity to ‘reflect’ as useful to exploring personal experiences and developing broader understanding of the links between themselves and their research topic.

The emphasis in this thesis was to explore aspects of comfort during recreational SCUBA diving. The motivation for this study is reflective of my personal interests, experiences and observations as a recreational SCUBA diver. The earlier section on ontology notes my ‘emic’ position within this study. As such my experiences will influence the entire research process from data collection, through to coding, analysis and interpretation of transcripts (Denzin 1997, Hall 2004). As a result it is acknowledged and understood that it is not possible for me as the researcher to be completely removed from the study, as would be expected and anticipated within a positivist paradigm.

3.2.1 Personal discovery

My regular involvement with SCUBA diving began in 2001 at Byron Bay, even though I had first dived in 1994. My first SCUBA dive had a profound impact. I was
immediately fascinated by the exquisite coral, colours and underwater landscape. I was so comfortable that the dive instructor allowed me extra time underwater when others had surfaced.

In 2001, I completed a three day basic Open Water course and have since completed five additional recreational SCUBA training programs. After completing the second training course I was still not entirely at ease with my ability to manage myself in the water. In conversations with a contemporary and experienced diver, the suggestion was made that I should purchase my own equipment rather than rely on hired gear. He considered the equipment would have an influence on my in-water state. This marked the beginning of a greater awareness and involvement with recreational SCUBA diving. This new perspective encouraged me to admit what I was, or was not, comfortable with during my in-water experiences.

The following two years saw me continue to dive recreationally but with a new diving attitude that involved regular skill training, attention to equipment and approaches to ‘be prepared’. Two trips to Sydney were undertaken to complete further training courses held for the first time in Australia – at which I was the least experienced and only female of eight divers. My initial feelings of intimidation being involved with a traditionally male-dominated adventure experience (Little 2002) were short-lived. The courses were intense and confronting, yet educational. They provided a much greater understanding of factors that influence a positive in-water experience.

Seven and a half years and several hundred dives later, SCUBA diving continues to provide me with joy, challenge, anxiety, education, wonder and awe. As a regular social diver in the Cape Byron Marine Park there is an opportunity to frequent the marine park as a volunteer guide for a commercial SCUBA diving operator by assisting visiting qualified divers in their quest to sight marine life. These opportunities allow me to dive regularly, continue to build my underwater skills, learn about the marine world and observe others during their underwater experiences.

Based on my own diving history, I now have an interest in what influences people to venture underwater and the factors that keep them wanting to take further dives. From observing others in-water, people will often exhibit change in movement, expressions and demeanour. If these are different experience states, are they pleasant or not?
What creates these situations? Over the years that I have been diving, informal conversations with other divers indicate that while in-water feelings do vary, they almost always include elements of anxiety, excitement and fun. The presence of marine life appears to offer excitement and thrill, but at the same time difficult ocean conditions can render a dive as stressful, exciting or both. Many discussions with divers reveal that throughout any SCUBA diving experience, states alter and shift depending on the situation and influencing factors such as equipment, the diver’s mood, ocean conditions, and presence of other divers, depth of the dive, marine environment and the duration of the dive.

As an academic, my interest was invoked to learn about how SCUBA divers interpret an in-water experience, what they do when the dive does not proceed as anticipated and when and why they make choices to adjust the situation. During an adventure experience, I wondered whether comfort is an experience state that is possible during SCUBA diving, and if so, when is comfort experienced in-water? My involvement with SCUBA diving stimulated a professional interest to understand more about experience studies in SCUBA diving. Regular searches of the academic literature revealed little work existed in the area and therefore provided an opportunity to contribute. My own in-water experiences have created this foundation from which to build a formal process of research inquiry.

### 3.2.2 Initial efforts to search for diver experiences

As a researcher and academic lecturer, I have been trained in business management schools (largely in the positivist paradigm), thus earlier research endeavours I had undertaken were understandably conducted from a positivist viewpoint. In 2004, at the beginning of PhD studies, I drafted an initial study on dive tourism which was intended to be part of this thesis. I was given permission to access visiting SCUBA divers at a popular destination in northern New South Wales. The quantitative study investigated pre- and post-experience views of 185 SCUBA divers over a 10 day period. The data collection instrument was a self-reporting questionnaire which sought to identify levels of diver confidence, enjoyment and perceptions of challenge involved with the dive.
Among its incipient outcomes, that initial quantitative study provided insight into diver perceptions of their skills, ability and challenges involved with the dive. Findings, while not fully reported here, revealed that many divers had not considered that prevailing marine conditions at the site might impact on their experience. Rather, as they embarked on the dive, they were essentially focused on sighting marine life (Bucher, Hartley, Dimmock and Roberts 2007).

Conducting this early study highlighted some key challenges involved with collecting data while people are undertaking leisure experiences. All parties were willing to participate in the study, yet issues such as a lack of time to complete questionnaires, and interruption to divers’ focus on the dive they were about to undertake impacted on participant involvement. Ultimately any potentially rich descriptions of divers’ experiences were difficult to solicit using a structured, quantitative approach. Descriptions of diver experiences were hinted at when some divers indicated they would like to elaborate on their experience, yet they were never fully realised.

A review of the data and the initial study experience confirmed that the research formed a sound base of knowledge but ultimately did not provide the best means of addressing my research aims. The earlier study design limited the ability for divers to explain what occurs during a SCUBA dive and restricted the potential for divers to broadly discuss issues that surrounded their time in-water. As no empirical work had been conducted on comfort during SCUBA diving there was a need for exploratory work to allow the issues that divers wished to share as relevant to emerge.

The situation created a need to review the research methodology and redesign the research strategy to better address the research question. When I revisited the intentions of a PhD research project that would contribute to understanding of SCUBA divers’ comfort, I began to appreciate that an alternate methodology would most likely offer some solutions to my dilemma. From this point I began to understand that an interpretive, qualitative paradigm could be more appropriate to allow divers to freely describe their experiences and discuss features that were present during their SCUBA encounters.

Ultimately, I was seeking a methodology in which the participants and I were able to have mutual understanding; one where feelings of being complete strangers during
the interview could be removed because we shared a familiarity as SCUBA divers. A methodology which provided a forum for trust where all SCUBA diving experiences could be discussed was the preferred goal. As a diver I believe that giving acknowledgement to the experiences being voiced contributed to an improved understanding and dialogue about SCUBA diving as a leisure experience. The ideal relationship between me and the study participants was one which was interactive and constructive (Denzin and Lincoln 2003, Lincoln and Guba 1985).

3.3 Research Strategy

The research strategy outlines the method of inquiry that was followed and provides a discussion of the data generation processes used in the study including the decisions taken on the collection, analysis and interpretation of data. The discussion moves the focus from the philosophical underpinnings of the research to the empirical world (Denzin and Lincoln 2003, Jennings 2001, Strauss and Corbin 1998a). For this thesis, the research strategy was designed around an inquiry of recreational SCUBA divers’ experiences of comfort, constraints and negotiations.

3.3.1 Research methods

The primary data collection method employed was the semi-structured interview. Throughout the duration of this research project I made many in-water observations of SCUBA divers and held informal discussions at dive sites, dive shops and dive club meetings. Those interactions resulted in numerous notes, and journal accounts of observations and comments that were written up at the completion of each diving day. This information acted as field notes to support the interview data and was beneficial in ensuring credibility of the research findings (Henderson 1991). However, semi-structured interviews with recreational SCUBA divers comprised the substantial component of the primary data which were collected and analysed for this thesis.

3.3.1.1 Interviews

Interviews are a face to face verbal exchange between the researcher and participant (Denzin 1989). There are several interview types, and the choice of which to use often depends on the degree of standardisation and structure required by the
researcher. The range of types includes structured interviews, semi-structured and unstructured interviews (Denzin 1989, Jennings 2005b, Veal 1997).

Taking a less defined approach than a structured interview, following a semi-structured interview format gives the people involved an opportunity to shape the dynamic that is created at each meeting between the respondent and interviewer (Lofland and Lofland 1995, Mishler 1986). Through semi-structured interviews, participants can influence the sequence of asking questions in a more flexible way (Minichiello et al 2004, Veal 2006). Denzin (1989:106) uses the term ‘unstructured schedule interview’ to describe a semi structured interview.

The … interview works with a list of information required from the respondent. … but the particular phrasing of questions and order are redefined to fit the characteristics of each respondent. This form closely approximates what has been called the focused interview.

The decision to use a semi-structured interview as the primary data collection method is in keeping with a qualitative philosophy that underlay’s the ontology of this research, which aimed to understand divers’ in-water experiences of comfort, constraints and negotiation. The interview process was intended as an opportunity for divers to elaborate on their underwater experiences in a shared environment between me as the researcher, and them. Leisure researchers have discussed their preference for semi-structured interview techniques because they illicit rich data from respondents about the meanings of their personal experiences (Devine 2004, Stalp 2006). Daniel and Vining (1983) emphasise the importance of personal interviews in obtaining a subjective assessment of human interactions with landscapes and environments, noting that through the interview process people can express their personal values and experiences. Henderson (1991) also considers interviews to be an excellent way to examine a topic in-depth.

Further, interviews are a valuable research method for leisure and adventure researchers to gather rich data and to ‘get inside’ the experiences being studied. Samdahl (1999:125) confirms that qualitative researchers in leisure use methods to enter the subjective reality of their participants. For example, McDermott (2004) combined in-depth interviewing and observation when she explored women’s lived-body experiences in wilderness canoeing. The explanatory potential of tourist
experiences was also the focus for Kane and Zink (2004). They used unstructured conversations and individual interviews to complement observation methods, in their study of kayakers’ adventure experiences. Further, Jennings (2005a:184) has used interviews to ‘gain insight into and make visible the lived experiences’ of long-term ocean cruising women.

### 3.3.1.2 Interview guide

To provide some direction during each participant’s interview, a semi-structured interview guide was prepared (see Appendix 1). The goal here was to focus participants’ experiences around issues of comfort, constraint and negotiation in-water. The interview guide was used to offer a prompt by listing the interview topics, and also as a means of ensuring that similar information was raised in each interview (Patton 1990). However, a strictly rigid format was not intended to be followed (Minichiello, Madison, Hays and Parmenter 2004).

In its design, the general flow of questions was based on the premise that interviewing should start with broad general questions, followed by more complex or specific questions (Henderson 1991, Patton 2002). Questions were drawn from literature on environmental psychology, leisure, marine recreation, tourism, my personal SCUBA diving experiences and anecdotal conversations with other SCUBA divers. Subjects raised in the interview guide were related to divers’ involvement with SCUBA diving, their choice to continue diving, diving destinations, memorable SCUBA dives and comfortable experiences during SCUBA diving. Not all of these themes will be reported in this thesis, but they contributed to a broader picture of each diver and their in-water experiences.

### 3.3.2 Data collection

The process of collecting data for this thesis required discussions with a broad sample of recreational divers who were willing to invest some time as well as their stories of in-water comfort. The following section explains the way in which data discovery occurred for this thesis. Henderson (1991) acknowledges that data collection is the stage where data discovery commences, and its importance to the research process is reflected in the need for an organised procedure to collect and report information. In turn being organised contributes to credibility and dependability within the data.
3.3.2.1 Sampling

Sampling in qualitative research is designed to obtain cases that deepen understanding of processes which occur in social life (Neuman 2006). Sampling for qualitative research is focused on acquiring data which gives a general representation of the phenomena being examined (Henderson 1991). In using a qualitative approach to explore SCUBA divers’ in-water experiences, a decision was taken to ‘throw the net wide’, so to speak, and recruit as many divers as possible. In qualitative studies the researcher may not initially know the exact number of respondents that are needed, but continues to seek participants until no new insights are obtained to support the development of the emergent themes and theory (Henderson 1991, Jennings 2001). A non-probability convenience sampling method was thus chosen to try and achieve a comprehensive understanding of comfort, constraints and negotiation. The research was not focused on the number of divers that could be part of the study, but on ‘trying to present a picture of the broader lived experiences from which observations are drawn’ (Veal 2006:294).

To secure the attention and participation of a broad range of recreational divers, a recruitment advertisement was prepared (see Appendix 2). The process of distributing the recruitment advertisement allowed all divers to self-select their participation. On occasion a type of snowball approach to sampling was also used when respondents were accompanied to the interview meeting place by friends who became potential participants (Henderson 1991, Neuman 2006).

Three recruitment stages were undertaken to secure a sample of participating divers. The advertisement was first placed in Divelog magazine, which is a free monthly nationally-distributed SCUBA diving publication. Within that advertisement I disclosed my role as an active recreational diver, as well as a researcher at Southern Cross University. This was because I wanted to reassure potential respondents that I had some knowledge and understanding of SCUBA diving. The advertisement asked for those recreational divers who had an interest in discussing their underwater SCUBA experiences to make contact with me. The advertisement was placed for a three month period: July–September 2005. After running the advertisement for three months, eleven divers had made contact. Initial communication with participants involved verbal as well as written clarification of the study and an invitation to
participate (see Appendix 3). Shortly after sending the invitation a follow-up telephone call was made to confirm participation and request permission to record the interview. As soon as appointment dates were confirmed, I was able to commence data collection.

Interviews from the first recruitment stage were under way when the second effort to secure respondents was undertaken. The research project had become known among my local diving community at Byron Bay. I had sought advice from local divers on the best way to promote the study to other divers. The President of a local dive club requested a copy of the advertisement which was then emailed to club members. That second stage secured an additional seven divers as participants. Several divers confirmed that they first became interested in the project when they read the advertisement in *Divelog*. When they received the recruitment email via their dive club, they were prompted to respond. As people with an interest in discussing their sport they seemed happy to offer an interview. Assisting a member of the local diving community with her research was another reason offered by respondents.

Meeting divers, conducting interviews and coding data were well underway several months before the third placement of the recruitment advertisement. To broaden the sample further, the attention of another group of divers was sought. The location was a second SCUBA diving email list. This effort to broaden the scope of the sample was motivated by research that profiles SCUBA divers as fitting a ‘semi-professional to professional’ demographic (Mundet and Ribera 2001, Wilks 1993). My assumption was that some of those professional people would also be regular computer users. The second email list has a national subscription base and is used as a divers’ discussion forum. Once the advertisement was placed on the second email list, a further six responses to participate were received from divers located outside my local region, with four of them residing interstate. After the third placement the sample size had reached twenty-four participants including both new and experienced divers.

To meet and interview respondents I travelled to Byron Bay, Gold Coast, Hobart, Melbourne, Newcastle, Sydney and Wollongong. The meeting place was often the participant’s local dive shop where I was permitted to conduct the interviews. The three remaining participants to this study were secured as a result of travelling to meet interviewees. In several situations a respondent was accompanied to the meeting
place by another diver who overheard my general discussion about the study. As they became aware that involvement was unencumbered and they need only talk about their time in-water, they offered to be involved with the study. In those circumstances I obtained contact details and followed up on the requests at a later stage. Some people offered anecdotes of underwater experiences when no recording equipment was available. Two of them could not participate because of time constraints.

In total, three accompanying divers provided formally recorded interviews, taking the sample size to twenty seven divers. The interview process was well advanced when coding of the data began to reveal similar themes which emerged as patterns from the transcripts. By this stage, divers from the second recruitment strategy had shared their stories and experiences. Divers from the third recruitment strategy had confirmed their interest. The third recruitment stage had secured six participants. After consideration a decision was taken to collect the remaining interviews but seek no further participation as saturation or ‘data redundancy’ was becoming apparent (Bartlett and Payne 1997, Jennings 2001). The choice to continue with the remaining interviews confirmed the detail of the themes which emerged from the divers’ underwater accounts.

Table 3.1 outlines the diving profile of the 27 recreational divers. It provides demographical information for each participating diver, including age, alias\(^1\), number of dives each participant had completed at the time of our interview, as well as their certification level.

\(^1\) Alias: To protect respondent’s confidentiality, a pseudonym or alias was given to each participating diver (Henderson 1991). The alias has been used to code quotes and statements used throughout this thesis.
Table 3.1: Diver Profile

<table>
<thead>
<tr>
<th>Diver</th>
<th>Age</th>
<th>1st Dived</th>
<th>Certification Level</th>
<th># dives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna</td>
<td>20</td>
<td>2004</td>
<td>Open Water</td>
<td>4</td>
</tr>
<tr>
<td>Carla</td>
<td>27</td>
<td>2005</td>
<td>Open Water</td>
<td>4</td>
</tr>
<tr>
<td>Brie</td>
<td>23</td>
<td>2005</td>
<td>Open Water</td>
<td>7</td>
</tr>
<tr>
<td>Chris</td>
<td>22</td>
<td>2005</td>
<td>Open Water</td>
<td>7</td>
</tr>
<tr>
<td>Sammy</td>
<td>22</td>
<td>2005</td>
<td>Advanced</td>
<td>8</td>
</tr>
<tr>
<td>Abby</td>
<td>22</td>
<td>2005</td>
<td>Advanced</td>
<td>17</td>
</tr>
<tr>
<td>Andy</td>
<td>30</td>
<td>2005</td>
<td>Advanced</td>
<td>20</td>
</tr>
<tr>
<td>Belinda</td>
<td>26</td>
<td>2001</td>
<td>Rescue</td>
<td>50</td>
</tr>
<tr>
<td>Ben</td>
<td>25</td>
<td>2002</td>
<td>Rescue</td>
<td>80</td>
</tr>
<tr>
<td>Abe</td>
<td>30</td>
<td>2002</td>
<td>Rescue</td>
<td>150</td>
</tr>
<tr>
<td>Brad</td>
<td>28</td>
<td>2002</td>
<td>Instructor</td>
<td>150</td>
</tr>
<tr>
<td>Ashley</td>
<td>30</td>
<td>1990</td>
<td>Advanced</td>
<td>200</td>
</tr>
<tr>
<td>Dennis</td>
<td>26</td>
<td>2002</td>
<td>Tech 2</td>
<td>200</td>
</tr>
<tr>
<td>Barry</td>
<td>35</td>
<td>1998</td>
<td>Dive Master</td>
<td>400</td>
</tr>
<tr>
<td>Leroy</td>
<td>28</td>
<td>2000</td>
<td>Dive Master</td>
<td>500</td>
</tr>
<tr>
<td>Bruce</td>
<td>23</td>
<td>1995</td>
<td>Dive Master</td>
<td>500</td>
</tr>
<tr>
<td>Andrea</td>
<td>50</td>
<td>1981</td>
<td>Dive Master</td>
<td>600</td>
</tr>
<tr>
<td>Donna</td>
<td>45</td>
<td>1986</td>
<td>Dive Master</td>
<td>700</td>
</tr>
<tr>
<td>John</td>
<td>30</td>
<td>1996</td>
<td>Instructor</td>
<td>800</td>
</tr>
<tr>
<td>Bob</td>
<td>45</td>
<td>1982</td>
<td>Advanced</td>
<td>800</td>
</tr>
<tr>
<td>Zoe</td>
<td>27</td>
<td>2002</td>
<td>Instructor</td>
<td>1200</td>
</tr>
<tr>
<td>Stan</td>
<td>32</td>
<td>1990</td>
<td>Instructor</td>
<td>thousands</td>
</tr>
<tr>
<td>Bell</td>
<td>38</td>
<td>1985</td>
<td>Instructor</td>
<td>thousands</td>
</tr>
<tr>
<td>Wanda</td>
<td>30</td>
<td>1994</td>
<td>Instructor</td>
<td>thousands</td>
</tr>
<tr>
<td>Barney</td>
<td>60</td>
<td>1961</td>
<td>Instructor</td>
<td>thousands</td>
</tr>
<tr>
<td>Carol</td>
<td>35</td>
<td>1988</td>
<td>Instructor</td>
<td>thousands</td>
</tr>
<tr>
<td>Jill</td>
<td>40</td>
<td>1991</td>
<td>Instructor</td>
<td>thousands</td>
</tr>
</tbody>
</table>

From Table 3.1, it can be seen that the divers have substantial variation in their involvement with SCUBA diving. The diving profiles reflect the number of years since each person first commenced the activity. Periods of involvement extend from four decades for one respondent, while two others have been diving for two decades, through to some people having commenced diving in the previous three years. The numbers of dives that have been undertaken also show broad variation ranging from several thousands to as few as four dives.
Table 3.1 also shows a broad range of formal SCUBA training across the sample of participating divers, from beginning divers through to experienced open water instructors. All the divers in this study were licensed to dive in open water environments. One participant confirmed that his qualifications extended to technical diving\(^2\). To confirm the spread in formal training experience, the sample has been organised according to the highest SCUBA qualification achieved at the time of their interview (see Table 3.2).

**Table 3.2: Divers Training Level**

<table>
<thead>
<tr>
<th>Training Level</th>
<th>Number of Divers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Water</td>
<td>4</td>
</tr>
<tr>
<td>Advanced</td>
<td>5</td>
</tr>
<tr>
<td>Rescue</td>
<td>3</td>
</tr>
<tr>
<td>Dive Master</td>
<td>5</td>
</tr>
<tr>
<td>Instructor</td>
<td>9</td>
</tr>
<tr>
<td>Tech 2</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3.2 shows that the recruitment process to secure a sample of participating divers achieved a range of SCUBA qualifications at various states in their development as divers. As the divers continued to build their in-water skills through formal training they were also given exposure to an increased variety of challenges and in-water tasks. Several of the divers who volunteered at stage one of the recruitment campaign had many years diving experience and were trained to Instructor and Dive Master level. Because one goal of this research was to consider the experiences of a range of recreational SCUBA divers, it became important to involve divers who had less experience in-water. The reasoning for this was to include the views of new divers who had newly formed and developing SCUBA diving experiences as part of the study because these perspectives were important to

\(^2\) Technical diving: The term indicates the participant is trained in SCUBA diving with mixed gases, which are not used in open water recreational SCUBA diving. The reference to Tech 2 denotes the completion of a 2\(^{nd}\) level of technical training and is outside the scope of this research. However, the participant indicated that he regularly dived as an open-water recreational diver.
the potential range of experiences that are reflected in a recreational activity. Theoretical sampling is a procedure where researchers make conscious choices to select additional cases because of the potential they hold for developing new theoretical insights into the phenomenon at hand (Henderson 1991). Seeking a broader experience range was a chance to affirm the rigour beyond what began to resemble an already established level of SCUBA diving experience. This effort was a search for disconfirming evidence in the data. Within a grounded approach theoretical sampling aims to refine ideas rather than build sample size (Charmaz 2000). The process of using different cases is a method that builds the analysis to accommodate far ranging and alternate views rather than findings that reflect only mainstream opinion with no consideration of variation (Miles and Huberman 1994).

3.3.2.2 Conducting the interviews

On meeting each diver for their interview, I requested permission to record their interview on a micro-cassette recorder. The request was always granted, as was permission for direct quotes to be used in this thesis and later publications. I provided a copy of the consent form for signing (see Appendix 4). Divers were also offered a copy of the interview guide (see Appendix 1). They were assured that our conversation would focus only on themes they were prepared to discuss. At first we spent time in informal conversation to allow a period of settling in. After the outcomes of the initial quantitative study that was described earlier in this chapter, it became clear that any efforts to capture stories of divers’ underwater experiences would require time and an atmosphere that was conducive to reflection and discussion. To create such an atmosphere of sharing and trust, establishing rapport with each participant was crucial (Berg 1995). This is why my diving experience and knowledge was important.

While divers were willing and happy to participate, they initially appeared to seek my assurance they were offering the ‘correct’ information. At first they would offer snippets of their experiences and then qualify it with comments such as ‘is that what you want me to talk about?’, ‘do you want me to mention different things that I experience when I am underwater?’ or ‘can I talk about things that are not positive as well?’ When such a situation arose, I indicated to the diver that the interview was an opportunity to share stories of underwater experiences and assured them that all types
of diving experiences were important, while we also needed to focus on questions in the semi-structured interview guide. It was usual for divers to then settle into their recollections and the discussion would flow. This storytelling approach is a natural and important method of contextualising meaning (Mishler 1986).

Some authors agree that a shift in relations might occur in an interview to ‘empower’ the respondent (Gubrium and Holstein 2002, Lofland and Lofland 1995, Mishler 1986). The situation benefits the research as the participant is sharing knowledge from which the researcher is obviously learning (Lofland and Lofland 1995). A premise behind the development of this thesis supports the empowered position of the participating divers where my role was often one similar to being a member of an audience. Throughout the interviews no question appeared to unsettle a participant; rather, there were occasions when the topic was outside the diver’s experience range. When this occurred, the diver would indicate he/she had no knowledge of the topic and the discussion would move on. If at any time a diver stalled or slowed down conversation on any point, I sought to clarify any issues that were raised or moved the discussion to the next question.

As a reflexive researcher, I was aware of the various roles or ‘selves’ that I brought to the research setting in seeking to secure divers’ narratives (Lincoln and Guba 1985). These included my roles as an academic researcher and lecturer, and my everyday ‘self’, a recreational diver. However, particular roles seemed to be evident throughout the interview process. It seemed that my roles as a researcher and fellow diver faded in and out during each exchange forming a type of balance to the discussion. Duijnhoven and Roessingh (2006) state that researchers in the field are becoming increasingly connected to their field of inquiry with the boundaries between the research and the researcher seeming to fade. As a researcher, I was also an interested diver who wished to know more about the experiences of other divers. With each participating diver we generated a rapport and were able to work with a shared understanding as divers. As the interviews developed my SCUBA diver experiences trickled into the shared dialogue and became an important element to building trust and understanding. The process encouraged further discussion as respondents opened up and elaborated on anecdotes and stories of being underwater.
Patton (1990:56) refers to the unique human capacity to make sense of the world and confirms that empathy underpins much qualitative inquiry. In many ways both participants and I were revisiting a world or special place with which each of us was familiar. Anxieties and fears were often expressed with animation and laughter as divers relived adventurous and unexpected moments. Sharing the emotion seemed imperative to the process of exchange so that the participating divers would retain a sense of trust and empowerment as they offered details of their in-water accounts. Mishler (1986) and Jennings (2005b) advise that the jointly-constructed activity between interviewer and interviewee should aim to allow a story to emerge.

As each interview progressed there appeared to be no need to emphasise my role as a researcher because this had occurred during earlier communication with participants. Placing the university logo on the research recruitment advertisement signalled my affiliation with the university as a research student. My role as a researcher was demonstrated when I forwarded a letter of invitation to participate in the research, which was prepared on university letterhead and offered my PhD supervisor contact details. The initial telephone or email communication made by respondents and directed to the university also acknowledged my professional relationship with the university, as a PhD researcher. Throughout the duration of the research, all ongoing contact acknowledged that I was a researcher and a student of the university during any written, verbal or electronic communication with participants.

Many interviews continued beyond the one hour originally stipulated because participants had relaxed and were happy to continue sharing their SCUBA diving anecdotes. Discussions sometimes exceeded the length and capacity of the recording tape that captured the dialogue. To end each interview, time was spent winding down the conversation with both parties sharing general discussions about SCUBA experiences and diving ambitions. Each interview closed with participants being given assurance that a typed copy of the transcript would be forwarded for their information, to allow them to review the discussion and make any necessary corrections. Seven divers commented that they did not need to see the transcript and trusted my judgment to use the data as it was intended. However a copy of the relevant transcript was forwarded to each participant. Four divers responded with adjustments to the interview transcript which involved clarification of some points.
Those edited comments were included within the overall body of data. Eight other divers replied that they were satisfied with the contents of their transcript while ten divers confirmed receipt of their transcript and made no further comments regarding the contents. All of the participating divers expressed interest in seeing the overall results from the research, an abbreviated copy of which was forwarded to every participant.

Formally, twenty seven recorded interviews were conducted. Informally, many more conversations were held and continued throughout the duration of this thesis. It is not uncommon for discussions and information sharing to occur with leisure and recreational activities as part of the social world (Stokowski 1994). Dive stories were shared while sitting on the boat between dives, at the dive shop before and after diving, in my capacity as a volunteer dive guide, voluntary member of an underwater research group and a recreational diver, where observations and conversations revolve around underwater experiences. There were occasions when I would raise the subject of the thesis if divers showed an interest in further discussions on the topic. However, in many other situations no mention of the research was made.

### 3.3.4 Data analysis

Data analysis requires the researcher to sort through the information collected continuously using methodical procedures to create understanding and meaning (Veal 2006). As a qualitative study that used an interpretive approach to analysis to be able to create meaning of divers in-water experiences it was necessary to follow a path of immersion with the data so that coding and conceptual themes would be divulged (Berg 1995, Strauss and Corbin 1998b). Following a data trail seeks to provide explicit interpretation of the lived experiences of participants (Grant and Giddings 2002).

In qualitative research, the process of analysing data is more of a cyclical and concurrent process of fieldwork and analysis that commences at the time of the first interview (Charmaz 2002). As categories were coded from the completed interviews, the constant comparison method was used to gain insight and begin to discover the meaning of divers’ in-water experiences (Creswell 1994, Strauss and Corbin 1998b). Constant comparison requires the researcher to consider the statements offered by
multiple respondents as the researcher moves across and between the data on several levels – first minutely and then more generally, to search continually for evidence that might reveal generality of a fact, specify certain concepts or generate theory (Creswell 1994, Henderson 1991, Strauss and Corbin 1998b). Lincoln and Guba (1985:340) offer four stages in the constant comparison process which can guide the transformation of raw data to become emergent theory. These stages move the analysis from comparing incidents applicable to each category, integrating categories and their properties, delimiting the emerging theory and writing the theory.

An interpretive, grounded approach to analysis sets out to discover new theoretical insights and innovations which result from the continuous interplay between analysis and data collection (Connell and Lowe 1997, Henderson 1991, Strauss and Corbin 1998b). Becoming close to and familiar with the body of data involved frequent decision-making and choice, while coding and interpreting data was important to assist in the development of emergent themes (Charmaz 2002, Morse 2001). My emic perspective within this research is acknowledged and recognised under the section (3.4) on Trustworthiness and Ethics. Authors including Strauss and Corbin (1998b) and Browne (2004) use the term ‘theoretical sensitivity’ to explain a researcher’s ability to extract meaning from data by ‘breaking the complexities … into distinguishable, manageable and observable elements’ (Patton 2002:454).

The data generated from divers’ conversations was voluminous and required a process of data reduction. Using an interpretive approach helped to keep the views of the participating divers’ central to the study on SCUBA divers’ experiences with comfort, constraints and negotiation. Henderson (1991) uses the term ‘data discovery’ to recognise its importance in a grounded approach to qualitative research, because it means the researcher continues to learn about the experiences under study. The continuous and cyclical process of data collection, coding, analysis and interpretation that occurred throughout the analysis of the interview transcripts revealed many new ideas and concepts that led to additional literature and greater understanding.

When each interview was completed, the typed transcript was forwarded to the respective diver for checking, as has been noted previously. After checking, the transcripts were available for coding and analysis. Interviews were initially coded and organised using N6 software which required the transcripts to be read line by line to
generate initial coding categories (Strauss and Corbin 1998b). On completion of the initial reading and coding, a list of several dozens of codes was developed. Linked to each of these codes were blocks of data that were divers’ discussions and explanations of in-water SCUBA experiences. From this initial list of 40, blocks of coded data were reviewed and collapsed to reflect any similarity of meaning in the labels and data. The process provided the first level of data ready for in-vivo analysis (see Appendix 5). This first level of coding is referred to as open coding (Decrop and Snelders 2005). Codes and blocks of data were initially arranged under labels such as ‘initial responses’, ‘unpleasant experiences’, ‘risk’ or ‘comfort’ in an effort to align the data with common features of divers’ in-water experiences (see Appendix 5).

Carrying out this first level of analysis allowed me to become familiar with content of the whole body of data and diver stories. In-vivo coding was then useful to search for key words and phrases used by respondents, as these were the symbols of meaning divers gave to their accounts of particular SCUBA diving experiences which helped me to conceptualise meaning from the data (Strauss and Corbin 1988a) and avoid spurious assumptions in the use of terms (Berg 1995). The process also allowed the divers’ experiences to remain the point of focus, by retaining the richness of terms that they used (Creswell 1994, Patton 1990).

Comparative analysis occurs at the second level of coding, which is known as ‘axial coding’. Axial coding involves identifying data that share common characteristics (Bartlett and Payne 1997, Strauss and Corbin 1998a). As data analysis continued, the coding process moved to another level. Here I came to recognise explicit aspects of divers’ experiences which then provided an opportunity to conceptualise any relationships among the different facets of the data (Strauss and Corbin 1998a). This commenced the creation of concrete meaning and significance according to the topics discussed at each interview. Descriptions and references made of features that allowed divers to be comfortable were sought from within the initial coded categories, which had the effect of dramatically reducing the number of codes from 24 to 10. The reduced list of codes is available in Appendix 6. Terms and phrases used from rereading transcripts and field notes began to emerge as patterns and trends (Henderson 1991, Patton 2002).
As aspects of divers’ experiences became clearer, it was possible to consider features which were present for divers to realise a state of comfort, and specific aspects which challenged them and caused constraints to their comfort. I was also able to consider the types of negotiation that were pursued. Cross-case analysis of category-coded responses was beneficial for the properties and sub-categories of conceptual themes that were emerging, to build association and to highlight commonality across aspects of prominent themes (Connell and Lowe 1997, Patton 1990). The process of creating themes required identification of commonality and dissimilarity among the divers’ expressions. When patterns in responses appeared they were organised according to their property or theme within the data (Strauss and Corbin 1998a). The regular patterns became the themes into which subsequent items were sorted (Merriam 1998:181).

Selective coding is the third level of coding in a grounded approach, and occurs after open and axial coding. Selective coding involves integrating and interpreting data and interrelated concepts to form the evolving theory (Decrop and Snelders 2005). As the process of coding and analysing divers’ statements continued, specific themes were emerging as representing conditions and contexts of divers’ comfort, constraints to comfort or negotiation approaches. The words and phrases that expressed divers’ conditions and contexts of comfort, constraint and negotiation became the primary focus of analysis as they represented divers’ experiences that were collected during the research process. The unit of the narrative is a feature of qualitative research that seeks to retain the focus on the central element under study (Coffey and Atkinson 1996).

Four main categories or contexts emerged as areas in which divers discussed, or made reference to being comfortable or constrained underwater (physical, social, psychological and visual). The choice to use contexts of comfort, and constraints to comfort, was not initially clear. Yet divers’ statements continued to note that they had been comfortable with some aspects of being in-water, but not in other aspects. Studying the literature helped to confirm that being comfortable was likely a dynamic experience that had not been researched in leisure and tourism.

A further process of review which compared divers’ statements also refined the number of categories and statements to exclude any which were outside the scope of
the prominent conditions which represented comfort, constraints to comfort or negotiation. In another study of constraints and negotiation to pleasure travel, Daniels, Rodgers and Wiggins (2005) note that careful review of interview narratives is necessary to complete comparative analysis. Reviewing the interview narrative allowed them a thorough understanding of the data as well as identification of missing themes.

### 3.4 Trustworthiness and Ethics

At all times throughout the research process I was mindful of my responsibility to respect the rights and anonymity of the participating divers (Jennings 2001, Zahra and Ryan 2005). A respectful and equitable relationship based on mutual sharing was the intention. In valuing the contribution of the participating divers I approached this research with a fundamental principle that the conduct of ethical research requires participants to be accorded respect and protection.

Within a qualitative paradigm, axiology recognises the ethics, morals and values which underpin the philosophical approach (Lincoln and Guba 2003). My position within this research has been recognised as one with an ‘insider’ or ‘emic’ perspective who has personal experience with the activity under study, being recreational SCUBA diving. My views on the concept of comfort as a component of adventure leisure have been noted as informing this research agenda. While influences exist, this study is built on the views the participating recreational divers have of their experiences with comfort, constraints and negotiation during SCUBA diving. This has been the central premise of the work. Every effort has been taken to present these multiple and varied experiences within their original and unique context and construction.

As part of my role it was important to maintain a professional relationship to ensure that the divers felt no threat of compromise or exploitation in the dynamic. The professional relationship was supported by formal approval for the research being granted by the Southern Cross University Higher Research Ethics Committee (Approval Number: ECN-05-58 – see Appendix 7).
Carrying out the research and writing this thesis involved efforts to ensure the privacy and anonymity of all individuals before, during and after data collection. From the outset assurances were made informally and on written communication that divers’ privacy and anonymity would be maintained. In essence the process of building trust between the researcher and participating divers was ongoing. The process is given the term relational ethics, which recognises that emphasis lies in mutual respect and commitment between all parties (MacDonald 2006).

Researchers, working within an interpretive paradigm in particular, recognise that aiming for purely objective views is an illusion and that interpretations are socially constructed (Lincoln and Guba 1985, Parry and Johnson 2007). Henderson (2000) contends the days are waning when everyone believed that research was completely objective. While subjectivity is acknowledged, this does not discount the need for ‘rigour’ in the research process (Hollinshead 2006). In qualitative research, rigour is able to be maintained through trustworthiness and a systematic application of the methodology, including credibility, confirmability, transferability and dependability (Henderson 1991, Leininger 1994). Trust is central to a respectful relationship between the researcher and respondents. It was important that divers could easily recognise that their rights and opinions were being acknowledged and respected.

Christians (2006) suggests four points should be common to an ethical approach in the social sciences; 1) informed consent, 2) lack of deception, 3) privacy and 4) accuracy. To be sure that this research did not contravene participants’ rights, divers consent was obtained at the beginning of their interview. Every effort has been taken in communication with divers and the preparation of this thesis to ensure their confidentiality, as well as seeking to remain truthful to their stories and experiences. Taking such steps allowed each diver to retain control of their story and maintain accuracy in the research findings.

The issues of confidentiality and privacy were raised at the outset of every interview so that divers were aware of its importance to me, as the researcher and a professional approach to conducting the study. I was able to confirm that comments and direct quotes used in the thesis would be acknowledged to the participating diver with an alias used for each diver to secure their anonymity (Neuman 2006). As already noted, a relationship based on approaches to maintaining trust extended to
all documentation. Tapes and files related to the research remain in a locked and secure cabinet at the university, as was outlined in the Informed Consent letter forwarded to participants.

Preparing the thesis, according to the emergent findings that were interpreted and analysed is a necessary step in writing theory. Importantly, the researcher should undertake formal and informal member checks to clarify factual issues and interpretation, which then support the credibility of the theory (Lincoln and Guba 1985). Throughout the data collection, analysis and writing stages of this research I sought to confirm that my views on the central concepts were relevant and appropriate. My requests for confirmation involved the following techniques:

• Formally, at the interview stage with each participant, I explained that the research was exploring the idea of being comfortable underwater. At no time did any respondent object to the idea that comfort was possible.

• Peer checking of the central concepts occurred when I discussed emergent outcomes from this research with domestic and international colleagues during a number of PhD seminars, and at the International Leisure Studies Association conference held in Bristol (UK) in 2006.

• When the research results reached the final form, a copy was forwarded to all participants. The intention was to meet the divers’ request to see the consolidated results of the study. It was also important to confirm that the information presented in the results was correct and credible (Lincoln and Guba 1985). Several participants acknowledged receipt of the results but made no further comment regarding content. As previously mentioned, all participants received a typed copy of their own transcript soon after the interview was completed.

• On an informal basis, I regularly sought to check divers’ views and opinions on the central concept of comfort whenever the chance presented, and my findings were confirmed.
3.5 Limitations of Qualitative Methodological Context

This study has employed a qualitative research methodology to examine recreational divers’ experiences of comfort. Henderson (1991) points out that while qualitative studies may be considered by some to be in direct contrast to quantitative studies, they can be more appropriate for certain research questions. Authors including Jennings (2001) and Veal (2006) also recognise that a qualitative approach can lead to better understanding in some areas, including studying individuals’ thoughts and meanings. Even so, the limitations inherent within the methodological approaches taken in this research need to be stipulated.

In quantitative studies one intention is to be able to generalise findings beyond the sample to a larger population. The size and selection of the sample assists the ability to generalise outcomes from a study, for which interpretive studies have been criticized (Lincoln and Guba 1985). However, issues associated with rigour in the conduct of qualitative research can be recognised in the extent to which the researcher can show the work is credible and trustworthy (Henderson 1991, Merriam 1998).

Twenty seven recreational SCUBA divers formally participated in this thesis. A purposive method of sampling was used to encourage active recreational divers with all levels of involvement with SCUBA diving to take part. In qualitative studies, the object is to reveal the specific features that arise and generate information on which the emergent themes are based (Lincoln and Guba 1985). A broad range of diving experiences were sought which influenced the choice of sample and recruitment strategy.

It is important to recognise how the qualitative research design unfolded as the research progressed, including factors that influenced the direction (Dupuis 1999). As explained in Section 3.3.2.1, the sources used to recruit participants included a nationally distributed magazine with a large circulation. The number of responses secured from that first recruitment source was not high. However, when subsequent recruitment sources (dive email lists) secured further participants, several respondents indicated their interest in the project was sparked by the initial (magazine) recruitment notice. It appears that combined the recruitment sources did reach many
participants, with the subsequent and more specific sources (email lists) evoking responses.

Studies conducted from a positivist perspective aim for a random and representative sample to avoid issues related to bias which influences the ability to generalise research findings (Neuman 2006). Systematic errors in a study’s design can introduce bias in obtaining a sample. For example those who participate in a quantitative study are motivated to become involved yet may not reflect the views of all members relevant to the study (Zikmund 2000). Interpretive, qualitative research, in contrast, uses different approaches in the sampling process which are no less rigorous (Henderson 1991, Neuman 2006). The size and randomness of the sample is not the point of focus for the qualitative researcher. Rather, the number involved is dependent on the information which contributes to building new themes and richness in understanding. Across the sample of participating divers were a range of training and experience levels which did not reach the point of redundancy within each training level. For this thesis the total of twenty seven divers was confirmed as sufficient when emergent themes from the analysis of the sample group began to show signs of redundancy (Henderson 1991, Jennings 2001).

Divers were required to self select their participation, which asked them to discuss their thoughts and memories of involvement. The views offered throughout each of the semi-structured interviews were the diver’s personal opinion and reflections of their underwater experiences. Limitations are recognised in the need for respondents to rely on memory and interpretations of experiences (Henderson 1990). Interview techniques such as probing into aspects of a conversation are useful to expand on points raised, and also to confirm explicit recollections and details. Divers held vivid accounts of their underwater escapades and reliance on the memory of their experiences did not present as a feature of concern. They had clear recollections of events and offered much detail about their in-water experiences. At the same time divers were quick to note when they did not have any experience with aspects of SCUBA diving that were raised. Devine (2004) emphasises that in research people will reflect their behaviour and meanings in the language they use. Thus, I accepted that participants contributed what they knew as true and honest accounts of their underwater experiences.
The chance for self-reflection is valuable to research as the process builds greater understanding (Henderson 2000). I considered that interviews would be a valuable source of rich data for this qualitative study (Jennings 2001, Veal 2006) and a chance for divers to reflect on comfortable experiences. Furthermore, qualitative studies are based on a premise that multiple meanings and interpretations of experiences will exist within the research (Schwandt 2003). As such, the stories and experiences of the divers were accepted as a body of information that contained a range of views and perspectives which would contribute to understanding and explanation about comfort, constraints and negotiation.

In establishing the credibility of the research, my role and any effect this might have should be recognised to contribute to factual reporting (Henderson 1991). An earlier reflexive section (Section 3.2) has presented detail of my status as an ‘insider’ and recreational diver, as well as explaining how as researcher and diver the interview process unfolded. In piecing together the context of divers’ comments my own leisure practice as a diver was helpful to understand some features of the discussions about being underwater. Charmaz (2002) notes that constructivists seek to make meaning by getting as close as they can to the inside of an issue under study.

Using a grounded approach to analyse the interview data it was important to follow a consistent method that created a data trail to enable processes to be revealed. Grounded theory methods used to analyse qualitative data warrant the researcher to assume control over the material (Charmaz 2002). The constant comparison method revealed multiple themes in the divers’ interviews which were expressed as comfortable encounters. These themes formed part of the initial level of analysis. When I returned to the data for the subsequent analysis, the goal was to retain the breadth and diversity of experiences that had been raised. The organisation of divers statements according to themes and contexts which emerged were submitted to peers as well as the participating divers in order to gauge dependability of the findings (Dupuis 1999).

As a qualitative study the research findings apply to the experiences of comfort as recognised by this group of divers and cannot be generalised to the experiences of other divers. Yet, the development of a theoretical model which reflects the central concepts and the process of comfort, constraints and negotiation supports what
Henderson (1991) calls a test of transferability, in and of itself. The research outcomes contribute to knowledge of what occurs during adventure leisure with comfort, constraints and negotiation. The concepts emerge from this study of an adventure activity and provide future research with the opportunity to examine them in the parameters of other research.

3.5.1 Summary of limitations of the research

Within all research methodologies limitations will obviously occur. However, the language used to define and describe the ‘limits’ to qualitative research is often in direct contrast to that used in quantitative research. The inherent differences between qualitative/non-positivist and quantitative/positivist paradigms emerge from the different worldviews held by the researchers who work within each paradigm (Denzin and Lincoln 2005). For example, as a qualitative study this research did not set out to make predictions, replicate or generalise to the entire diving population, as would have been the case in a quantitative study (Neuman 2006). Tappan (2001) makes the point that meaning is being made rather than found in qualitative research. That is, this thesis aimed to inductively explore and describe the meaning of underwater experiences of comfort, constraints and negotiation for SCUBA divers.

As is common in qualitative, interpretive studies, a choice was made to capture a broad range of SCUBA divers’ experiences from current recreational divers from all experience ranges, including beginning divers through to experienced divers. Henderson (1991) indicates that qualitative researchers aim for examples of all classes of possible observations, so as to gather the multiple realities across a range of experiences (Creswell 1994). Within each of the diver training levels reflected in the study, the breadth of diving experiences included some beginning and novice divers. There were also a large proportion of divers qualified at advanced and experienced levels. As such while the emerging themes across the group of participating divers revealed saturation in the data, the participation of more new divers in the sample could have affirmed the views of this group of divers. Promoting the study in areas where diver training programs are being completed may have sourced involvement by additional new divers. However, as the number of participants is not a focus, when theoretical saturation became evident in the analysis themes, no further involvement was sourced.
From the grounded analysis, emergent findings of comfort, constraints and negotiation have application to those who participated in the study. As stated previously, gaining representativeness was not an objective of this interpretive study. Instead, the intention was a study which would give a richer and more nuanced understanding of divers’ in-water comfort, constraints and negotiation. As a result, this thesis has made a substantial contribution by painting a more detailed picture of comfort in leisure. Outcomes from this thesis are useful for future studies into leisure participation. These include the opportunity to examine the role of comfort, constraints and negotiation in land-based adventure leisure including mountain climbing and abseiling to reveal experiences involving comfort constraints and negotiation.

In-depth interviews were the primary method used to collect the stories and narrative of each SCUBA diver’s experience. Positivist critiques of such interviews are that they rely on memory and subjective interpretation of individual recollection Henderson (1990). An additional method of data gathering could have been to request participants to journal their diving experiences as they were completed, over a period of time. Such a technique might have achieved even more vivid recollections of being underwater.

Interviews require efforts taken to probe and sequence questions to obtain greater detail of an issue (Henderson 1991). That is, my ‘sharedness’ with research participants and the dynamic we formed created the basis for each discussion. I guided the interviews when discussions stalled and encouraged divers to expand and elaborate when they mentioned being comfortable or constrained. Their responses were the result of this probing and the ‘shared’ meeting. Fontana and Frey (2005:713) recognised that every interview follows some technique in order to create ‘sharedness’ between researcher and interviewee. The depth and detail that formed the questions and their presentation during the divers’ interviews was a result of my interview capabilities and the development of each interview.

My role as the researcher and an ‘insider’ with experience in SCUBA diving has also been declared. This is not an unusual feature as qualitative researchers are known for situating themselves within the research rather than claiming pure objectivity in analysis (Denzin and Lincoln 2005, Jennings 2001). The extent of my knowledge,
range and experience should be recognised as an influencing feature on the depth and
detail provided in this research, be they strengths or opportunities for improvement.
Indeed Tappan (2001:49) notes that an interpreter understands by constant reference
to her own perspective, based on expectations, preconceptions, biases and
assumptions. For these reasons my emic perspective and the scope of my diving
experience range is unable to be removed from this study.

3.6 Chapter Summary

This chapter has discussed the methodological approach taken in this study of
comfort in diving. The first key points of discussion details the use of an interpretive,
qualitative research paradigm. It was explained that at the outset of my PhD research,
a qualitative research approach was not my initial choice. However, after achieving
minimal success with positivist research approaches, qualitative techniques emerged
as the best means of lending support to my original ontological and epistemological
intentions. My personal position as an active recreational diver, which recognised the
influence of my views within the research has also been declared.

Explanation was given of the qualitative methodology used in this study. Data
collection methods, the sampling procedure and preference for using semi-structured
interviews were outlined. Also, the processes taken to code and analyse data were
discussed. A grounded approach was used with the large volume of data. In-vivo
methods of analysis aimed to retain the words and meanings of in-water experiences
as central features of the study’s findings. To ensure the research findings remained
credible, the process of ensuring trustworthiness and ethics were discussed. The
methodological limitations of the study have also been recognised.

The results of this research project are presented in the following three chapters. The
suite of results includes Chapter Four, which presents the recreational divers’
meanings and references to comfortable in-water situations. In Chapter Five
encounters of constraints to comfort are outlined. Chapter Six explores the strategies
of negotiation which were taken in response to constraints to comfort during SCUBA
diving. Discussion of the research findings and the association with existing literature
is presented in Chapter Seven.
Chapter 4: Contexts of In-water Comfort

4.0 Introduction

Chapter Two included an historical discussion pointing to a preference in modern societies, including in leisure where comfort has come to be anticipated. As part of such preferences comfort within leisure was implicitly part of positive experiences. Yet, it would seem there is little empirical evidence to offer detail of what constitutes a comfortable experience.

This study explored the concept of comfort for recreational SCUBA divers. This first of three results chapters examines recreational divers’ explanations of, and references to, being comfortable during SCUBA diving. From the grounded analysis of statements and discussions, the divers defined aspects of their experiences which explain that they were able to be comfortable during SCUBA diving. Multiple and varied experiences were described by the participating divers within and across training levels. Recounts included how they were comfortable with diving in the effect on their body, or the social aspect of being underwater, through to the visual experience of being on a SCUBA dive. Those experiences recognise comfort within specific contexts, when certain conditions were present underwater.

4.1 Contexts and Conditions of In-water Comfort

Chapter Three explains that a grounded approach was taken to analyse the interview transcripts. Divers were asked about various experiences underwater including when they were comfortable. Their responses included use of the word ‘comfort’ as well as references being made to describe or define what was occurring during comfortable underwater experiences. Analysis revealed four key contexts which best represented divers’ in-water comfort. They have been labelled as physical, social, psychological and visual and each of these contexts is outlined below.

1) **Physical comfort:** Physical comfort referred to those situations when the divers described their bodies being relaxed and unencumbered while they were in-water. There was evidence of physical relief in the lack of duress on divers’ bodies when they were physically comfortable.
2) **Social comfort**: Divers experienced *social comfort* when they had assurance in their diving companions underwater. During those times there were amiable and constructive interactions with other people underwater. References acknowledged feeling safe underwater in the company of other divers.

3) **Psychological comfort**: *Psychological comfort* was identified when positive mental and emotional states could occur during SCUBA diving. During these times, divers acknowledged the restorative capacity and well-being that was experienced from psychological comfort.

4) **Visual comfort**: *Visual comfort* was also apparent in divers’ appreciation for the aesthetic aspect of the marine environment. Divers were enthusiastic and supportive of the imagery revealed in the flora and fauna they observed during diving, which is a vital part of in-water comfort.

The four contexts of in-water comfort to emerge from SCUBA divers’ discussions are presented in Table 4.1. The labels given to the comfort contexts became apparent from the inductive approach used to analyse the interview transcripts. When the main conditions which supported comfort were grouped together, the contextual element became evident. Each context of comfort is presented together with narrative which threads together popular themes, descriptions and expressions the divers used to reflect their experiences of in-water comfort. However, the role of other literature should also be acknowledged in its influence to support the use of particular contexts to present the research results. For example, a contextual approach was used by researchers in nursing to assist in describing comfortable patient experiences (Kolcaba 1991).

While four contexts of comfort were apparent from the SCUBA divers interviews, each context could also be further explained by the conditions in which that context was present. These conditions and contexts are listed in Table 4.1. The contexts are presented separately to enable closer examination of what transpired when divers were comfortable during a SCUBA dive. The separate presentation of contexts does not discount any connection between contexts; merely the presentation gives meaning to different ways the divers experienced being comfortable underwater.
Table 4.1: Contexts and Conditions of In-water Comfort

<table>
<thead>
<tr>
<th>Context</th>
<th>Condition</th>
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<tbody>
<tr>
<td>Physical</td>
<td>Effortlessness</td>
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<tr>
<td></td>
<td>Familiarity</td>
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<tr>
<td>Social</td>
<td>Sharing</td>
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<tr>
<td></td>
<td>Trust</td>
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<tr>
<td>Psychological</td>
<td>Relaxation</td>
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<td></td>
<td>Freedom</td>
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<tr>
<td>Visual</td>
<td>Water Clarity</td>
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<tr>
<td></td>
<td>Marine Features</td>
</tr>
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</table>

4.1.1 Physical comfort

Divers were comfortable in a physical context when they felt unencumbered underwater. This physical state was described as a type of physical release and physical relaxation that was possible when divers were underwater. Many of the divers described the physical aspect of SCUBA diving as an experience of ease and effortlessness with the activity, and this enabled a feeling of physical well-being. Such well-being was discussed as a lack of stress or tension on divers’ physical bodies. Those who spoke about their comfort in the physical context included those who were beginning divers as well as more experienced participants. Physical comfort was also part of discussions regarding divers’ affinity and physical familiarity with immersion in the ocean.

4.1.1.1 Effortlessness

The first condition that defined physical comfort was a feeling of effortlessness. When divers recounted aspects of their time underwater, they commented that they were comfortable in-water when a dive was ‘effortless’. During these times divers discussed the enjoyment and pleasure they had because they were physically able to defy gravity, and experience what it was like to be weightless. The word effortlessness most often referred to dives which were free from physical strain and effort. As Wanda said: ‘I love it because all you do is float around’.
Some divers included the movement of the ocean in their descriptions of physical comfort. Ocean currents offered a sensation that was described as being similar to a feeling of flying. It is interesting that Jacques Cousteau (1954) used to dream of flying until he commenced SCUBA diving. After his first dive, he never dreamt of flying again. Both Abby and Carol conveyed their comfort with the physical effortlessness of diving which felt like they were flying.

*It was a deep dive and we floated across these coral heads. It felt just like flying* (Abby).

*There doesn’t have to be a whole lot of fish around, I am just happy being there. It kind of feels like flying* (Carol).

The theme of flying even extended to space travel as a metaphor used to describe physically comfortable experiences by one diver who acknowledged his good fortune being able to SCUBA dive. ‘*It’s special being down there to see all that. It’s like you are an astronaut floating around*’ (Stan).

Being physically comfortable underwater was also equated with divers’ descriptions of feeling physically weightless. One diver identified the experience of physical ease when she stated that ‘*I love the weightlessness of being underwater. You don’t feel anything else like that*’ (Bell). Another diver made the point that the feeling of weightlessness was not possible in other recreation activities. Bob discussed experiences of physical comfort during SCUBA diving when he made a comparison between bungy jumping and diving. ‘*Bungy jumping is OK but you don’t have weightlessness like you do with diving and you are gliding around*’.

Effortlessness was a condition of physical comfort that was beneficial to divers when they were in-water. There were many references made to being physically comfortable within the ocean. When a dive was physically comfortable there was an opportunity to enjoy novel aspects of being underwater, such as being physically suspended or the uniqueness of the experience. The physical comfort divers felt when they were underwater was recalled by some who have recently become involved with recreational SCUBA diving.

*SCUBA diving was easier than I thought and I enjoyed the weightlessness. It was like being in another world* (Leroy).
You are surrounded by water and sway as you float. It is clear as anything, and you look down and watch the fish (Anna).

I remember all of a sudden seeing everything and the sensation of being suspended in the unknown was fantastic (Bob).

Other divers drew attention to the close association between physical and psychological comfort which is experienced in-water when they conveyed their comfort at the absence of physical strain. Instead the divers could appreciate weightlessness as features of their SCUBA experiences. Ben and Barry both appreciated the experience of physical weightlessness which formed part of their visits to the marine environment.

It is great being able to visit an environment that humans are naturally excluded from and to move weightless in three dimensions (Ben).

I feel relaxed under there – almost meditative sometimes. The weightlessness, instead of being pulled by gravity all the time is great (Barry).

Physical comfort in the form of ease and weightlessness were among the divers’ in-water experiences. Being comfortable in a physical context meant the divers experienced physical effortlessness and could appreciate the opportunity to be buoyant underwater: ‘to be neutrally buoyant was fantastic’ (Jill).

4.1.2.1 Familiarity

In addition to effortlessness, familiarity was also a condition of physical comfort in-water. The divers explained that the ocean was an environment with which they were comfortable because it is familiar to them in their capacity as swimmers, surf board riders, snorkellers or life guards. Two participants who had spent a great deal of their leisure time near or on the water said they wanted to explore the ocean more. ‘I needed to get underneath it’ (Bob) and ‘I had to get down there and check it out’ (Stan). Statements from other divers reinforced this sense of physical familiarity with the ocean.

I enjoy being surrounded by water. I feel at home, it is something familiar (Chris).
It very strangely seemed almost natural. Maybe I was conditioned. It felt quite normal (Bruce).

I love being in the water. I swam a lot, and as a kid I went to the beach a lot. My parents said I was underwater more than I was up. I feel so comfortable. It is not an unnatural feeling for me (Belinda).

Many of the SCUBA divers confirmed that they had always loved the ocean. Their expressions related to the sense of physical comfort they experienced when they were in the ocean. Statements of attachment and affinity with the ocean were offered including, ‘I don’t remember ever not wanting to be a diver’ (Bell), or ‘I used to dream of being underwater as a child’ (Andrea), and ‘it was all I ever wanted to do’ (Jill).

Having a previously formed attachment with the ocean also aided a sense of familiarisation and comfort in-water. ‘Even as a kid I enjoyed the water, so it is a comfort thing’ (Sammy) and ‘I’ve always been a water baby’ (Carol). The connection they held led the divers to feel they were in a familiar place when they were underwater.

I started diving as a natural progression from many years’ snorkelling and spending time on the ocean with my parents (Dennis).

When I was a kid I would always go snorkelling and try and stay underwater as long as I could. So it probably started then (Wanda).

I grew up near the water and apparently before I could walk I could swim. I worked professionally as a lifeguard for a few years and so for me the next step was to dive (Bob).

As such, divers’ previous recreational experiences within a marine environment led to positive associations with the ocean. This in turn aided their physical comfort in SCUBA diving. The ease of movement the divers’ experienced underwater meant there was minimal physical exertion required. The absence of physical effort allowed divers to be physically comfortable during a SCUBA dive.

4.1.2 Social comfort

In addition to physical comfort, social comfort was also evident. Two conditions led to a sense of social comfort: a sense of sharing the dive experience and a feeling of
trust in others in-water. Sharing a dive created the opportunity to be socially comfortable in their underwater interactions. Further, having trust in dive buddies also led to a feeling of social comfort.

4.1.2.1 Sharing

A number of divers’ statements indicated social comfort during SCUBA diving. Several discussions focused particularly on the role of sharing underwater experiences. Some people expressed reassurance, and were comfortable with the social role that SCUBA diving played in making and building new relations. Carol, who has been a diver for many years, discussed the social comfort she experienced with SCUBA diving.

There is companionship in being underwater with your buddy. There are not many sports or activities where someone relies on you so heavily. I like the bonding diving creates. I made great friends with a complete stranger.

Being underwater with a familiar person also seemed to lead to a sense of comfort. For some divers, sharing underwater encounters formed part of building a significant relationship that had been ongoing for a reasonable period of time. While for others, the comfort from sharing SCUBA diving extended to additional family members.

My husband and I started diving in 1986. It was a new relationship and we decided to try SCUBA diving to see if that worked as something to do together in the partnership. It is a wonderful passion. Three of our girls have now taken up diving. Our grandson says, ‘Will you teach me to dive when I am old enough?’ (Donna).

Diving with my girlfriend … watching her eyes were when she was down there just going ‘wow’, ‘beautiful’ and holding my hand … a good buzz (Barry).

It is a chance to share something with my dad and now my wife. So there is a social element to it. That is a really nice thing. I know not a lot of my mates … can say they have been on a diving holiday with their dad (Bruce).

Family members, partners and friends appeared to add a level of reassurance and comfort to the experience of being underwater. As well, having a familiar dive buddy
meant that divers were able to continue the underwater experience beyond the dive. For example, several interviewees were of the view that a familiar person meant sharing the adventure beyond the dive itself, above the water where recollections and memories are shared.

*It is a buzz to come back up and share what you have seen. It’s the experience of sharing* (Stan).

*It is a family thing. I enjoy spending time with my family diving. It’s all we talk about. I have … twin brothers who are doing the advanced course now* (Zoe).

*Diving with those guys was great … they were sort of my family … like belonging to a club … we had a lot of fun together* (Carol).

Divers expressed a sense of social comfort in the reassurance they felt when they were able to share an underwater experience with someone that they knew. The aspect of sharing created positive communication and social harmony in a dive, below and above the water. Predominantly these positive encounters occurred when there were pre-established social relations. In-water social comfort was defined as an aspect of divers’ recreation which led to ongoing social exchange above the water.

### 4.1.2.2 Trust

A sense of trust in dive buddies’ abilities also emerged as a condition of social comfort. Having trust in a buddy seemed to reduce divers’ concerns about unexpected risk and uncertainty. Uncertainty underwater could be diminished because the diving team understood the way each member responded to different underwater situations. As such, divers knew what to expect from their dive buddy. Trust was a condition of comfort because it removed much doubt with regard to underwater safety.

Trust was reflected in the preference and choice of diving buddy, and was exhibited across both experienced and beginning divers. For experienced divers, trust was evident in the reassurance they discussed when they were underwater with others who had similar levels of SCUBA experience. On those occasions the divers indicated a sense of relief at the chance to focus on interests and move beyond managing their dive buddy.
It was magnificent. I was really conscious how much you don’t have to be the most responsible person in the group (Bell).

I am comfortable when I dive with people who are self-reliant because I don’t have to look after them (Jill).

In other discussions, Brad and Ashley indicated the trust and comfort that is generated from having regular diving partners. They both mentioned that having regular diving partners had allowed them to advance their diving skills. They also pointed out that SCUBA diving as part of a team had allowed them to build reliance and a sense of social comfort.

My buddy is very good in the water. We can see how quickly things can happen. Maybe it has made me overcautious, but he and I trust each other. I only dive with him these days (Brad).

Our team is comfortable with each other … we know how each will respond. The training we have done together makes us comfortable in the water (Ashley).

The importance of trust in creating social comfort in-water was summed up by Stan when he talked about the reassurance that a dive buddy should bring to any SCUBA experience. Stan acknowledged his willingness to dive with most people. He indicated it was possible to have reassurance from a dive buddy as part of these underwater relations.

You have got to have trust. I will give anyone a go but they have got to play the game. You wouldn’t like to be left anywhere. If you are not diving with someone you can trust it’s not worth it (Stan).

When those divers who had less underwater experience dived with a familiar buddy they confirmed they were comfortable knowing they had an added level of safety within the group. There also seemed to be a greater sense of security and social comfort in diving with people who had more SCUBA experience than themselves. The skills and attitude to safety brought by experienced divers seemed to be appreciated underwater. A familiar buddy provided social comfort as they established a basis of reassurance and reliance.

I’m really comfortable diving with all those experienced guys. You know they will take care of you if anything happens (Carla).
My friends are a great safety net for me, I really trust diving with them as I know they are experienced and safety conscious (Andrea).

I like to dive with people that I know. That makes me comfortable. You trust their limits. (Belinda).

Socially, when divers were in a position to know and trust their diving buddies, they were comfortable underwater. In those situations the divers indicated that they were relieved of any additional uncertainty that surrounded their underwater experiences. Trust and familiarity underpinned the social comfort that was possible because of the shared understanding which was established across the diving group.

4.1.3 Psychological comfort

As well as the physical and social contexts of being comfortable in-water, a psychological context of comfort also emerged from the data analysis. The prominent conditions which defined divers’ psychological comfort were relaxation and freedom.

4.1.3.1 Relaxation

Having a relaxed mental state underwater was a prominent condition to being psychologically comfortable. Primarily, being relaxed meant the divers expressed an absence of anxiety or fear. Divers’ psychological well-being was restored. When they were free from mental stress in-water, divers could focus their attention on other enjoyable aspects of SCUBA diving such as viewing the surrounding marine environment or practising technical skills. The experiences of being relaxed in-water also seemed to assist the divers’ in-water confidence. For example, Abe demonstrated psychological comfort during SCUBA diving: ‘I feel confident in the water. I am pretty comfortable most of the time. New locations don’t seem to worry me’. To be able to SCUBA dive without fear and anxiety was a point raised in several interviews.

The water was nice. I had no sense of fear or anxiety. I was finally able to go to a place that I had learned so much about (Anna).

I don’t have fear in the water. I think it is the only place in the world where you can leave everything behind (Stan).

I was lucky in that I never had any nervousness about being underwater (Bruce).
Divers were comfortable when they had the opportunity to be psychologically relaxed underwater. Achieving a relaxed state appeared to offer them a chance to improve their mood and restore some mental balance. There were various terms used by the divers to describe comfortable in-water states. These included references to SCUBA diving as offering a state of calm, relaxation or a meditative experience.

*I am a much nicer person after a dive. Being underwater calms me down. It straightens me out* (Carol).

*If I get stressed it relaxes me. I like being underwater. Night diving really relaxes me* (Zoe).

*I am in my realm. When I jump in I think, oh that’s good. I’m back into it. I find diving very relaxing* (Jill).

Psychological comfort seemed to have a restorative effect and settled the divers so they could relax and appreciate their surrounding environment. For example, Bruce described the comfort and calm he experienced on a dive and the ease with which he felt settled underwater. Carol also recognised the chance for a meditation-like experience when she dived, talking of the psychological well-being that diving gave her.

*I remember diving under Swansea Bridge [in Newcastle]. There was me and another guy, right on dusk, and the light had come in through the pylons. It was really calm and the bridge was beautiful. I thought, wow this is really comfortable* (Bruce).

*It is just the experience of getting under water; it is like a meditation. I feel like I belong, like everything is right in the world. The ocean environment does it more for me than the terrestrial* (Carol).

Many participants indicated that they were comfortable in a psychological context when they were relaxed. Recollections indicated that divers could experience a calm state and be psychologically at ease during SCUBA diving. Those experiences of psychological comfort extended to a sense of freedom for some people.

### 4.1.3.2 Freedom

A sense of freedom also enabled psychological comfort. Freedom was best reflected in the opportunity divers had to ‘escape’ underwater. SCUBA diving appeared to
benefit divers in the psychological distance they were able to gain from their regular life. Belinda was among those who indicated that she was comfortable with the chance to ‘escape’ one world, by going SCUBA diving which allowed her to appreciate another world. ‘SCUBA is good to get away from everything else really and to appreciate another world’. Other divers also talked about how SCUBA diving allowed them the chance to step away from their usual daily demands, as well as confirming that life’s pressures seemed distant when they were underwater.

*You leave your stresses behind. You are not thinking about everyday things, so you just switch off* (Donna).

*Sometimes I wished everyone dived so they can appreciate the environment and the escape it provides* (Bruce).

*It’s great to just be on your own, so you can forget about what’s going on with life on the surface* (Carol).

Psychological comfort seemed to lead to a sense of comfort above water for some divers. Escape and freedom appeared to have an enduring effect which lasted beyond the dive. The opportunity for freedom through SCUBA diving was a feature of psychological comfort for Bell. SCUBA diving gave her an opportunity for solitude which allowed her the chance to forget about everything else except being underwater.

*It is very much about the solitude. Underwater, I am not thinking about anything else. I’m totally absorbed in it. Nothing is on my mind except diving* (Bell).

A sense of peace and silence were some of the other attributes the divers used to define the freedom. This was expressed when they were comfortable with the psychological context of being underwater. There were numerous references made to hearing only ‘the sound of your own breathing’, which was part of the freedom that being underwater allowed. Silence and the absence of people were also descriptions offered in support of psychological comfort in-water.

*SCUBA diving is a chance to go somewhere silent that is away from the noise and lots of people* (Dennis).
It is so quiet, and there isn’t anything to worry you ... you just forget about everything else (Anna).

Being underwater is almost womb-like within a watery space and shut off to almost everything except hearing yourself breathe (Bruce).

It is interesting to reflect that as a general rule, diving solo is not considered by training agencies to be a safe recreational practice (Richardson 1999). Cousteau (1954) even declared the beginning of team diving in the 1950s after an occasion when Cousteau’s presence saved his diving buddy Dumas from drowning. Yet, in the current research there were a very small number of experienced divers who held the view that solo diving was their preferred and most relaxing option.

I like diving on my own. Something I don't like is seeing people when I dive. It's a solitude thing. The good thing about diving on wrecks is there are usually no people there (Bell).

Two other divers communicated similar views about diving alone. Carol made this remark: ‘I'm comfortable diving by myself’, and Jill indicated that solo diving was something she practised and was happy to do to develop her skills and independence in-water. ‘I was just putting myself in the position where I am responsible for myself as a diver’.

### 4.1.4 Visual comfort

As an activity that involves discovering and learning about the marine world, much of it through observation, the visual context of being underwater appeared to be an important aspect of divers’ comfort.

Two conditions emerged which defined visual comfort. One was the presence of water clarity during a dive. When the ocean was clear, divers were easily able to see their way and observe the underwater environment. Spatial and navigational issues, such as being able to locate dive buddies and find prominent landmarks, were a great deal easier when the ocean was clear. The second condition of visual comfort was the marine features; or those objects of visual and aesthetic imagery divers described when they observed various marine flora and fauna, including species such as fish, coral and sharks.
4.1.4.1 Water clarity

Divers were visually comfortable in clear or blue water. Clear, blue water, or to use divers’ common vernacular, ‘great viz,’ allowed them to see well underwater. Regular statements such as: ‘I prefer clear water,’ (Leroy), ‘for me blue water is important’ (Andy) or ‘I am big fan of clear water. You get that feeling of complexity’ (Brad) showed the importance divers placed on water clarity as part of the visual aspect of a comfortable SCUBA diving experience.

Several of the participants were new divers who recalled their first SCUBA experiences. They emphasised the way that good water clarity contributed to their in-water comfort. As one exclaimed, ‘I loved it! The visibility was exceptional for my first dive. There were so many fish’ (Brie). The enthusiasm for the visual context was shared by another new diver when she made the point that: ‘I love when it is blue and there is a bit of current. We dived in Indonesia and the visibility was amazing!’ (Abby). Having previously worked in the North Sea in cold and bleak conditions, Barney expressed his delight when he was able to dive in clear water and be in a tropical marine environment. ‘When we dived recreationally in the tropics, we were overwhelmed, particularly with the quality of the water’.

Clear water also aided divers in their quest to be able to observe and enjoy the marine environment. Regular comments were made about the quality of the scenery revealed to them on a SCUBA dive. As recreational divers, the detail of their sightings was an indication that these participants were comfortable with the visual opportunities that were possible SCUBA diving in clear water.

*We were on the Tasmanian Peninsula. I went down to 30 metres and the visibility was perfect. It was real blue water diving. The scenery was sensational* (Abe).

*I am happy if it is a nice day; warm, clear water and plenty to see. That makes me feel comfortable underwater* (Andy).

*It was magnificent, magical, there was a bit of current but it was blue all the way down. As the shipwreck came into view there was a shark swimming across the deck with a formation of fish behind* (Bell).
Further comments reflected divers’ visual comfort in clear, blue water. ‘The Yongala was such a beautiful dive. The water was so clear’ (Belinda). New divers were not alone in this regard, as experienced divers also discussed a preference for diving when the water is clear. As Donna explained, ‘In our old age we prefer warm and clear water’.

4.1.1.2 Marine Features

Visual in-water comfort was also defined by the sighting of prominent marine features. Interestingly, marine features such as sharks, rays, coral and shipwrecks presented as the main reasons for pursuing SCUBA diving. In light of this motivation, the divers were predominantly positive as they described the subject of their observations. Their discussions involved detailed features of the marine world they had seen.

I first dived in Kenya and it was amazing. When you looked down, a brain coral the size of a house was below us. Suddenly this whole other world had opened up (Jill).

At the Solitary Islands we came across a bait ball of fish. There were thousands of tiny fish. When we were in the middle a Grey Nurse shark came through. We were watching four or five others just circling around. It was a beautiful experience. There have been so many (Ashley).

Visual comfort was also apparent when divers had the opportunity underwater to pay close attention to marine species. Barney and Bruce were among two divers who expressed their pleasure and comfort when they were able to spend time observing marine life as part of a dive.

I get the greatest pleasure from being able to identify these creatures, to look at them, their behaviour and their social interaction (Barney).

To be underwater, far from the social world is special, to see what goes on between organisms. Watching a ray or octopus check you out is really interesting (Bruce).

Many of the divers conveyed that they were comfortable with visual experiences that extended beyond merely observing marine life. Some participants moved closer to be able to interact with marine animals during a dive and they expressed their pleasure with those encounters.
We had a great time. There were 30 or 40 squid near us and we were sitting on the bottom while they were playing amongst us (Zoe).

It is amazing how close you can get to the wildlife down there, and how friendly most of the creatures are (Bob).

You see beautiful imagery down there. Once, there was a massive school of yellow tails. We were watching what seemed like millions of fish. You could hardly see the bottom. The fish were inquisitive and liked interacting with us (Ashley).

I hopped in the water and saw a rush of fins. A dolphin came up to me in the upright position and then swam all the way down with me. It was amazing (Leroy).

When personal sightings of an endangered species were possible, these appeared to be highly valued experiences. Interestingly, seeing Nurse sharks in the natural habitat led to a feeling of visual comfort as it was something divers wanted to witness. As a reflection of visual comfort, they held the chance to sight Grey Nurse Sharks (a harmless and endangered species that can often be seen in eastern Australian waters) (Hayward 2003, Otway and Parker 2000) in high esteem.

We had a Grey Nurse shark coming towards us and swam over the top. She was three metres long and I thought, wow, even if you go to the zoo you don’t get that (Carol).

My buddy and I were lying there and it swam within three feet of us. It sat there for about five minutes, this big Grey Nurse just looking at us. It knew nothing bothered it. It was just magic (Bob).

We had Grey Nurse sharks and I saw one stick its nose under a ledge and push all the other creatures out. It pushed away a turtle, fish, and … looked at us as if to say, well! (Lots of laughing) We saw 3 or 4 other sharks and manta rays (Donna).

For some divers visual comfort was possible when they dived in marine environments other than tropical reefs. Those alternate marine sites included boulder reefs, caves or shipwrecks. A succinct remark by one diver made her preference clear, ‘Basically I love wreck diving’ (Bell). Like other divers, Bell agreed that she enjoyed variation in their choice of dive site.
Anywhere there are caves, something to swim through; exploration. Coral reefs are pretty but just don’t do it for me. A temperate place, with a couple of wrecks, boulders, that sort of stuff, lots of sharks … is great (Jill).

I’m happy on a wreck which offers a challenge and camaraderie with a team (Ashley).

Shipwrecks were one type of underwater feature that was included in some of the choices of alternate marine locations. Notably, the SS President Coolidge, which is located in Vanuatu, was a regular topic for those who had dived there. The SS President Coolidge was sunk in 1942 and has become a well known SCUBA diving site. Several of the participants in this research had been on diving holidays to visit the shipwreck, and offered detailed descriptions to express the visual impact of the site.

I had no appreciation for what I might see. This was an actual ship full of period items, water fountains, ballrooms with tiles on them, beautiful big lampshades and chandeliers. Incredible (Bruce).

The Coolidge was amazing. You dive down and it is the biggest thing you’ve seen. All these cargo holds … you can go in and out (Jill).

Night diving was one of the ways respondents chose to explore the SS President Coolidge, and the subject was raised in several interviews. Visual descriptions were recalled of diving on the ship, and they included detail of marine features that only appear at night. The divers expressed their excitement and indicated they felt comfort with the visual imagery they observed from those encounters.

The Coolidge was the best dive. At night the instructor has no lights and the flashlight fish look like white pin point light. It is like stars everywhere. It’s beautiful (Abe).

It was a night dive on the President Coolidge. Half way down the anchor line I swum out and for miles there was this glow in the water from all the flashlight fish, like welding sparks. You could make out the shape and see all the parts of the ship. I will never forget it (Brad).

Divers were comfortable observing marine life and other features which lie within the ocean. Statements demonstrated positive responses when divers could view marine flora and fauna. They were relaxed when they had opportunities to observe marine
creatures and were comfortable with chance interactions with some species. The visual context of divers’ underwater experiences reflected their comfort when they could observe marine creatures in their natural habitat and witness an array of marine sights. The presence of marine life was a dominant feature of visual comfort, with many divers’ discussions including themselves as part of the underwater scene that was retold. While these situations were unpredictable, the visual imagery that was revealed was held in high regard.

4.2 Chapter Summary

This chapter has presented the contexts and associated conditions of divers’ in-water comfort. Primarily, four contexts of comfort emerged from analysis of divers’ interview data, namely: physical, social, psychological and visual. Each context of comfort could be defined by a number of ‘conditions’.

Divers’ quotes and statements were provided to demonstrate that in-water comfort is a multi-faceted and subjective experience state. That is, what one diver considered was a comfortable experience might not have applied to another diver. However, the organisation and presentation of the divers’ quotes reflect some degree of similarity across the conditions of comfort that emerged from the divers’ statements. One of the goals of interpretive research is to reveal shared experiences (Denzin and Lincoln 2005), while an outcome of using a grounded process is to reveal difference within the data (Jennings 2001). Thus, while divers described in-water encounters when they were comfortable, they also reported occasions of discomfort and constraint. Chapter Five will present results of analysis of constraints to divers’ in-water comfort.
Chapter 5: Constraints to In-water Comfort

*I spent most of the time fighting against being hauled up or down ... the air would rush to the feet, leaving me in a stationary, head-down position.*

(Jacques Cousteau, *The Silent World* 1954)

5.0 Introduction

This chapter presents an examination of constraints to divers’ in-water comfort. While the divers were asked to discuss their experiences with comfort, interviews also explored what led to divers’ comfort being constrained, hampered or diminished. Constraints to in-water comfort thus build upon the contexts of comfort outlined in Chapter Four, namely physical, social, psychological and visual. The presentation of constraints to comfort reveals that there were times when divers comfort was constrained in each context. The chapter reveals what transpired during SCUBA diving and the divers’ views of disruptive features of being underwater.

5.1 Constraints and Conditions of In-water Comfort

For the twenty-seven recreational SCUBA divers interviewed, constraints to in-water comfort incorporated those aspects that were recognised as disappointing, distracting, harmful or stressful in-water, or they simply prevented divers from being able to continue with a SCUBA dive. They were factors that impeded a comfortable in-water experience.

The divers’ discussions of their experiences with constraints to in-water comfort were multi-faceted as they reveal a broad range of underwater encounters across the study group. For reasons of clarity and conciseness, constraints to comfort are presented in this chapter as single factors. The divers’ statements have been used to reflect the four contexts of constraints which emerged using an inductive approach to data analysis. That is, the emphasis made by divers of constraints to specific aspects of diving has underpinned the formation of the constraint conditions and contexts.

Building on Chapter 4, the four key constraints to comfort have been aligned with their impact upon each of the four comfort contexts and defined in the following way:
1) **Physical Constraint**: *Physical constraint* is represented by those factors which were detrimental to divers’ physical comfort. Notably, some features of SCUBA diving had negative impacts on divers’ bodies while they were underwater.

2) **Social Constraint**: Social comfort was constrained during times when interpersonal challenges and difficulties occurred underwater. These situations incorporated the number and presence of other divers, their actions and underwater behaviours.

3) **Psychological Constraint**: Psychological comfort was constrained when divers experienced stress and fear during SCUBA diving. In-water accounts included periods of anxiety and loss of control.

4) **Visual Constraint**: SCUBA diving experiences involved constraint to visual comfort. *Visual constraints* were the result of poor ocean conditions or the diminished quality of the marine environment.

Table 5.1 presents a summary of the constraints to comfort including the emergent conditions of divers’ constraint. These conditions structure this chapter including presentation of statements and quotes which describe the experiences of constraints during SCUBA diving.

<table>
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<tr>
<th>Constraints to Comfort</th>
<th>Conditions of Constraint</th>
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5.1.1 Physical constraint

Physical constraints referred to those factors which affected the opportunity for divers to physically relax underwater, or for a SCUBA dive to be effortless. Constraints were identified in statements that acknowledged the physical duress which occurred during some SCUBA dives, such as when the temperature of the ocean was too low. There were also occasions of physical constraint when physical strain and effort had an extensive impact on the diver.

5.1.1.1 Ocean temperature

Unpleasant ocean temperatures appeared to be a regular feature of divers’ interviews as a constraint on physical comfort in-water. Many divers recalled the ways in which the ocean temperature negatively impacted, leading to physical discomfort. Ben was quite direct when he stated that, ‘cold water is uncomfortable’. Other responses varied, yet the central message remained constant that the impact of cold water was a negative feature and a physical constraint.

The thing I struggle with is when I get cold in the water. Sometimes I am freezing. My whole body shivers (Brie).

Cold is one of the biggest hindrances for me. After 20 minutes all I want to do is get out of the water (Abby).

Bob’s view was similar to other divers, in that cold water brought discomfort. Bob also discussed the point by explaining how physical constraints like cold water could also impact physiologically during a dive.

Cold water is never comfortable, and your body has to work overtime to create heat and that decreases your downtime (Bob).

Carla recalled her first SCUBA dive in the ocean. She made it clear that cold water diminished her physical comfort and appeared to distract attention from other aspects of the dive. ‘In the ocean, the cold temperature took away any idea of comfort. All I could think of was let’s get swimming to warm up’. Sammy also made a reference to the impact of cold water on her first dive and the anxiety which lead to faster breathing: ‘I do remember initially getting in the water and feeling uncomfortable because it was cold, which made me breathe a little faster’.
The constraints to physical comfort caused by low ocean temperatures were substantial for some divers. Certainly, there were indications given that being physically cold was sufficient to diminish some people’s desire to continue SCUBA diving on any day. Carol made the point that: ‘When I start to get cold I think that is enough’. Donna held a similar view:

It is the cold. I remember when I dived off the back of the boat and the water was that cold I just got an instant pain in my head. I’d had enough.

The impact of cold water brought physical constraint. However, being cold in-water did not appear to be an unusual feature in SCUBA diving, especially for divers such as Bell. She indicated her familiarity with diving in cold water and the physical impact it had on her. ‘I get cold all the time. I often wear a hood. Fifteen degrees type of cold I don’t like. I hate how cold it gets here in Sydney. The coldest has been eleven degrees.

Across the interview transcripts divers echoed a general view that there were physical constraints which they endured when they went SCUBA diving in cold water. Generally, the divers did not like cold water. The impacts from the physical constraints varied across the responses which included the cold causing physical shivering, pain and being a preoccupation that distracted divers from any physical comfort during SCUBA diving.

5.1.1.2 Strain and effort

In addition to the in-water constraints that cold ocean temperatures caused, other physical effects such as strain and effort diminished physical comfort. For example, when there was a need to swim against the force of strong ocean current some divers’ comfort was constrained by the physical strain and exertion that was required. On occasion the physical effort from swimming underwater caused divers to breathe much harder and faster than usual. Physical constraint appeared to be heightened by inexperience underwater. Carla recalled the physical constraint she experienced when she first started diving.
It is the strain of swimming against the current. Initially you’d be taken with the current, but when you’ve got surge coming up, you hurry against your will, and then you have to swim back. I completely hated it. It was a struggle for me and I was really conscious that I was breathing more air.

Andrea has been diving for several years. She remembered one dramatic situation when she and her diving buddy experienced extensive physical constraint at the outset of a shore dive. As the divers were entering the ocean they were overwhelmed by the strength and force of the ocean. There was a substantial amount of strain and effort that followed.

We had just entered the water, walking in from the shore. Then, there was an unexpected undercurrent and a big wave that knocked us over and pulled us under. After being dragged along the bottom, the water proceeded to wash us back and forth over sharp coral. I lost my mask and couldn’t see a thing, and was sucking in lots of sea water. It was horrid, being tumbled head over heels … getting all cut up. I knew we were in trouble (Andrea).

Physical constraint was also a result of too much exertion in-water. This had additional negative consequences, such as the onset of a physical condition called nitrogen narcosis. The effect of nitrogen narcosis was identified by several divers who each seemed to endure very different experiences as a result, yet they all recalled being physically hindered. Andrea described the physical impact of nitrogen narcosis as ‘a weird really drunk feeling’. Barry and Donna also recalled the negative impacts of narcosis which resulted in a number of physical constraints.

I’ve hyperventilated underwater because I was caught up in a current and I kept trying to kick instead of slowing things down. I even started to black out underwater (Barry).

3 “shore dive” denotes the access to a SCUBA dive made walking into the sea from land rather than diving from a boat.

4 Nitrogen narcosis can result from breathing compressed air at depth and can have a physiological impact on SCUBA divers.
There was one dive when I followed an instructor head first down the anchor line at a hundred miles an hour. By the time I got down I was breathing so heavy I started to nark out\(^5\) (Donna).

A combination of physical impacts constrained Bell when she was on a deep dive, at 40 metres depth. There was substantial physical strain involved when she realised that her dive buddy was nowhere to be seen. Her efforts required her to swim after him to establish contact, which in turn brought on narcosis.

When I finally caught sight of him, I had to go after him and fast. I remember thinking that I was too narked to be doing this type of thing and how I really should not be exerting myself at depth but had no choice but to try and catch him. I was trying to make noises to attract his attention while chasing after him. I had to physically grab him by the fins to stop him.

Physical comfort was constrained when divers endured physical experiences of claustrophobia. Being underwater with the amount of equipment that was required for some to go SCUBA diving in cold water environments caused constraints. Andrea discussed her first cold water dive after several years of diving in the tropics. ‘My first experience diving in cold water and in a full wetsuit with hood was stifling … I felt really claustrophobic’. There was agreement in comments by Sammy that the amount of equipment worn underwater can be a physical constraint: ‘The gear is heavy. I don’t like things close to my body and stuff around my neck’.

The divers discussed the times when they were physically constrained and uncomfortable during SCUBA diving. Those encounters appeared to be triggered by features of the ocean environment including cold water temperatures, and the physical impact of having to swim against strong ocean current. Nitrogen narcosis was raised as one example of divers’ physical constraint. Also, physical constraint was experienced from the impact of diving with too much protective clothing and SCUBA diving equipment.

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\(^5\) ‘Nark’ is an abbreviated colloquial term used by SCUBA divers to indicate symptoms of nitrogen narcosis. Otherwise known as “Rapture of the Deep” the effects of the high partial pressure of nitrogen affects the central nervous system in ways similar to alcoholic intoxication (Strykowski 1974).
5.1.2 Social constraint

Situations transpired in-water when relations with an unfamiliar dive buddy or the negative behaviour of some other people who were underwater impacted on divers’ social comfort. There were divers interviewed who had been part of confusing situations underwater which resulted in social disruption. Within a social context, the presence of other divers at some underwater sites caused crowding and negative behaviour which brought discomfort.

5.1.2.1 Unfamiliar Dive buddy

The demands of diving with an unfamiliar dive buddy were a social constraint underwater. Accounts were offered that identified social constraints from the added demands of diving with an unfamiliar buddy. A new buddy appeared to cause distraction from the primary focus of a dive which diminished divers’ social comfort. Social constraints revealed a loss of trust and sharing that divers’ usually experienced when they were underwater with someone they knew.

*If I am with divers I don’t know I can honestly say I’ve never been truly comfortable because you don’t really know the people that well or how they will behave down there (Bob).*

Other respondents, including Bruce and Leroy, also made the point that an unfamiliar buddy meant the person’s underwater demeanour was not known until they entered the water. Some divers felt that when they had no previous underwater experience with their diving partner, they were required to be more cautious than usual in order to be prepared for any unknown aspects of the other person’s diving style. Unfamiliar divers often did not know a relevant detail such as the other person’s preferred swimming pace, which could affect the dive. New buddy pairs are required to indicate their preferred plans for the dive, and exchange underwater communication signals. A lack of familiarity with their diving style introduced a greater sense of caution and uncertainty about what to expect. The divers felt constrained by atypical behaviour and uncomfortable circumstances in buddy behaviour.
When my buddy is too clingy or too close, I am uncomfortable because I can’t turn around and look at something quickly, or reach out to a bit of rock without knocking the person. It is that sense of space underwater and the associated things of having to watch out for that person means that state of being cautious, always watching where you are and not interacting with others at the site (Bruce).

This lady was uncomfortable … rigid underwater. At 20 metres she had the regulator out of her mouth and was flailing around in the water. When I tried to give her my spare regulator she fought me, but finally I got it in her mouth … (Leroy).

Jill also recalled witnessing unusual behaviour in her underwater guide which she said was quite disconcerting. Jill was at a new dive destination which she wanted to explore, but her compass had stopped working. The frantic behaviour of her guide and new buddy at the site caused her to social constraint.

When I wrote on my slate that my compass didn’t work she just flipped out. She started swimming here, swimming there and I thought, what is she doing (Jill).

When a diver was underwater with an unfamiliar buddy, who was also unfamiliar with the local ocean conditions, constraints to social comfort appeared to be exacerbated. These compounding features seemed to result in a diver spending their in-water time monitoring their buddy or regularly attending to their needs. Andy is a regular diver at his local dive site, and he described the type of situation in which he often found himself, which demonstrated the constraints to his social comfort.

People who have dived in the tropics come here where conditions are different. Diving here can be more difficult. There is often current running, a bit of swell, and they drift off and you are left to look for someone who is probably 50 or 60 metres away that you can’t see anymore. It can ruin a dive. (Andy).

Constraints to social comfort occurred when divers had a new diving partner whose underwater demeanour was unknown to them. These constraints seemed to create an interpersonal barrier which did not engender trust or the opportunity for buddies to enjoy a dive together. Social constraints were magnified when a new partner was also inexperienced with the local marine conditions if they required regular attention underwater.
5.1.2.2 Negative behaviour

The second condition which reflected constraint to social comfort related to the in-water behaviour of other divers who were not part of the immediate buddy group. The social constraints that occurred were the result of divers’ unsafe diving behaviour and the implications of crowdedness at dive sites. Encounters were recalled which reflected how easily social comfort can diminish. For example, Carol was caught in the middle of a group of other people in an underwater cave [at South West Rocks, NSW] as they tried to exit the cave through a narrow space.

*I have images of seeing divers jump one, two, three down that hole and halfway down someone stops at the front, and you’ve got someone behind you … the water is booming in and your computer is going beep, beep, beep, under pressure!*

The impact of having many divers at a site further constrained social comfort and seemed to increase the potential for risk at some locations. The activities and presence of other divers on shipwrecks was a point raised by two of the more advanced divers. Ashley referred to his discomfort at the loss of visibility which was caused by another diver. Whereas Bell made reference to the level of crowding experienced on the SS President Coolidge which was a constraint to her social comfort.

*You cringe at some people you see diving. Humans take a lot of work to become graceful underwater. Once our team was inside a wreck and another diver came in and silted it out*. It just makes you feel uncomfortable (Ashley).

*I dived the President Coolidge on the 60th Anniversary of its sinking. One day a group of divers went underneath us, another group went over the top of us and a group stopped in a passage waiting to come through. It was that crowded it was unbelievable* (Bell).

It was also Brad’s view that experiences of SCUBA diving on shipwrecks were not always socially comfortable. A lot of shipwrecks can be found in locations that are

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6 “Silted it out” is the effect of divers disturbing sediment which has settled on shipwrecks, with their fins. Disturbed sediment can cloud the water and greatly reduce visibility.
only accessed with the assistance of a commercial charter service. In many instances, the divers on board do not know one another. Brad recalled his social discomfort from observing divers who put themselves at great risk of contracting the bends. His concern regarded the choice to remain too deep on a shipwreck for too long. The divers would then ascend too rapidly because they had very little air remaining in their tank.

Many guys do not dive to a plan. There is a selfish attitude and an atmosphere that frustrates me extremely. I don’t think they would do it if they knew the danger they were putting themselves in (Brad).

Popular dive destinations have appeal because they provide attractive or unusual underwater sights for SCUBA divers. Some well-known locations such as the Great Barrier Reef were among the places that were mentioned where social constraints occurred underwater. At those destinations, constraints appeared to stem from the large number of people in the diving groups. As well as the presence of a large number of divers underwater, reports were that the site was too accessible which resulted in it being a more heavily-dived site than respondents were accustomed to. The experience caused disappointment and social constraint for several of the respondents.

When things have been set up for mass tourism … there is an over-kill … there is over-reliance on fundamentals. You become frustrated because they are working to the lowest common dominator. You don’t get taken to particular places for cost effective reasons, which disappoints the experienced portion of the group (Bruce).

On one boat they said our maximum depth was going to be 18 metres, and I thought uh, oh! I don’t like being told how deep I can dive. They were catering to the lowest common dominator. I know my limits and I don’t dive in an unsafe manner (Donna).

Social comfort was constrained when divers were underwater with a new buddy, or when there was unfamiliarity with each other’s diving behaviour. Constraint was brought about from a lack of mutual understanding and shared focus between the members of the dive team. As well, the popularity of some sites has attracted large numbers of divers, and the negative underwater conduct of other divers created social disharmony and discomfort.
5.1.3 Psychological constraint

Constraints to psychological comfort occurred when divers were underwater and could not relax. Fear and anxiety occurred when a diver was worried about their lack of control with a situation. Circumstances varied, yet there were occasions when a diver had a lack of control. In other situations, psychological constraints were evident because of panic and anxiety.

5.1.3.1 Lack of control

As part of their development as recreational SCUBA divers, the participants had completed a variety of training and SCUBA skill-development programs. This development had exposed the divers to many different types of SCUBA diving situations. Yet, at times, the realities of being underwater still created concern. Divers referred to those moments when they registered their psychological discomfort because they did not have any sense of being in control. Chris was realistic in stating that: ‘You are exposed to the elements and not in control.’ Leroy also offered his view that: ‘A huge part of risk is not being comfortable’, attesting to the perceived and real risk that he identified with SCUBA diving. Bruce also gave his views that supported the reality of being in control during SCUBA diving.

*It is a new medium because you are immersed in water, and diving offers a sense of escape from the humanised world. We tend to control things, so the environment we live in has infrastructure needs that we control – the house we live in, the car we drive. Whereas SCUBA diving has many unknown elements to it and a lot of things can change quickly. It is unique for that* (Bruce).

Some in-water situations were disappointing for divers. They discussed dives when they were unable to relax, or when a dive became an unfulfilled and difficult underwater experience. During those recollections it was evident that factors which caused initial constraint had spiralled to become a greater level of challenge for the diver. Andy recalled one time underwater when he realised he had lost his way during the dive.

*I’ve dived in low visibility and found myself going around in circles. I’ve stopped to look at something under a rock, and then I don’t know where I am. It creates self-doubt which can lead into a downward spiral* (Andy).
It was seven minutes into the dive, 30 metres down and suddenly I had no air left. Visibility was very poor and my dive buddy had buggered off. You sort of think, this is probably the worst that can happen (Bob).

Fear also presented as a psychological constraint, often because of a lack of control. When the quality of the ocean environment included poor visibility or difficult ocean conditions some divers were fearful. Feeling out of control was associated with technical problems that arose. Abe recalled the first time that he dived to a depth of 25 metres, only to have equipment problems which caused him to quickly lose buoyancy and any sense of control in the situation.

I dropped down to 25 metres, which was the deepest I’d been. Then my tank fell over and punctured a hole in it. My buoyancy was caput and I shot straight to the surface. I lost all control. It was weird.

The unexpected arrival of strong ocean conditions dramatically altered circumstances and wrested any feelings of having control for Carol and her buddy on one memorable dive. She discussed how unforeseen events led to the resulting fear that she experienced when she was overwhelmed and carried away by strong currents.

There was a bit of current as we followed the contour of the island. Then all of a sudden the current pulled us in another direction. We were out of control. All I could see was blue water … couldn’t see my buddy anywhere … and my exhaust bubbles swirling up around my feet as we were pulled down and around. I was absolutely terrified (Carol).

Divers faced a range of constraints in-water that diminished their psychological comfort and a sense of control underwater. Accounts were given of SCUBA dives when divers were unable to relax underwater or when comfort as a feeling of escape turned to fear.

5.1.3.2 Panic and anxiety

When some of the participants undertook their first SCUBA dives, being underwater led them into feelings of panic and fear. For example, Chris was constrained and apprehensive when she felt claustrophobic on her first underwater visit to a pier. When she was in that situation her awareness of what she didn’t like about being underwater seemed to heighten.
I’ve never liked the thought of anything touching me underwater, and when I was under the pier I became acutely aware that I didn’t like the idea of feeling trapped or touching slimy things (Chris).

For Abe and Brie, the first dive was an unnerving experience. Both of them described the apprehension they experienced and recalled their lack of pleasure as they descended into the ocean.

I was in a total panic going under. I had only one centimetre visibility and remember thinking it’s not much fun, what is all the fuss about (Abe).

One thing that scares me is rolling out into the open waters. I haven’t had that much experience being in the open water … and I am always thinking about sharks … so I do get anxious (Brie).

For some of the divers’ apprehension remains a feature of SCUBA diving. The subject of apprehension was discussed by experienced divers when they talked about situations in which anxiety still occurs for them in-water. There were several references given to occasions when divers felt unsettled at the start of a dive.

Most of the time at the start of dives, I’m a bit anxious while I work through everything. But once I’ve sorted out my gear and breathing, its great and I can get comfortable (Sammy).

One thing that makes me anxious at the start of dive is if my ears play up and I start to think something is wrong. It distracts me (Wanda).

Diving at night also emerged as creating enough tension and fear to diminish divers’ psychological comfort. On these occasions some of the divers were shocked with the arrival of the constraint, which came in the form of difficult equipment failure or fear of a shark bite.

My first night dive was a shock. … I was at 15 metres and couldn’t stay down. I whacked my head on a pylon, the torch failed, and the instructor didn’t have a back up (Zoe).
On a night dive I buddied with a trip director. While we were diving they had burlied-up\textsuperscript{7} to get lots of sharks for photos. I knew this, but coming back there were more and more sharks as we got closer to the boat. There were sharks everywhere. I didn’t fear a deliberate attack but they were getting into frenzy, and I was afraid I’d take an accidental bite (Leroy).

There was a combination of factors that caused considerable psychological constraint for Belinda during her first night dive. The combined circumstances of strong wind triggered her apprehension. Nervousness continued as Belinda’s dive proceeded, yet she had problems descending which eventually resulted in losing her weight belt. Belinda’s apprehension had reached anxiety when the dive team discovered they were lost underwater and not at the intended location.

We were on a night dive out on a wreck about 20 minutes from the coast. It was getting quite windy and I was quite nervous. It was a bad dive from the beginning, let alone me losing my belt. … I was totally stressed out. I eventually got down … but we weren’t on the wreck at all … it was just sand and we didn’t know where the wreck was. It was a snowball effect of all things going wrong. (Belinda).

Divers recalled several types of underwater encounters during which their psychological comfort was constrained. These constraints came about when divers felt they had lost control in the dive. The level of psychological constraint was reflective of the type of danger each person perceived. Psychological constraint responses included frustration and annoyance from being lost in poor visibility, or being anxious and fearful about getting an accidental bite while swimming amidst feeding sharks, to the high levels of fear and anxiety of a difficult and first night dive.

5.1.4 Visual constraint

In Chapter Four, divers emphasised the comfort and pleasure they gained from the visual aspect of SCUBA diving. However, a number of constraints could reduce visual comfort. Visual constraints occurred because poor water quality, or a diminished marine environment, hindered divers’ comfort with their visual

\textsuperscript{7}“Burlied-up” is a term used in the past tense to describe the bait or food mixed together (burly) by fisherman to attract fish. In this instance the burly was thrown from the dive boat to attract sharks for photography.
experiences in-water. Two conditions that represent the visual context of constraint are poor visibility and diminished site.

5.1.4.1 Poor visibility

Just as divers stated that clear water led to comfort, a lack of visibility in the ocean made them uncomfortable. Poor visibility meant that the observational feature of SCUBA diving was hampered to the extent that some participants questioned the purpose of being on the dive. Preferences expressed across the sample group were mostly in favour of ocean conditions that were less demanding than what divers had endured at times.

*It sucks when you are sitting on the boat and can see the bottom – then you get down there and it is pretty murky* (Sammy).

*Some of the worst dives I’ve done have been in zero visibility, it is like night. It can be really uncomfortable when I can’t see where I am going* (Andy).

*Sometimes low visibility brings discomfort and you wonder what the point is. It’s pretty ordinary* (Abe).

As well as poor ocean visibility acting to constrain visual comfort, divers recalled the compounded effect of diving amidst low visibility and rough seas. The outcome of those experiences meant the divers could not observe any marine life, nor were they able to navigate their way.

*I couldn’t see 1 metre in front of me and didn’t like that I couldn’t control where I was going. I put my hand out to push off a rock which turned out to be a huge turtle* (Zoe).

*I don’t like slap-hazard conditions … looking at my hand down there, and that can happen here. Things can be tricky in low viz and with the currents coming through* (Barry).

Stan reflected on the restrictions that constrain him when the ocean visibility is poor. He held the view that with the passage of time, he was less tolerant of poor in-water situations which prevented him from seeing marine flora and fauna.
As I get older, I’m not comfortable in murky water and rough conditions. I find it irritating and not worth it. Not because I’m scared, but because I can’t see anything.

The limits that were placed on divers from poor visibility meant they were unable to see their way underwater, and hindered their opportunities to view the marine environment they had come to witness. The range of comments regarding visual constraint demonstrated that divers questioned the purpose of being on the dive. The visual restrictions were compounded when they were combined with difficult ocean currents.

5.1.4.2 Diminished marine environment

There were times when the marine environment caused substantial dissatisfaction in the form of unmet expectations. Wanda described the visual constraints from a diminished environment in this way: ‘when not a lot is going on down there, nothing to see … it is not what you set out to do.’ The unmet expectations that Andy experienced caused him to cancel the remaining planned dives that were booked as part of his overseas holiday. The first two dives were at a site that held little visual comfort because of the diminished environment.

There were no fish and there was less to see than at home. After two dives I cancelled the rest because I wasn’t convinced it was worth that risk (Andy).

Being at an underwater site which contains few appealing features was often described in such a way that drew a comparison between the absence of colour and aesthetic amenity with that which previously brought visual comfort from observing marine flora and fauna. Both Carol and Sammy discussed dives which held a lack of visual pleasure compared with other sites that held visual comfort.

I was pretty lucky with the dives in Coffs Harbour, compared with diving up here where there is much less marine life and no coral to look at (Carol).
I actually did a charter dive before I took my diving licence. It was up north and wasn’t very good. It is quite overused up there – there wasn’t anything to see, no coral and just a few fish (Sammy).

Visual constraint was experienced when there was an absence of marine flora and fauna underwater. As well the presence of harmful marine life diminished some divers’ visual encounters. Notably, the proximity of the unwanted visitor to the diver brought about the constraint.

Once I had a panicky dive being chased by a sea snake. I hate snakes. It uncurled itself and swam towards me. I swam away and it followed me. I grabbed hold of a big rock, and the snake curled itself around my buoyancy vest and was looking into my mask (Donna).

I was on the bottom with some other divers and I looked up and saw a very big fish. I recognised the stripes on it – it was a Tiger Shark … I saw it a few times. It didn’t seem too hungry but it caused me a lot of stress (Andy).

Divers recalled being constrained by features that had a negative impact on their visual comfort during SCUBA diving. Constraints represented hindrances to divers’ visual comfort. Poor ocean visibility meant that divers were unable to easily observe the marine world. The absence of marine features at a dive site, and the arrival of dangerous marine life were also features that disrupted visual comfort.

### 5.2 Chapter Summary

As shown in Chapter Four, four contexts of in-water comfort were revealed. This present chapter has demonstrated how in-water comfort can also be constrained within each of the four contexts. Constraints emerged from grounded analysis of the divers’ interviews and reflect varying levels of disruption in the specific context of comfort. The divers’ statements were organised according to the main constraint condition that was emphasised to demonstrate the breadth of encounters that were identified by the divers as affecting in-water comfort.

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8 “charter dive” refers to a fully escorted SCUBA dive in which untrained people are guided by a SCUBA instructor. Sometimes called “resort dives” or “tourist dives” because they are popular at tourist resorts (Coxon 2006).
It is important to bear in mind that those experiences should not be taken in isolation as entirely single constraint events which have no overlap or impact on other constraint contexts. This is because of the clear linkage between the four constraint contexts and the potential they have to impact on a diver’s comfort beyond the reported constraint context. For example, there were constraints presented in this chapter which were reported as causing some level of psychological constraint if the diver was distressed – regardless of whether the constraint was reported in this chapter as primarily being a physical, social, psychological or visual constraint to the divers comfort. Thus the close association between and among constraint contexts is recognised and acknowledged.

As well as the linkage between each of the four contexts, there were numerous situations when reported constraints could have been applied to multiple constraint contexts. Statements such as those which related to equipment issues could have been reported as physical constraints because they impacted on divers’ bodies, or in the case of leaking masks, they were also a disruption to the divers’ visual comfort as they diminished the visual encounter. However, as mentioned at the beginning of this chapter, the point of emphasis that was given by the diver when they discussed the underwater experience became the point of reference and constraint context.

Through further analysis of the data and with insight from the constraints literature, it became evident that divers made choices to address or negotiate these constraints to their comfort, in an attempt to respond to the circumstance. The following chapter provides a discussion of the negotiation strategies the divers adopted as a result of the in-water constraints to comfort experienced by the recreational SCUBA divers.
Chapter 6: Negotiating Constraints to In-water Comfort

"I swam down cautiously through the dark, finally rocks came into view, and on them was all the marine life I was familiar with. Now that I was in their reassuring presence I felt comfortable and began to look around."

(Powell, D. *Adventures of an Underwater Pioneer* 2001)

6.0 Introduction

The third and final chapter in this suite of results focuses on the interpretation and analysis of negotiation strategies that divers used to deal with their constraints to comfort. Negotiation here refers to the means of response the SCUBA divers employed when they were confronted with the challenges and uncertainties that became part of a dive.

As shown in Chapter 5, constraints during SCUBA experiences could diminish comfort. In turn, divers considered each of those situations and made a choice about how the constraints could be handled. These negotiation strategies are now the focus of this chapter. By examining the negotiation responses that the divers used, there is greater detail and understanding available regarding the circumstances within which constraints to comfort are realised and the manner in which they were handled during SCUBA diving.

6.1 Negotiation Strategies and Responses

Three predominant types of negotiation response emerged from the divers’ stories of comfort and constraint. These have been labelled ‘consolidate’, ‘co-operate’ and ‘cancel’. A ‘consolidate’ strategy refers to SCUBA divers’ individual efforts to remain underwater and work with the in-water constraints. The choice to consolidate indicates that divers recognised their own ability to manage their in-water constraints. The second strategy, ‘co-operate’, reflected the negotiation efforts that were pursued by divers when they worked together with others to resolve an uncomfortable situation. The third form of negotiation was to ‘cancel’, which identified situations when SCUBA divers were forced to terminate a dive and exit the ocean.
1) **Consolidate:** A ‘consolidate’ negotiation strategy reflected those occasions which caused divers to review their in-water situation because something was causing a minor level of concern. Having considered the extent of constraint, three themes emerged to represent the individual choices that were made to continue with a SCUBA dive. The themes involved shifting the focus of the diver’s emotional state, altering physical elements of the dive, or choosing to ignore the constraint in order that the diver could remain in-water.

2) **Co-operate:** ‘Co-operation’ reflected those situations when divers worked together in response to what had become an uncomfortable situation. Divers indicated that they used the co-operation approach because they were in need of assistance. When they were seeking the support of others, divers made modifications to the dive, including allowing others to take control of the situation, and be the decision-maker for the course of action that was followed.

3) **Cancel:** The ‘cancel’ strategy involved ending the dive before the designated dive time. Cancelling was a necessary strategy that was adopted when divers’ confronted substantial constraints to their in-water comfort which created difficult circumstances. Divers statements confirmed that when constraints were substantial, the only safe choice available was to negotiate by ending the dive.

Table 6.1 presents the three negotiation strategies that were pursued by the divers as a result of the suite of constraints to their in-water comfort. Divers statements reveal that the four contexts of constraint, discussed in Chapter 5 are not linked to any specific negotiation strategy. For each of the negotiation strategies, a number of responses were evident. To ‘consolidate’ divers would *stay calm, adjust* or *continue*. The ‘co-operate’ strategy involved the assistance of others underwater in the face of constraint. At times co-operation was initiated as support for the diver to *be assisted* because of their dilemma. There were also times when co-operation by a respondent
was a matter of *offering assistance* to support another diver. The only response for situations which required ‘cancelling’ a dive was to *exit* the ocean.

**Table 6.1** In-water Negotiation Strategies and Responses

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Response</th>
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<tbody>
<tr>
<td>Consolidate</td>
<td>Stay calm</td>
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<tr>
<td></td>
<td>Adjust</td>
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<tr>
<td></td>
<td>Continue</td>
</tr>
<tr>
<td>Co-operate</td>
<td>Be assisted</td>
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<tr>
<td></td>
<td>Offer assistance</td>
</tr>
<tr>
<td>Cancel</td>
<td>Exit</td>
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</table>

### 6.1.1 Consolidate

Divers indicated that some constraints to their comfort could be negotiated by ‘consolidating’. Across the sample group, consolidate responses involved concerted actions which focused on reassuring themselves in-water, as divers turned their thoughts and expectations away from the constraint towards enjoyable aspects or what would assist them to complete the dive. At times when constrained, divers worked to adjust their mood which helped them restore a sense of calm. In other circumstances, divers recognised the constraint as a hindrance, but considered that it did not pose a great threat if they made minor adjustments. As a result respondents considered it was possible to focus beyond the constraint by making adjustments and continuing with the dive. Three themes support this initial negotiation strategy: ‘stay calm’, ‘adjust’ and ‘continue’.

#### 6.1.1.1 Stay calm

A strategy of positive self-talk emerged as a useful negotiation technique, and allowed divers to confront certain constraints in-water. To deal with what appeared to be minor disturbances to their physical and psychological comfort, efforts were made to overcome the situation by acknowledging that they did feel anxious and then consciously trying to ‘stay calm’ and relax.
There were times in-water when divers felt unsure and apprehensive. However, they also recognised there was a need to achieve a state of calm. Some participants had previous experience with apprehension during a dive. Accounts were also given that divers realised other elements of being on the dive were positive. As such divers were not overwhelmed by the particular constraint to their comfort. They wanted to keep going and stay in the dive. To try and achieve their goals, they reflected on the catalyst and what they considered was a useful technique to help them to negotiate the situation. Brie, for example confirmed that once she became used to breathing with the aid of SCUBA equipment underwater she could begin to feel relaxed. ‘Once you get all of your breathing worked out it helps you to relax’. Another tactic was the deliberate act of slowing down rapid breathing, which appeared to work for some divers.

A couple of times I got in the water and I was breathing really quickly. I talked to myself … things like, just calm down, take a deep breath, there is nothing (Sammy).

I know how to control it now. Having not just done it once, but twice, you learn to slow everything down and just not panic (Barry).

Apprehension caused from a sense of claustrophobia crept into one of Carla’s dives when she was in an underwater cave. However, she was able to work through her concerns by continually working to keep calm, which allowed her to continue with a dive. Carla was able to reassure herself when she acknowledged the beauty of the natural surroundings.

We went to a new site for me. I don’t like enclosed spaces and so when we went through the cave I just calmed myself down, … what was around me was absolutely beautiful (Carla).

Taking steps to stay calm was the means by which a partially-sighted diver could also negotiate to continue with a dive when he experienced minor physical and psychological constraints. Brad regularly followed a process of memory recall to help him to stay relaxed and remain focused on the situation which helped him to overcome visual limits.
I am blind in my right eye and sometimes I think ‘I am sure I saw something there a second ago. I have really got to be thinking to give myself space. So I slow it down.

Minor constraints were a distraction to divers in-water comfort. However, responses indicated that divers made efforts to overcome these because they did not want to end the dive. Instead, they worked to alleviate apprehension and their inability to relax. Divers used techniques including positive self talk and taking efforts to slow down their breathing and avoid psychological constraints such as distress.

6.1.1.2 Adjust

As shown in Chapter 5, ocean depth had the capacity to act as a physical and psychological constraint to in-water comfort. When divers talked about being underwater, it was not unusual for them to mention the ocean depths to which they dived, and the marine features that formed part of each in-water experience. References to depth were part of discussions which considered the way in which some divers tried to negotiate any difficulties they were encountering. One usual practice was to ascend to shallower depth. For example, Andy acknowledged the psychological constraint he experienced when he was lost underwater. He explained that adjusting the depth of the dive assisted him in negotiating the constraint.

When I am lost I think it creates self-doubt. Have I made the right decision here? I try and backtrack if it has been a while since I recognised something familiar. But if I am really lost I tend to come up about 5 or 6 metres and get some landmarks. It is about what is familiar to me.

Adjusting was a method used by those divers who were constrained from the impact of nitrogen narcosis. For some, previous experience with the effect of narcosis meant the divers knew the value of a preferred and comfortable maximum depth. Leroy, for example, was very clear on his preferred maximum depth noting that, ‘40 metres is as deep as I dive’. Other divers also confirmed the depth at which they were comfortable diving, as well as clarifying their reasons for the choice.

Donna explained that diving below a certain depth can quickly cause narcosis. To avoid the effects of the constraint she chooses to remain above that level. ‘I nark out too easily. I know my limit. At 40 metres I start feeling funny so I won’t go deeper’.
An ocean depth above which divers could feel comfortable seemed to be a beneficial adjustment strategy they used to negotiate the effects of narcosis.

*I am quite happy diving above 25 metres, but below that I am concerned about narcosis and the impact it has on my judgement* (Dennis).

*I prefer to dive no more than 25 metres. If you gave me a wreck at 36 metres and a coral reef at 15 metres, I’ll take the reef. I want to get under there, check it out and really enjoy it. It is pretty precious* (Bruce).

Minor constraints to comfort were negotiated when divers made adjustments to their diving depth to improve comfort and avoid the influence of nitrogen narcosis. Some of the divers had prior experience with narcosis which allowed them to establish a preferred diving depth so they were able to continue with a dive.

### 6.1.1.3 Continue

Continuing was a negotiation response used when divers consolidated in-water in the face of constraints. The ability to remain calm in-water helped divers to negotiate many anxieties. In addition to positive self-talk and adjustment, divers explained that there were some circumstances which were less than preferable, yet they made a deliberate decision to continue with a dive. At those times they took steps to negotiate constraints by shifting their attention to other more positive features of the dive.

A popular approach was to block-out or ignore the impact of some constraints and thereby shift the point of focus. The choice to ‘continue’ was used because the constraint was present in one context of the SCUBA dive, yet the diver was aware of other positive features present in the dive. For example, when physical constraint occurred because he was cold underwater, Bob indicated that *‘I just mentally shut out the cold. I tell myself, this isn’t going to spoil it. I want to stay in the water because there is so much to see’*. Brad was another diver who talked of how he negotiated visual constraints to comfort.

*It is always better if you have even a little bit of clear water. But you take the opportunity that you are given and there are always other things to focus on* (Brad).
Other divers also pointed to their handling of minor constraints in-water. Rather than let the annoying issues become the focus of attention, divers appeared to turn their efforts towards consideration of positive and alternate aspects of being underwater. Abe seemed philosophical when he talked about comfort in SCUBA diving. He indicated there was a place for negotiation to achieve his goals. ‘Being underwater can be pretty uncomfortable…, but you override that because you want to do it’. Others put a focus on continuing with a dive when they referred to the reasons they chose to negotiate constraints.

*I try and put discomfort out of my mind and focus on the good things that are happening in the dive* (Dennis).

*Sometimes you dive and don’t see much marine life, so you change your plans and that is when you learn to look at the coral and little things* (Abby).

While divers chose to ignore a constraint because it was considered to be ‘minor’, there were times when some indicated their decision was to continue and confront the constraints directly, in order to work through the challenges being presented. These divers acknowledged that in confronting some challenges they were doing more than working with a minor constraint that could be ignored.

As a deliberate response to in-water challenges, some divers intentionally confronted physical and psychological constraints to comfort when they chose to ‘continue’ with their efforts to build proficiency and independence in SCUBA. These were deliberate attempts to negotiate constraints by challenging the limits of their SCUBA experiences and their in-water comfort.

*I was challenging myself to be able to cope with that experience of diving on my own … that was putting me outside the comfort zone* (Jill).

*In our dives we continue to challenge ourselves. Before each dive we just increase the task loading and give it a go* (Brad).

*It was someone’s idea to go through the space that divides the island. I suppose it is testing your limits. I trusted the guy I was with and that we both knew what we were doing* (Carol).
However, not all of the decisions taken to negotiate by continuing appeared to be the most rational. For example, Andrea and Carol reflected on particular dives they had undertaken with friends. They both recalled occasions when they had been constrained from the onset of nitrogen narcosis. To avoid sacrificing a long awaited dive, Andrea chose to negotiate and ‘continue’ the dive and take a risk with nitrogen narcosis.

*I was really trying to tough it out. My friends and I had waited weeks to do this dive. I hated to screw it up.*

Carol was at a new location for her and she followed her friends deeper into the ocean as they continued to descend on a deep dive. She recognised the rapturous nature of narcosis, yet elected to negotiate physical and psychological comfort and ‘continue’.

*I remember thinking that this is what diving is about. It was wild. The bubbles were tinkling, and I had a visual strobing effect. Everyone was laughing.*

As has been demonstrated, a ‘consolidate’ strategy was used when divers experienced minor or simple constraints to their physical, social, psychological, and visual comfort. The divers indicated that when confronted by these minor constraints, they were prepared to take steps to remain in-water. The three types of responses that were adopted were all focused towards experiencing the positive aspects of being in-water that was also apparent to each diver. At other times, some divers indicated that they continued with a dive when they confronted somewhat more than minor constraints, because it was a deliberate choice to push beyond the boundaries of their comfort and negotiate through the constraints.

### 6.1.2 Co-operate

A range of constraints could also be negotiated by working together and ‘co-operating’ with other divers. In these circumstances constraints impacted on divers’ comfort to the extent that it caused them to look beyond their own resources. SCUBA buddies were important, particularly in those situations which helped divers negotiate constraints in ways that included becoming settled into unfamiliar diving environments. Some in-water constraints were negotiated when respondents were
offered assistance by a diving buddy. There were also situations when respondents initiated support for other divers in need of help.

6.1.2.1 Be assisted

Andrea’s friends helped her to appreciate cold water diving environments which required her to wear a lot of thermal protection. At the outset she was uncomfortable and slightly claustrophobic but was able to negotiate those physical and psychological constraints with co-operation.

Good and patient friends helped me through those stifling feelings of claustrophobia in a full wetsuit. I eventually grew to love those kelp fields.

Diving buddies also offered reassurance and guidance for anxious divers. The support was critical when equipment malfunctioned, or if divers were apprehensive on a first night dive at a new dive site. The physical contact offered by the buddy was a beneficial means of co-operation.

I did have an instructor and other people, who were fantastic. Someone grabbed me and held my hand … they were onto the situation … and we eventually found the belt (Belinda).

I was a bit intimidated beforehand because I hadn’t dived the site but I love night diving. For the first 20 minutes we didn’t have torches on and so I held the dive master’s hand as we descended (Brad).

By co-operating with her buddy, Belinda was able to overcome the visual constraint she endured when her mask flooded. Physical guidance was available when her buddy held her hand and directed her to shallower water, where the issue was resolved.

I couldn’t see anything … but I did have a good buddy and I just held his hand and swam around … eventually we went shallower and the mask cleared.

Co-operating was one way the divers sought to negotiate in-water constraints. Situations allowed them to be assisted by their diving buddies’ ability and direction and doing so often meant they could continue with the dive. On other occasions, the
choice to co-operate was pursued as part of divers’ efforts in the process of ending a dive.

The onset of difficult ocean conditions was a regular subject of discussion with regard to physical or visual constraints to divers’ in-water comfort. As well as enduring strong ocean current and surge, mention was made of the challenges that presented when increasing ocean swell and large waves diminished the capacity for comfortable in-water experiences. Andrea and Brad both recalled co-operating with their buddies because of the physical and psychological constraints they confronted when ocean conditions turned against them. Andrea and her buddy were both at the beginning of a dive when the ocean overwhelmed them. Whereas Brad and his buddy were further into a dive when they negotiated physical and psychological constraint that culminated in difficult ocean conditions.

_We hooked our arms together … my buddy still had one fin … we kicked and kicked and finally got to shore sort of swimming and surfing back to safety_ (Andrea).

_My buddy’s compass didn’t work and I knew we were heading in the wrong direction. It wasn’t getting any shallower and Dave was low on air, so we went to the surface. The day had turned awful with 6 foot swell and we had to swim all the way back to shore_ (Brad).

### 6.1.2.2 Offer assistance

The issue of co-operating to provide support for others was also discussed. At times social constraint occurred because another diver was in difficulty, in which case the respondent worked to support the diver. Co-operation occurred at different times during a dive. For some, after co-operation support, they could continue with a dive. At other times co-operation was used to assist in ending a dive.

Divers experienced social and psychological constraints when other divers were experiencing difficulty, and sought to help. For example, Ashley’s dive team were at a decompression stop after completing a deep wreck dive when they observed a solo diver. Social constraint stemmed from a lack of understanding about the diver’s predicament amidst difficult ocean conditions. Ashley and his team co-operated and provided support to assist the diver in his ascent.
We had finished decompression and were near the end of a deep dive and saw this guy following us. It’s hard to know what the situation might be but he was really being washed around. So we handed him a marker buoy as we ascended. At least we would be able to see from the surface where he was.

Bell also explained how her assistance was required to guide her dive buddy through a difficult ascent from a deep wreck dive. Her buddy was disoriented as well as being very low on air. Bell’s psychological constraint was based on concern for her distressed partner and a need to find their bearings while she supported him during the ascent.

My buddy had used all his air. So I put him on my small spare bottle. I held on to him and tried to calm him down. …. I knew I had to get him off the bottom. By this time I had no idea where we were but remembered there was a big mast nearby ... we went up the mast and I kept holding him tight by the straps and tried to calm him down through the ascent.

The second strategy used to negotiate constraints to in-water comfort was to co-operate with other divers. Having another diver as support allowed some of the respondents to be guided through the challenge that presented. At other times, respondents were the ones to lead the negotiation. The process of co-operation allowed some divers to continue in the dive. In other situations, co-operation took place in the final stages of the dive.

6.1.3 Cancel

Co-operating allowed divers to work together at various stages and in some instances it was used at the end of a dive. There were also occasions recalled when the emphasis reported by the diver was on immediately terminating the dive. The ‘cancel’ strategy was used when divers faced difficult or extreme situations. Those times became evident to the diver when SCUBA diving equipment malfunctioned; dangerous marine life was sighted or if the diver had become uncomfortable because of extreme physical strain from SCUBA diving. Two divers recalled cancelling a dive because the physical constraint of cold water was too great.

There have been times when I was really cold so I had to come up because I wasn’t enjoying it. (Brie)
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*I remember one dive when I went under, but aborted that dive after 20 minutes…. It was icy cold and you are thinking, ‘Let’s get out of here. Let’s warm up’. (Donna)*

SCUBA diving is an activity that is heavily dependant on technical support. When there were serious equipment malfunctions in-water the situation gave divers no choice but to cancel the dive. One particularly pleasant dive ended abruptly for Bruce. He recalled the comfort that was being experienced during a peaceful dusk dive when it ended abruptly. *‘All of a sudden a regulator hose blew and we were back on the surface in a matter of seconds in an emergency ascent’.* Other divers also knew it was time to end certain dives when their regulator hoses exploded underwater. Andy recalled that there was some urgency in his situation. *‘The air was running out very fast so we went to the surface’.* Donna, however, was initially unaware that she had a serious equipment malfunction. Once the problem was identified the constraint was negotiated by cancelling the dive. *‘On a night dive I heard a loud noise which felt like somebody had banged into me … there were bubbles everywhere. Once we worked out what was going on I knew it was time to head up’.*

Andy discussed his decision to cancel a dive on behalf of his dive group because he sighted a dangerous shark. His choice to cancel extended to not alarming his fellow divers until they were safely on board the boat.

*I was sitting on the bottom looking around and I saw it [tiger shark] a couple of times. The others didn’t see it … but it was time to leave. I had to end the dive.*

A dramatic situation constrained Bob on one dive in which he had lost sight of his buddy and then discovered he had no air left in his tank. He was forced to negotiate an ascent from 30 metres depth without air, as slowly as possible, to avoid negative symptoms such as the bends\(^9\).

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\(^9\) “the bends” is a term used to explain the difficult physical effects that can occur if divers reach the surface from depth without sufficient decompression time which is necessary to allow excess nitrogen to be dissolved from the body’s tissues (Martin 1997).
The third choice of negotiating constraints to divers in-water comfort was to cancel the dive and exit the ocean. The strategy was used when situations were extreme, including when SCUBA equipment malfunctioned, when physical duress was great, or when marine life considered dangerous was sighted during a SCUBA dive.

### 6.2 Summary of Negotiation Responses

Divers’ negotiation strategies were used in response to a range of in-water constraints. Negotiation involved actions taken to rectify the in-water discomfort that presented in a dive. Divers negotiated constraints individually by consolidating resources and focusing their efforts to remain calm, or shifting their expectations to positive features of being underwater. At other times there was co-operation with their diving buddy, by receiving support, or offering assistance to negotiate constraints. Additional still, there were circumstances when constraints required a decision to cancel and end a SCUBA dive.

The close association that is evident among each of the three negotiation strategies is acknowledged. The attempts made in this chapter to organise the divers’ constraints negotiation efforts according to the three strategies reflect the emphasis that was made by a diver to a particular situation. For example, the co-operation strategy includes statements which might be interpreted as part of a cancel strategy [because divers cancelled the dive not long after they negotiated the constraint]. However, when a diver emphasised the role of co-operating as the point of focus the strategy of co-operating was used to organise the statement. In this way, every effort has been taken to present the negotiation strategies as separate actions while acknowledging close association between them. The example also highlights how some experiences were interlinked across more than one constraints negotiation response.

The suite of three results chapters has offered accounts where similar experiences with comfort, constraints and negotiation were apparent during SCUBA diving across the experiences of the twenty seven divers. Each of these chapters has allowed the
experiences of comfort, constraints and negotiation to be unpacked. However, the divers’ experiences were a composite of events contained within each of the three chapters, and to assist explanation, three case examples are provided.

The cases exhibit the linkages that occur between the concepts and conditions presented in the results chapters. The aim in presenting these case examples is to provide an assembled picture of in-water issues that surrounded the comfort, constraints negotiation process for three divers. The presentation of the examples demonstrates the variation that is possible between experiences in-water comfort during SCUBA diving.

### 6.3 Three Case Examples: Wanda, Dennis and Carla

To demonstrate a closer understanding of how linkages between the conceptual ideas raised in the three results chapters can occur, case examples from three divers’ have been presented. Each case reflects the diver’s discussions of their experiences with in-water comfort, constraints and negotiation. By using each diver’s story, there is a chance to focus in on one person’s experiences underwater and reveal their interpretation of the dynamic features of comfort, constraints and negotiation within SCUBA diving.

The three case examples used in this section highlight how the divers perceived comfort as developing over very different periods of time. The first case example (Dennis), discusses how comfort, constraints and negotiation occurred over the duration of one dive. In the second case example (Wanda), experiences with comfort, constraints and negotiation are depicted as a process that evolved with time and over many dives. The third example (Carla) reveals how a new diver experienced comfort, constraints and negotiation.

Both Dennis and Wanda have been diving for at least a decade and are qualified to instructor level. Carla has just commenced SCUBA diving. From their case examples, the contextual features of comfort and constraints to comfort are distinct. This reveals the extent to which negotiation is an enduring feature of SCUBA diving. In the case of Dennis, comfort and constraint were negotiated as one dive evolved. Throughout that one dive different contexts of comfort and constraint were present and various
negotiation strategies used. Whereas Wanda, however, indicated that she had undertaken many dives before many contexts of comfort were realised. Wanda was comfortable with the psychological context from the outset and long before she became comfortable in other aspects of diving. Meanwhile, Carla was able to learn about in-water comfort before discovering what constraints and negotiation meant to her in-water experiences. As well as portraying the enduring presence of negotiation as part of SCUBA diving, the case examples depict three different perspectives on how the processes of comfort, constraints and negotiation can occur within recreational SCUBA diving.

6.3.1 Dennis: one negotiated SCUBA dive

Dennis is a diver of many years’ experience. This story of his dive is drawn from his statements of the sort of events that transpire on a typical SCUBA dive and what he considers are his experiences with comfort. Dennis is trained to Dive Master level and indicated that he often assumes the responsibility for any recreational diving group he is underwater with, because he has many years experience, even though he isn’t formally working. During his interview, Dennis indicated that a dive can involve a process of moving in and out of different states of comfort, constraints and negotiation. When constraint presented Dennis said he tried to resolve the problem by using different approaches. These approaches often achieved the desired outcome, at other times not.

At the outset of a typical dive Dennis said that it was not uncommon for him to experience physical and psychological constraints to comfort that have been caused by external factors. Once the dive commenced and the ocean offered positive in-water conditions, Dennis negotiated any pre-existing difficulties, making the choice to push on and continue with the dive. In excellent ocean visibility he could see clearly and began to physically feel comfortable and could psychologically relax in-water.

As I start a dive I might be feeling uncomfortable because I’m tired or feeling under par. During the descent it is possible to settle down. I relax by taking a couple of deep breaths. When I look around as I’m going down and see the water is really blue and there is no physical evidence of current, things become much better.
Dennis is an experienced diver and a person with much knowledge of the topography of local SCUBA diving sites. Often he dives with people who have less SCUBA experience and familiarity with marine flora and fauna than him. This places him as the most responsible diver in the group – a situation he does not always want to be in, and which can present social constraint. It usually takes a few minutes for all divers to descend and arrange their equipment to become comfortable, and to confirm each person’s air supply.

Dennis can allow himself to relax once he is reasonably sure that other members of the group will remain within sight. The abundant marine life and excellent water clarity are a photographer’s dream. Having negotiated his social constraints by ignoring concerns about other divers, Dennis appreciates that he can explore the site easily. He takes many photographs in high quality conditions. With the dive team following their plan, constraints creep in to distract and unsettle Dennis’s comfort. These include social and technical hindrances which are seen as ‘annoying’.

*Things start to go wrong. Your camera doesn’t work properly. When you want to look closely at small animals, people crowd around and the animal usually disappears. Many divers can’t remain still underwater, so everyone is banging into things. It is irritating and disruptive.*

Less challenging constraints, which do not affect safety, are easier to manage. Dennis might elect to forget about taking photographs and clip the camera away. However, the social issues involve crowding and poor buoyancy at a site, and at first the disruption is caused by divers bumping into each other and obstructing others view. Then in-experience with buoyancy causes frustration. Dennis elects to push on and constraints are dealt with by changing the focus of the dive. The new plan is to swim around and observe larger marine life.

*When divers are unco-ordinated underwater, I just keep swimming and looking for larger species, like turtles, fish, sharks and rays that are also moving around. Then the little creatures aren’t seen as much, but everyone is more relaxed.*

Shifting the focus of the dive to look for larger species usually works within the skill and abilities of the diving group. The adjustment can restore visual and social comfort for Dennis, as well other divers in the group. The decision seems to establish comfort.
because there is no stress, hassles are avoided or managed, and disruptions are minimised. Dennis is thus much happier and more comfortable with the outcome. ‘I am comfortable when it is effortless.’

Even though the visual context of comfort from sighting schools of fish, sharks and rays is high, Dennis experiences physical constraint from the water temperature, which impacts on his psychological comfort and he becomes distracted. He notices that air supplies across the group are diminishing. There have been many sightings of marine life, and the allocated dive time has passed. Dennis chooses to end the dive.

### 6.3.2 Wanda: negotiating comfort over time

Wanda’s story demonstrates how comfort was achieved through endurance and her continued desire to spend time underwater. With time and experience Wanda became comfortable. Wanda came to realise in-water comfort through the process of continuing in her SCUBA career rather than a search for better experiences in-water.

Wanda has been a diver for at least fifteen years. She has completed several thousand SCUBA dives in many parts of the world. Born and raised in Canada, Wanda was attracted to being underwater because of a love of wildlife and natural environments. At the beginning of her SCUBA training, Wanda was content that she could be underwater, yet she was not exactly comfortable. Her enjoyment with the opportunity to breathe underwater was not matched in other aspects of her experiences, especially physical and visual contexts, because of low water temperature and poor quality dive sites. From the outset Wanda made a choice to compromise so that she could go underwater.

> It was really cold and you could see just a little. I wanted to do it because I really love fish and being underwater. I remember feeling uncomfortable when we would dive for fun in … horrible shore dives … with no visibility … it was pretty boring.

Yet she negotiated these constraints to comfort and persevered with what were usually poor conditions. Cold water was common and visibility was often restricted. Wanda negotiated visual constraint by choosing to ‘push on’ and focus on building SCUBA diving skills and ability. In many ways she was challenging her boundaries as she continued to extend her risk horizons.
On one dive in the U.K. all I could see was my buddy’s fins. I really panicked underwater because I thought if I lose him I’m screwed. I don’t know where I am 30 metres down. I just had to keep following him.

Eventually, the visual context of in-water comfort was realised when Wanda travelled to the tropical waters of Central America. It was there in the clear warm seas that mild contentment quickly became a comfortable experience as the quality of the marine conditions and the abundant marine flora and fauna presented Wanda with a visual feast!

I ended up going to Belize for 3 weeks. That was when I went ‘oh wow’ this is what everyone has been going on about. There were dugongs, hammerheads, fire corals. We were at places that nobody had dived before.

From her encounters, Wanda established comfort during SCUBA diving in several contexts including visual, psychological and physical context. However, there continued to be dives when Wanda was reminded of the underwater sites she visited early in her diving career. Those dives returned experiences of physical and visual constraint because of cold ocean temperatures and diving at a diminished site with a lack of marine life. Even still, Wanda negotiated and elected to push on as she accepted the reality of her choice.

I went for a dive in Melbourne that had been recommended. Everyone said there would be fish everywhere. There was only sand, a few fish and not a lot of action going on. I was shivering the whole time. I was looking forward to it and had saved up for ages. I was crying, going, ‘I hate this’.

Wanda was philosophical about the need to endure negotiation as part of SCUBA diving when she indicated that the ocean had the capacity to present both comfort and constraint.

Diving is like a different mode of transport - like flying, you go up, down and you go on your side. You get to float around. But a lot of current can be uncomfortable if you have to swim against it. I’ve been in current which when you look up, will push your mask off.

During periods of constraint Wanda said she adopts a practical approach and tries to stay calm: ‘it is just a matter of not trying to over-exert. In current and surge I hang onto the rocks and pull myself along.’
As an experienced diver there continue to be in-water situations that diminish Wanda’s comfort. Recollections were offered when a dive buddy behaved inappropriately and caused social constraint. In those situations Wanda appears to take an extreme view of negative behaviour on the marine environment. She negotiated her social and psychological constraint and cancelled the dive.

I’ve had people with me who have tried to ride turtles, and that really upset me. I was with somebody once who was kicking a puffer fish down there and going up to fish and trying to grab them. Straight away I came to the surface.

Wanda’s in-water experience has extended to diving at many international locations in various types of marine environments. Her love of marine environments encouraged her to negotiate the constraints she experienced in poor quality sites, and continue diving. It was some time before she experienced visual comfort, which then offered her pleasure in another context of diving which meant she could fulfil an ambition for recreating in locations where she could witness abundant marine life.

6.3.3 Carla: immediate comfort and constraints in SCUBA diving

Carla is a new diver who has undertaken less than ten dives. However, those underwater forays have provided her with a range of experiences that extend from comfort to constraint and negotiation. As a person who lives near the ocean she has recreated on and in it for many years. Her love of the sea was described as having a ‘therapeutic effect’ on her. Carla took the step to learn to dive when she enrolled in marine studies at university. Studying what was under the ocean was also a chance to learn to dive. She described herself as a person who does not shy away from a challenge – ‘an adrenalin junkie’. As a result, Carla felt that the decision to become an open water diver was exciting. Her first underwater experience provided her with a visual feast which she described in this way:

It just blew my mind. There were fish everywhere and I didn’t know where to look first. I just wanted to get down and sit on the bottom and take in the full 360 degrees.
This first ocean SCUBA dive did not offer total comfort. There were minor physical constraints as a result of the ocean temperature which Carla indicated were distracting. With many things going on underwater she chose to focus her attention elsewhere so as to negotiate by consolidating and continue with the dive.

*I didn’t expect it to be that chilly, which was a bit distracting.*

*The bubbles going up by your face is a little hard to get used to.*

*But you start moving around and concentrating on buoyancy … as well as looking at what is around and it takes your mind away.*

With only a few diving experiences, Carla could appreciate in-water comfort in physical and social contexts as well as the visual comfort experienced on her first dive.

*Being comfortable is when you have good buoyancy and control of your movements, a dive buddy that you know and clear water.*

As this quote shows, Carla’s social comfort is made possible by diving with experienced others, in her case an instructor or guide. She made the point that social comfort is possible because “*if the instructor is laid-back they will have a calming influence on you*”.

Carla continued with her diving experiences and she chose to explore other dive locations. Her choice to keep diving was influenced by a sense of curiosity as she indicated that “*the unknown was the hook. There is a lot more ocean than there is land.*” The ease of her first dive was not necessarily repeated on those later occasions. Carla learned about physical and psychological constraints which hindered her in-water comfort as she became familiar with the force of the ocean when conditions were less than perfect.

*You’d be taken with the current and you’ve got surge coming up. You have to hurry against your will. When it was time to turn around and swim back it was a struggle. I hated it. My air was going down really fast and I wasn’t comfortable at all.*
Negotiating constraints to comfort was a combination of consolidating to continue and co-operation for Carla. When she endured physical constraint, such as a mask that would not clear she negotiated with the support of her guide or instructor. In her words, “diving is a bit of a juggling act between being comfortable and the challenges that can crop up unexpectedly. That’s what I love about it”

This case example of an open water diver reveals that a mix of contexts of comfort constraints and negotiation can be experienced at early stages of SCUBA diving involvement as well as during advanced stages, such as was demonstrated in the two previous case examples.

### 6.4 Chapter Summary

Divers in this study negotiated constraints to their in-water comfort. They explained that they used a number of strategies which allowed them to overcome a whole suite of constraints to their in-water comfort. When divers considered constraints to be minor, adjustments were made as divers consolidated and the dive continued. More serious experiences of constraint were situations in which divers co-operated, by seeking or offering assistance to assure safety and allow the dive to proceed. If serious or extreme circumstances presented, divers used the cancel strategy and proceeded to terminate the dive and exit the ocean. The choice of negotiation strategy used appeared to reflect each diver’s interpretation of the intensity of the constraint to their comfort and the danger the situation appeared to present.

To demonstrate divers’ views of the enduring feature of negotiation within SCUBA diving, three case examples were presented to provide discussion of how divers indicated that negotiation typically occurred within a dive, and how negotiating constraints to comfort can be ongoing over a number of years. Chapter Seven provides a discussion of the results and analysis of the divers’ interviews.
Chapter 7: Discussion of Results

7.0 Introduction

This chapter draws together and discusses the findings presented in Chapters Four, Five and Six. The outcomes of these findings are then linked with existing literature to acknowledge any similarities that have emerged. Next, the contrasts that are evident between the SCUBA divers’ experiences and existing work will be explored. There will also be discussion of themes which have emerged from the divers’ experiences and the contribution these offer. Finally, this chapter offers a conceptual model as a representation and interpretation of the SCUBA divers’ in-water experiences.

A number of key assertions can be made based on the results presented in Chapters Four, Five and Six. The first of these assertions is that in-water comfort is a context-specific state. Four predominant contexts of comfort emerged from analysis of divers’ interviews: physical, social, psychological and visual. The second assertion is that constraints to in-water comfort are also present during SCUBA diving experiences. Constraints impacted on divers’ physical, social, psychological and visual comfort in-water.

A third assumption can be formed from analysis of the interviews. When constraints to comfort were present, divers undertook to negotiate them. Each negotiation was a response to reduce the constraints and improve the diving experience. The methods of negotiation centred on three types. At first, divers consolidated their in-water circumstance and proceeded with the SCUBA dive when they were in a position to manage in the presence of constraint. At other times, divers used the co-operation of diving partners for guidance and support. However, in extreme and sometimes life-threatening circumstances, the divers’ negotiated constraints by cancelling the dive and exiting the underwater environment.

7.1 Comfort in Context

As shown in Chapter Four, SCUBA divers’ in-water comfort centred on the physical, social, psychological and visual contexts of their involvement with the activity. The findings from this research are unique in their association with SCUBA diving and to
the participants involved in the study. However, similarities and references to these elements of comfort can be found elsewhere in disciplines such as environmental psychology, leisure, tourism and nursing.

7.1.1 Physical comfort

Physical comfort was evident in the positive impacts that the marine environment had on divers’ bodies, and divers’ physical capacity to relax while they were in the ocean. Experiences of physical comfort were most apparent when ocean conditions were good. Divers defined comfort with the ease of physical movement that was possible when they could swim underwater and be supported by the buoyant properties of the sea. The sensation of being weightless was regularly raised as a relaxing experience throughout the divers’ stories. They used descriptions such as ‘you sway and float’ and ‘it feels like flying’ to express the state of physical comfort they felt.

In an historical appraisal of the development of SCUBA diving technology, Diole (1953), who is considered to be one of the first underwater naturalists, refers to the ease with which some divers adjusted to the new experience of SCUBA diving. Diole (1953:49) acknowledges those who were previously accustomed to swimming in the sea were ‘lithe swimmers underwater’. Similar occasions of physical ease occurred for divers in this study, when they were physically comfortable in the ocean.

Earlier leisure experiences within the ocean were recalled by divers who made references to having a sense of familiarity, and some preparation for the physical aspect of their time in-water. Childhood or adolescent involvement with leisure activities has been known to contribute to socialisation, due to the development of an appreciation, which can influence the leisure choices that adults pursue, including attitudes and meanings they ascribe to environments (Bixler, Floyd and Hammitt 2002, Holzer, Scott and Bixler 1998). For the divers in this study who expressed a sense of physical comfort in the ocean, those early recreational encounters seemed to establish a familiarity which allowed them to build a positive form of socialisation with the ocean. According to Bixler and Morris (2000:54), participants require competence in a number of areas to become socialised in water-based wildland settings, including physical comfort and tolerance for full body contact with water. There were often expressions given by divers that it was easy for them to stay
immerses in the ocean. In his anthropological study of the Ama women divers of Japan, Maraini (1962:17) recognises the ‘kinship’ that the women divers formed with the sea in a physical as well as social context during their childhood.

Leisure and tourism research has also focused on the subject of physical comfort, from the perspective of an industry or management delivery context which talks of the importance for clients to be physically comfortable. The literature in that area argues that there is a role for comfort to be part of the service delivery and infrastructure requirements of organisations (Johns and Howard 1998, Prebensen 2005), including nature-based tourism providers (Lawton 2001, Lück 2002). In their quantitative studies, Baker and Crompton (2000) utilised comfort as an indicator of the quality of an experience, while for Tian-Cole and Scott (2004) comfort reflected tourist satisfaction. In both studies, comfort signified the physical context because it was a measure used to represent the infrastructure provided to support the social elements of travel and tourism encounters.

The impact of climate change and its effect on the comfort of travellers at destinations (Nicholls 2006) is reflected in forms of physical comfort. Tourist perceptions of safety at tourist destinations can be associated with experiences of physical comfort (Sonmez and Sirakaya 2002) and add support for the role of physical comfort as part of leisure and tourism experiences, while providing an opportunity for the concept to be explored further. Within this thesis the subject of safety has been included in the following section (7.1.2) on social comfort.

7.1.2 Social comfort

Positive human interactions during SCUBA-diving helped define comfort in a social context. Social comfort occurred when divers knew their buddy and felt at ease with others’ behaviours and abilities in-water. Those with whom divers could experience social comfort in-water were often part of the immediate social world; that is, a spouse, parent, sibling or friend. Having a familiar relationship with their diving buddy offered understanding and seemed to avoid the element of surprise occurring in-water. In a discussion of socio-cultural factors that inform approaches towards risk, Lupton (1999b:106) raises the point that ‘people feel safe in places where they have everyday familiarity’. From a sociological perspective, Misztal (2001) holds the view
that people desire trust and normality in interactions. She states that reducing ambiguities helps to foster normality and the desire to remain in a situation.

The issue of safety was mentioned by some of the divers when they referred to their choice of commercial dive operator as a source of reliability in the provision of SCUBA equipment and access to quality diving sites. In terms of the interrelationship between divers underwater “trust” was the word commonly used and presumes that when divers had trust in their diving buddy they also felt safe.

There were divers who referred to being comfortable when they trusted their dive buddy, and regular preference was given by some people to diving with friends and family. The topic of trust in recreation research has not received a great deal of attention, according to Lynch, Jonson and Dibben (2007), who emphasise the importance of responsibility among those involved in a recreation experience.

Responsibility appeared to underlie the comfort of having trust during a dive. Many references were made of the importance that was placed on having a buddy who was a responsible diver. This involved a dive companion who could responsibly manage themselves, including their rate of air consumption in-water, as well as someone with similar interests in the marine environment to enable them a sense of sharing the experience. The desire for a responsible diving buddy included having someone to trust if an emergency occurred in-water.

SCUBA divers who participated in a quantitative study by Tschapka (2006) indicated their preference for diving with members of their SCUBA diving club who had similar diving skill, or with family and friends. The focus of that study was motivation and setting preferences of SCUBA divers. The discussion of a preferred diving partnership resonates with the findings of this thesis which revealed that both new and experienced divers are socially comfortable when they know their diving buddy’s approach to responsibility is one they can rely on if necessary, and if they do not have to be concerned about them during a dive.

Members of the adventure social group seem to play a role in the perception of comfort in the management of risk and safety. Research by Stebbins (2002) and Stokowski (1994) shows that leisure social worlds provide a forum for information,
support and motivational properties to others through belonging and sharing experiences that allow people to build and form a preferred social orientation. Celsi, Rose and Leigh (1993) used a qualitative methodology when they explored sky diving experiences. Among their findings sky divers expressed the importance of sharing experiences with members of their social group. Some of the SCUBA divers in this research also acknowledged sharing as an important element of comfort when they dived with people who were realiable and trusted members of their diving world.

In tourism and hospitality research, social comfort is anticipated as a feature of peoples’ encounters (Hsieh, Nguyen and Yaman 2006, Schuchat 1983). From a management perspective, experiencing social comfort in a service environment can be reflected in the customers’ having a relaxing experience (Butcher, Sparks and O’Callaghan 2001). Indeed, perceptions of comfort will vary according to individual preference and choice of activity. Certainly risk-averse people are known to undertake activities which extend beyond a service environment to involve ‘conquering fear by enacting dangerous physical feats, such as the thrill of a coral reef or climbing a steep mountainside’ as reported by Coldwell and Woodside (2000:57). Yet, there appears to be an absence of literature that considers social comfort in activities such as SCUBA-diving. One contribution made in this thesis is that divers demonstrated support for comfortable social relations during their time in-water. These relations included reference to companionship, partnership and sharing recreation with relatives or friends.

7.1.3 Psychological comfort

Based on analysis of the SCUBA divers’ interviews, psychological comfort can essentially be defined as feeling mentally relaxed while in-water. When psychological comfort occurred, divers had no sense of fear and enjoyed positive emotional states during SCUBA diving. These times allowed them a sense of well-being that some reported was like ‘meditation’ in-water. Other writers have drawn attention to the positive affective states that are possible from recreating in terrestrial environments (Ewert and Hollenhorst 1997, Farber and Hall 2007). SCUBA divers have also recognised that positive psychological experiences can occur when one is within a marine environment (Cousteau 1989, Ecott 2001). Further reflections by Philippe
Diole (1953:11) acknowledge his experiences of psychological comfort in SCUBA diving.

\[I\ have\ travelled\ to\ another\ world\ in\ which\ action\ is\ sister\ to\ the\ dream.\ I\ have\ swept\ away\ in\ the\ heart\ of\ the\ sea\ ...\ all\ my\ anxieties\ as\ a\ man.\ Worries\ of\ the\ moment,\ scientific\ curiosity,\ metaphysical\ doubts,\ have\ all\ been\ hurled\ into\ the\ sea,\ and\ I\ do\ not\ regret\ it.\]

Remarks by this study’s divers’ resonate with Diole’s (1953). Occasions were recalled when divers experienced a state of mental calm in-water. During those times divers could unwind and ‘think of nothing else except diving’. As a result, psychological comfort was constructive as it allowed divers to enjoy a state of ‘suspension’, where freedom from daily life demands was possible. The comfort invigorated and restored divers psychologically. The statements indicate the divers could appreciate a spiritual oneness which enabled psychological comfort as the divers were free from constraint and concern. Another study that compared divers’ motivations with their level of development reported the unanimous response the participants gave to the opportunity for escape, and change from daily life that SCUBA diving can provide (Todd, Graefe, Mann 2002).

As well as being comfortable with the escape that SCUBA diving provided, some of divers reflected on the sense of nurturing that they experienced when they were in-water. In his recollections of SCUBA diving, Harrigan (1992:87) also described feeling nurtured in-water.

\[Water\ puts\ us\ to\ sleep.\ Water\ gives\ us\ back\ our\ mother.\ Here\ beneath\ the\ ocean\ ...\ I\ want\ to\ dissolve\ away,\ not\ to\ die\ but\ to\ recede\ into\ the\ sleepy,\ safe,\ nonthinking\ being\ I\ used\ to\ be.\]

Psychological states of calm are apparent in the divers’ stories, creating positive feelings of security and contentment in-water. There are recognised benefits including escape from everyday life, which form part of the motivation of tourists (Patterson and Pan 2007). Small (2005:141), for example, found that holidays were enjoyed because they provided freedom from work responsibility and everyday lives. Ecotourists are also said to be motivated to ‘seek’ and ‘escape’, because they have an appreciation for new and novel experiences (Chan and Baum 2007).
The influence of ‘push’ and ‘pull’ factors underpins an extensive body of research, including ecotourism and adventure tourism (Fluker and Turner 2000). Motivation includes an attraction for the natural appeal or presence of wildlife and is one of the ‘pull’ or ‘seek’ factors which draw participants to nature-based or ecotourism activities (Chan and Baum 2007). Included among those novel and natural experiences, SCUBA diving can be an opportunity to experience natural surroundings and be removed from usual life routines and responsibilities.

Authors such as Currie (1997), Lett, (1983) and Turner (1983) use experiential components of leisure and play to discuss ‘liminality’. A person is said to be in a liminal place when the experience has allowed them to separate from usual routines and regular worlds through involvement with leisure, and experiencing psychological states that have been identified as escape and transcendence. The underwater world has also been suggested as the sort of place, and SCUBA diving as the type of activity, where one can engage in liminal experiences. In this way, the diver feels a sense of freedom and escape thus enabling them the chance to transcend usual psychological states (Cater and Cater 2007). Indeed, the recreational divers interviewed for this thesis recalled experiences which were reflective of such positive in-water states; comfort was related to a definite departure from their usual, everyday psychological domain into the underworld world.

### 7.1.4 Visual comfort

From a visual perspective, SCUBA-divers described being comfortable when they had the opportunity to sight desired marine fauna and flora. Many of the divers’ discussions offered detail of the marine site they had visited and the visual sights that were part of diving. Each visual experience was influenced by the presence of marine species and water quality. Divers’ experiences of comfort incorporated the visual imagery of marine flora and fauna they observed and the dive site as the central point of their visual focus. The presence of good ocean conditions enabled high quality visual experiences. Many divers acknowledged that when ocean visibility was high, they were comfortable with what they could see, as well as being able to easily navigate their way around the dive site. Divers’ comments reinforce that being comfortable underwater is related to sighting and viewing desired elements of the marine landscape.
Visual comfort was experienced when divers were able to witness marine sites such as shipwrecks, fish life and endangered shark species, which were important foci of the dive. Descriptions of the underwater sightings included ‘there is so much beauty down there’ (Sammy), and ‘it is great when there is a lot of wildlife, small and large animals’ (Ben). The presence of marine flora and fauna in their natural habitat is a much anticipated and positive feature of SCUBA diving, with numerous accounts given in support of divers’ visual comfort.

Much importance is placed by divers on the visual context of the underwater experience. Musa et al.’s (2006) work on satisfaction with SCUBA divers’ in Malaysia reinforces the emergence of divers’ views in this thesis. That divers in this thesis were comfortable with their visual experiences during SCUBA diving equates with the visual satisfaction that has been recognised in other literature concerned with wildlife viewing in tourism. Curtin (2005) and Muloin (1998) attest to the psychological and physical benefits the visual component of wildlife viewing, such as whale watching, provides.

While wildlife viewing has not been directly labelled as visual comfort, there are some overlaps. Lemelin and Smale (2006) conducted research into polar bear viewing and on-site satisfaction, noting a shortage of studies which consider the human dimension of wildlife viewing. Viewing polar bears in their natural habitat has been termed ocular consumption by Lemelin (2006) who incorporated the visual dimension along with temporal, spatial and sensory aspects.

From a viewer’s perspective it seems that large animal species are desired by visitors, while experienced wildlife viewers often wish to see less high profile animals (Lemelin and Smale 2006, Lindsey, Alexander, Mills, Romanach and Woodroffe 2007). Discussions within the interviews for this thesis reflect similar viewing preferences. That is, large marine species were discussed regularly by many of the divers; meanwhile those divers who were familiar with certain dive sites sought the chance to locate and study specific and smaller creatures. Researchers recognise the increasing popularity of wildlife watching which has formed a substantial component of marine tourism experiences in certain locations around the world (Higham and Lück 2008, Orams 1999). There has been a high level of satisfaction discussed in research conducted with those who attest to the charismatic appeal of sighting larger
marine species such as whales (Muloin 1998) or with the opportunity to swim with whale sharks (Davis, et al 1997).

The divers’ comments regarding their experiences of the visual context of SCUBA diving appear to be a new finding for literature within leisure. It has been recognised that commentators have started to consider the visual aspect of tourism and leisure experiences as part of research findings (Lemelin and Smale 2006, Lindsey et al 2007). Indeed, within marine wildlife tourism experiences the visual experience has been recognised as valuable. It would seem also that for SCUBA divers there is an apparent desire to be comfortable within a visual context. The divers’ statements in this study reveal that they go SCUBA diving not only for the physical experience of swimming underwater. Divers indicated their comfort with the visual features and imagery of what they observe when they are on a SCUBA dive. Visual comfort was easily achieved when ocean conditions were good and divers were in the vicinity of marine life and other marine features.

In a similar way that land-based recreationists are participant observers of nature, recreational SCUBA divers are part of the marine recreation community who observe the underwater world (Dobson 2008). Higham and Lück (2008) make the point that recreation and tourism attention on the marine world is only recent in its focus. For SCUBA divers, the role of observer has changed with the passage of time (Dearden, Topelko and Ziegler 2008). Eyles (2005) confirms that the commercial release of SCUBA diving equipment in 1950s was initially taken up by spearfisherman who had an interest in improving their chances as a hunter in search of marine prey. However, as contemporary social issues shift the focus towards sustainability and awareness of the marine environment, recreationists with a sense of curiosity have become observers and watchers of the sea, conforming to non-consumptive recreational approaches which deal with awareness and education (Cater and Cater 2007). The role of being visually comfortable with the underwater encounter emerges as an important element of these experiences.

In summary, the four contexts of in-water comfort that emerged from the interview analysis have specific relevance to the activity of recreational SCUBA diving. Participating divers expressed views that support a preference for being comfortable in each of the four contexts. The notion that SCUBA divers seek in-water comfort is
generally supported in the findings of other studies. For example, one study of motivations and level of development by Todd, Graefe and Mann (2002), while not directly focused on comfort, revealed that as diving skill increased, participants indicated being less motivated by the risks and personal challenges that are associated with SCUBA diving. Tschapka (2006) indicated similar results in his study of divers’ motivations when he reported that divers do not enjoy the physical risks or problems that can occur with SCUBA diving. These results indicate that the participants’ preferred to confront less risk and challenge as part of SCUBA diving. Those findings suggest that achieving a level of in-water comfort has more desire than the risk that held the original attraction and motivation. It is noted, however, that these studies did not specifically explore comfort, nor ask participants if they were comfortable in-water.

Each of the four contexts in which the divers’ revealed meanings which were reflective of being comfortable in-water have either a direct link with studies of SCUBA diving, or indirect association is made with other literature carried out with participants in other adventure leisure or tourism activities. It would appear, however, that overall there has been no specific study conducted on experiences with comfort during adventure or SCUBA diving.

7.1.4.1 Relationship among contexts of comfort

This research has presented the four contexts of comfort (physical, social, psychological and visual) as separate accounts. However, as explained in Chapter Four separate presentation of the four comfort contexts does not discount association between them as part of divers’ experiences and demonstrated in Chapter Six, case examples. As such, overlap and close association among comfort contexts is recognised. For example divers acknowledged physical and visual comfort when a dive was effortless and there were abundant sightings of marine features. At other times divers were comfortable in social and psychological contexts as they appreciated a sense of escape when they shared SCUBA diving with friends.

Writers within the nursing discipline consider comfort to be a contextual experience related to meeting patient needs (Hamilton 1989, Kolcaba 1991). Kolcaba (1991) used literature on holism to inform the development of contexts of comfort for
nursing. In the present study of comfort during recreational SCUBA diving, the emergence of themes from the interview analysis of twenty-seven recreational SCUBA divers has been constructive in revealing four concepts of comfort which are relevant to divers’ in-water experiences.

### 7.2 The Influence of Constraints to In-water Comfort

While divers discussed a range of contexts in which they were comfortable, situations did arise in-water when they were constrained and thus, uncomfortable. Chapter Five discussed how constraints have been recognised as factors which inhibit leisure participation, and were previously thought to occur in a hierarchical order beginning with personal constraints, followed by interpersonal and then structural constraints (Crawford, Jackson and Godbey 1991, Raymore, Godbey, Crawford, von Eye 1993). This ordering of constraints reflects the sequence in which barriers may confront an individual when they decide to become involved with a leisure activity.

Studies have more recently advanced understanding of the leisure constraints literature (Kleiber, et al 2008). Researchers have found that the hierarchical order of leisure constraints does not necessarily occur, and that there might be variation to the constraint contexts which are experienced (Alexandris and Stodolska 2004, Brown, Brown, Miller and Hansen 2001, Liechty, Freeman and Zabriskie 2006). For example, work by Kerstetter, Yen and Yarnal (2005) on constraints to cruise travel acknowledged that constraints were not absolute and static features, but issues that could be negotiated if a participant so desired.

Research has also extended constraints theory by arguing in favour of constraint experiences during leisure not just as something that affects one’s ability to participate (Kay and Jackson 1991, Jackson, Crawford and Godbey 1993). While a substantial literature has considered constraints to leisure access and participation (Crawford, Jackson and Godbey 1991, Pennington-Gray and Kerstetter 2002), there has been much less attention given to *in-situ* constraints once leisure participation has begun (Wilson 2004). It is notable that Culp’s (1998) research with involvement in outdoor recreation identified *in-situ* constraints that were related to an absence of comfort. The results show support for the presence of *in-situ* constraints during the leisure activity itself.
Chapter Five presented the constraints that hindered divers’ efforts to engage in a comfortable SCUBA dive. These constraints were discussed as they impacted on physical, social, psychological and visual comfort of the SCUBA experience. The contexts of constraint initially identified in Crawford, Jackson and Godbey’s (1987) hierarchical model, being interpersonal, intrapersonal and structural contexts, might at first be considered useful to organise the constraints reported in divers’ interviews for this thesis. However, such a model does not offer the closest reflection of the divers’ constraint descriptions and does not align with the ontological and methodological perspectives taken in this thesis. These include recognising the capacity of qualitative research techniques to collect the multiple views of twenty seven recreational SCUBA divers, and using an interpretive approach to reveal the meaning divers give to experiences when they were comfortable in-water, rather than approach the findings of the research from an *a priori* point of view. By supporting these ontological and methodological perspectives this thesis has allowed the SCUBA divers’ statements and words to construct the emerging themes and reflect their in-water experiences which presented as context-specific situations. Using the contexts of physical, social, psychological and visual constraints supports such a contribution to knowledge of experiences with *in-situ* leisure constraints. The contextual feature also reflects the ambiguity associated with interpreting constraints. Additional still, it is important to confirm divers’ constraints to comfort in a separate light because they occurred during SCUBA diving and not as a barrier to their leisure access.

Reports of divers’ experiences of constraints when they are underwater are not new to SCUBA diving. Scientific research that began in the 19th century has investigated impacts on divers with regard to exposure from the marine environment (Ashcroft 2001, Bachrach and Egstrom 1987, Martin 1997). This learning has assisted scientific discovery and technological developments in areas such as commercial diving and research. Benefits also support recreational SCUBA diving because findings inform the provision of safe diving techniques and practice (Jablonski 1999).

However, understanding detail regarding personal constraint experiences during recreational SCUBA diving does not appear to be evident in the literature. Todd’s (2004) quantitative study of divers’ constraints is recognised. Within the current study at a conceptual level, in-water constraints affected the divers interviewed by
shifting them from their physical, social, psychological or visual comfort contexts towards what Lyng (1990:855) called the ‘zone between order and chaos’. When constraints presented during SCUBA diving, uncertainty became a feature of the experience. The circumstance left divers to contemplate the impact of the constraints and consider the possible outcome. It was during those periods that divers’ comfort was disrupted as well as the focus on the dive. The disruption brought elements of chaos and disorder (Csikszentmihalyi 1992) and introduced constraints, including psychological constraint.

Constraints hindered divers’ comfort in various ways. They included being the cause of physical strain, coldness, lack of control and visual restriction. Lee and Scott (2006) are among those who contend that involvement and history with a leisure activity can influence one’s interpretation of experiences including negative encounters (Hammit, Backlund and Bixler 2004, Schreyer, Lime and Williams 1984). The divers’ experience history with SCUBA diving has been presented in Chapter Three. This information reflects the number of completed SCUBA dives and certification level achieved by each participant. Table 3.1 presents the development of diving skills in a way that reflects competence building which occurs in other areas of adventure development and training (Miles and Priest 1999). The information shows that some respondents have been involved with SCUBA diving for many years, and a majority have trained beyond preliminary certification levels. What is not evident and is one sub-objective of this thesis is the variety and detail of SCUBA diving constraints that participants confronted during their SCUBA experiences and which are not necessarily the result of any experience/prowess level.

A broad interpretation of what constitutes constraints to in-water comfort emerged from this research, rather than specific constraints being relevant to divers with particular training and experience levels. Only one theme appeared to contradict this view. The theme was a view held by several experienced divers which reflected their constraint to social comfort and is discussed below. Otherwise divers’ experiences of constraints were not aligned with a specific training level or number of completed SCUBA dives.
7.3 **Context-specific Constraints to In-water Comfort**

Constraints to divers’ comfort were evident in the four contexts that provided in-water comfort, being physical, social, psychological and visual. With the exception of social constraint, the contexts have their source in divers’ perceptions of the quality and attributes of the environmental setting. Features of the ocean which constrained divers’ comfort were associated with water quality, turbulence and temperature, as well as the condition of marine flora and fauna at the site. Constraints to comfort were evident when negative aspects of the ocean created situations that were not part of their interpretations of a comfortable SCUBA dive. There were many occasions when constraints removed the element of fun from a dive, and caused divers to consider more serious issues that are related to being in-water. Physical, psychological and visual constraints were apparent in divers’ need to manage themselves during less than preferable marine conditions. The predominant feature of the marine environment as a source of constraint suggests the high level of influence that a site can have on the achievement of a comfortable experience, and more broadly the effect the environment can have on recreation.

### 7.3.1 Physical constraint

As shown in Chapter Five, when ocean conditions were pleasant it was unnecessary for divers to invest a great deal of physical effort. Divers only needed to float and propel themselves using their feet and fins to move along. However, in situations such as when the ocean temperature dropped or swimming became problematic, divers were physically constrained. Difficult ocean conditions, including strong current and surge, forced divers to apply physical skill to improve their circumstance. During those times divers needed to work their body harder to swim against the force of the ocean to either reach the dive site, return to the dive boat, or remain with their buddy. These situations required considerable physical exertion and effort.

Adventure experiences like SCUBA diving typically involve risk, challenge and danger (Ewert and Hollenhorst 1994), and environmental conditions at the site have the capacity to impact on physical comfort. For example, mountain climbers face the possibility of physical impacts from altitude and climate (Musa, Hall and Higham 2004, Maroudas, Kyriakaki and Gouvis 2004), whereas SCUBA divers are
confronted by features of the ocean that include the physical impact of depth and water pressure (Bachrach and Egstrom 1987). Divers in this study did acknowledge the physical experiences of constraint to comfort when they were negatively impacted by ocean depth and water pressure. Leisure constraints researchers identify structural constraints as intervening environmental factors which hinder participation (Hudson 2000, Son, Kerstetter and Mowen 2008). The physical constraint caused by the ocean was identified by Todd (2004) as a structural constraint to recreational divers resulting from the effects of cold water and difficult ocean conditions.

One impact from the experience of physical strain and exertion at depth raised by several divers’ was nitrogen narcosis. Reports emphasised the challenge of swimming against the ocean current, or swimming and breathing too quickly which triggered the onset of narcosis. Narcosis can have an intoxicating effect, and the impact varied across the divers from feeling a ‘slightly drunk’ sensation through to ‘distorted’ thinking and reasoning. Jacques Cousteau (1989:107) described his early experiences of nitrogen narcosis in this way:

> At two hundred feet I tasted the metallic flavour of compressed nitrogen and was instantaneously and severely struck with rapture. My mind was jamméd with conceited thoughts and antic joy. I struggled to fix my brain on reality.

Cousteau’s (1989:19) description of nitrogen narcosis as ‘rapture of the deep’ highlights the conflicting sensations of discomfort and exhilaration narcosis can cause, which were also apparent in the descriptions offered by divers in this study. Constraint from nitrogen narcosis has the potential to range from confusion through to drowsiness, with extreme cases resulting in a coma (Martin 1997).

One regular reference that was made by divers regarding physical constraint was the impact of cold water temperatures. Divers were vocal in their views on diving in cold water. They acknowledged the discomfort as an annoyance, through to more serious difficulties of shivering and feelings of pain. Environmental psychologists note that an individual’s physical behaviour can be influenced by factors including the prevailing temperature (Bernardi and Kowaltowski 2006, Rybczynski 1986). The capacity of water to conduct heat much faster than air and the lack of natural insulation makes it difficult for humans to defend themselves against low water
temperatures. The literature on SCUBA diving acknowledges how feeling cold or chilled can lead a diver into discomfort which then has the potential to become a precursor to the more serious condition of hypothermia (Bachrach and Egstrom 1987, Martin 1997).

### 7.3.2 Social constraint

Social constraints to comfort related to negative aspects of human interactions during a dive. Divers recalled experiencing social constraints to their comfort when they dived with an unfamiliar buddy, because there was a need to remain cautious and alert to buddy behaviour. Doing so brought constraint because they were unable to give total attention to the dive. It meant that the likelihood of a relaxing dive was lost. Diving with a new buddy relies on building a situation of trust and includes identifying common expectations and understandings on the surface, so as to diminish in-water risks (Jablonski 1999). Findings from this thesis consider this to be so if comfort is to be achieved. For example, the rate at which divers breathe their portable air supply can disrupt social comfort if one diver depletes their supply before their partner. This situation signals the end of a dive.

In regard to social constraint, themes reflected divers’ responses to crowding and the depreciative behaviour of others in-water. Negative behaviour at crowded sites was put forward by some advanced divers from experiences when they were in-water with many other divers. Divers recalled situations when they were at well known locations, such as the Great Barrier Reef in Australia. During those dives there were many people in the water with substantial variation across divers’ experience levels. The underwater conduct of some divers created feelings of social disharmony that others considered to be selfish and inconsiderate of the entire dive group. At times social constraint was the result of witnessing poor diving techniques which impacted on the marine environment. Research into the environmental impacts of SCUBA diving note that negative impacts can occur when SCUBA equipment, or improper diving techniques ‘displace’ or ‘disrupt’ coral and other marine organisms (Dearden, Bennett and Rollins 2006, Davis and Harriott 1996, Davis, Harriott, MacNamara, Roberts and Austin 1995, Hawkins and Roberts 1993).
The social constraints that were discussed reflect negative aspects which occur because the social carrying capacity of some dive sites was exceeded. The impact of such an experience has been recognised in the literature as visitor crowding or conflict (Manning, Lime and Hof 1996). An extensive body of literature has examined responses to crowding as an indicator of experiences with the social aspects of leisure and recreation and is often considered within the concept of carrying capacity (Manning 1999, Vaske and Shelby 2008). Research into the sociological carrying capacity of a location is concerned with the tolerable level and ‘impact of people on people during outdoor recreation’ (Nielsen, Shelby and Haas 1977:588).

Conflicts in recreation have received much research attention (Manning 1999), with a focus given to tensions between different user groups at the same natural site (Tarrant and English 1996, Confer, Thapa and Mendelsohn 2005). Lynch, Wilkinson, Melling, Hamilton, MacReady and Feary (2004) identified the existence of conflicts between divers and anglers in marine parks. Tensions can arise from goal interference and expectations among users (Jacob and Shreyer 1980). Lee and Scott (2006) refer to this conflict as the ‘dark side’ of recreation, which includes social discontent and cliques that occur in recreation communities. Not a great deal of research appears to report conflict experiences of similar user groups. However, Vaske, Dyar and Timmons (2004) found that the level of conflict within groups of skiers and snowboarders did increase with perceived skill level.

Instead of conflict, the literature on crowding at recreation sites takes into account how recreational activities might be disrupted. An individual’s reaction to density is their assessment of the level of crowding (Fleishman, Feitelson and Salomon 2004, Vaske, Shelby, Graefe and Heberlein 1986). In a high density environment one might perceive limits on the amount of free space available (Johnson and Dawson 2004). The result can restrict movement, preclude privacy or impair environmental perception (Stokols 1976).

There were divers in the current study who identified as experienced and indicated their preference for solitary SCUBA experiences. In other studies of SCUBA diving, Thapa, Graefe and Meyer (2006) and Dearden, Bennett and Rollins (2006), found that as divers’ skill level increased so too did their environmental awareness and attitudes towards diving behaviours. Gaining experience in adventure activities offers a frame
of reference through which people make sense of themselves (Beedie 2003b). The renewed sense of self can impact on the social element of the adventure setting. Ewert and Hollenhorst (1989) hold a similar view, noting that experienced adventurers likely prefer solo or small group experiences, and the chance to be the decision maker during the activity.

Some divers held views similar to those identified by Inglis, Johnson and Ponte, (1999) who found that SCUBA divers preferred an absence of people and infrastructure in-water. In this thesis, constraint was expressed as the absence of solitude or the presence and behaviour of other divers’ in-water. References made by divers to crowding at iconic SCUBA diving sites were not explicitly expressed as conflicts. Rather, they were acknowledged as uncomfortable situations that interfered with divers’ expectations and were interpreted as constraints to their in-water comfort.

7.3.3 Psychological constraint

There were times during SCUBA diving when constraints impacted on divers’ psychological in-water comfort. As shown in Chapter Five, these occasions resulted in divers being afraid or anxious in-water. Some participants were new divers who acknowledged their fear when they were descending from the ocean surface into poor conditions. Experienced divers also indicated their anxiety saying they had occasionally been claustrophobic in-water. Feelings of anxiety occurred from being in the water at night, when diving by torch light compounded with unexpected circumstances like lost equipment, or swimming in the vicinity of feeding sharks. It seemed that compounding issues brought complexity and difficulty to some situations that created nervousness and fear.

Other researchers have commented on the potential for stress to occur in SCUBA diving, usually because of the adversity that the ocean can present, or the challenge of being at a new and unfamiliar dive site (Bowen 1968, Weltman and Egstrom 1966). From a psychological perspective, when a challenge is perceived to be beyond the individual’s abilities, disorder states can present (Csikzentmihalyi 1992). If anxiety does commence, a diver’s perception reduces, which has the effect of perceptual narrowing in-water. The effect can be distracting for a diver and disrupt their ability
to focus and assimilate information. When perception is confused the potential then exists for a diver to proceed to panic and perhaps disaster (Jablonski 1999, Martin 1997, Nevo and Breitstein 1999).

Psychological constraints to comfort occurred when divers had the feeling they were not in control during a dive (Bachrach and Egstrom 1987). Throughout their interviews, divers generally expressed the view that they were comfortable when they felt in control in-water. However, on occasions a lack of control became evident. Those situations occurred when divers became lost underwater. Being lost occurred when there was poor visibility, at times divers were separated from their buddy and constraints introduced self doubt while divers sought to find their way. At other times the arrival of strong ocean currents swept divers through the water in directions they were not intending to follow. During those situations divers lost control and the sense of direction in the dive.

Bixler and Floyd (1997) borrow from environmental psychology theories in their study of fear and discomfort in natural environments. They found adults to have a preference for natural environments they don’t perceive to be complicated, because environments containing an excessive number of features and amount of detail can create confusion and cognitive chaos. Similarly for these divers, psychological disruption from negative features and complexity in a dive increased the potential for confusion and constraint.

In Crawford, Jackson and Godbey’s (1991) early work on leisure constraints, intrapersonal constraints related most closely to the psychological issues that divers here raised, including anxiety, duress, fear and belief in one’s ability to complete an activity. Such constraints have been found in later constraints research in relation to women, skiers and people who are physically impaired (Gilbert and Hudson 2000, Little 2002, Loucks-Atkinson and Mannell 2007, Wilson and Little 2005). Intrapersonal constraints interact with one’s preferences to pursue leisure (Andronikidis, Vassiliadis, Priporas and Kamenidou 2006), and have been recognised in decisions not to participate in outdoor activities such as skiing (Hudson and Gilbert 1999) because of the perceived risk and uncertainty associated with the activity (Gilbert and Hudson 2000). Albayrak, Caber and Crawford (2007) found intrapersonal constraints affected participation in adventure activities in Turkey, and
‘personal’ issues such as a lack of time and money were listed among the constraints to SCUBA diving participation in research conducted by Wilks (1991a).

Such discussions of intrapersonal constraints differ from the present study of recreational SCUBA divers which has a focus on in-situ constraints to comfort and not constraints to participation. However, researchers who looked at women’s travel constraints did note in-situ psychological constraints such as self consciousness and vulnerability which were experienced during the travel experience (Jordan and Gibson 2005, Wilson 2004). Fear was experienced during leisure and adventure in work by Coble, Selin and Erickson (2003). The reports of nervousness and anxiety indicate the uncertainty which occurred during the leisure and adventure experiences in similar ways to those that occurred with the SCUBA divers in-situ experiences of psychological constraints to comfort.

### 7.3.4 Visual constraint

When divers descended from the ocean surface and were confronted by poor visibility, they were not in a position to appreciate the full extent of the environmental features of the site. Visually, comfort was lost because of poor water quality. Visual constraint was experienced when divers’ viewing opportunities were hindered. Those occasions occurred when the ocean conditions were poor which resulted in restricted ocean visibility. There were other times when visual constraint occurred because of poor quality marine fauna and flora at underwater sites. Divers’ visual comfort was constrained because of the time and effort they had invested to embark on a dive and they witnessed less marine life than had been anticipated. Environments offer a combination of features in the opportunity that is available to an individual (Gibson 1966, Sadler and Given 2007). Divers’ views reflect their disappointment at the lack of opportunities the dive site afforded them at the time (see for example Gifford 2002). Musa, Syed A. Kadir and Lawrence (2006) have also found that divers place importance on ocean quality and visibility as part of the viewing aspect of SCUBA diving experiences.

The unanticipated arrival of dangerous marine life was another cause of constraint to visual comfort. At those times divers recalled the moment when their visual encounters of the underwater landscape changed upon sighting a sea snake or tiger.
shark. The visual constraint that occurred on sighting dangerous marine life does not discount any constraint to other contexts of the divers’ comfort; however, it was in the visual context that divers mentioned the disruption to their in-water experiences in statements such as ‘it wasn’t what I wanted to see’. The divers were not harmed, yet the presence of the animals represented an unwanted feature of the divers’ preferred underwater imagery. Ecott (2001) reminds us that the unpredictability of the ocean offers no guarantees, while Manzo (2003) suggests individuals are not always conscious of their feelings for a location until disruption occurs.

Constraints to divers’ in-water comfort were evident in the SCUBA divers statements. The four contexts of constraint represent the particular aspect of a dive in which emphasis was made of the negative affect from the constraint to in-water comfort. Experiences of constraints during SCUBA diving, leisure and adventure have been linked to the contexts of constraint identified in this thesis, and the categorisation of constraints taken by leisure constraints researchers has been acknowledged. Where possible, the findings from this work have identified commonalities in those previous categorisations. Findings from this research provide support for work that acknowledges in-situ constraints during leisure and adventure at the same time as recognising one of the contributions of this thesis. Presenting the findings of constraints to comfort also leads to considering how divers negotiated in response to those constraints.

### 7.3.5 Relationships among constraints types

While constraints to comfort were reported as four separate contexts (physical, social, psychological and visual), as explained at the end of Chapter Five divers’ statements indicated that effects of constraints were often not isolated to one specific context. As such, the issue of overlap between and merging among contexts becomes apparent. Divers’ statements revealed the four areas of constraint. Yet, those experiences were not always singular contexts of constraint. To clarify by way of an example, divers endured physical constraint when they were cold in-water. Yet, there were times when the effects of being cold also impacted on divers’ psychological comfort by causing them to become anxious. In the same way, extreme situations of visual constraint were known to also impact on physical and psychological contexts. Efforts
have been made to retain alignment with each of the four contexts of constraint, yet in reality the experiences were likely to be less linear and more overlapping.

Other writers have also identified close association between the types of constraints in their work (Little 2002, Todd 2004, Wilson and Little 2005). Socio-cultural constraints were termed ‘inter-related’ categories in a study of women and adventure, in which women confirmed that personal and family issues constrained their access to adventure (Little 2002). Also, ‘inter-linking’ categories of constraint were found to reflect similar patterns of access and in-situ constraint with regard to women and travel in a study by Wilson and Little (2005).

Within a SCUBA diving context, Todd (2004) applied Crawford, Jackson and Godbey’s (1991) hierarchy of leisure constraints to a sample of warm and cold water divers, seeking to reveal constraints to access and ongoing participation in New York’s Great Lakes. The quantitative study organised divers’ experiences of access and in-situ constraints according intrapersonal, interpersonal and structural categories. Among the incipient outcomes, Todd (2004) identified that cold water divers were constrained by interpersonal factors like diving partner interference and structural factors including cold water and a lack of appealing underwater sights, thus conveying close links between constraint categories which require negotiation.

7.4 Acknowledging Uncertainty: Negotiating In-water Constraints to Comfort

As discussed in Chapter Two, negotiation is a way to overcome or reduce the impact of constraints on the leisure/recreation experience (Jackson, Crawford, Godbey 1993, Jackson and Rucks 1995, Mowen, Payne and Scott 2005). It has also been found that negotiation of constraints can be ongoing from the outset of an activity. Authors such as Elkins, Beggs and Choutka (2007) found that constraints do not always preclude participation in leisure. Others, such as Wilson and Little (2005) support the view that the constraints negotiation process can occur prior to as well as during leisure involvement.

With regard to an activity that is pursued underwater, the presence of constraints and the need for regular negotiation is recognised. However, because SCUBA divers were able to achieve a comfortable state underwater, this suggests that within the
boundaries of a SCUBA dive, they successfully negotiated many of the potential constraints to their in-water comfort. The efforts to negotiate constraints to comfort reflect the divers’ choice to be involved with SCUBA diving. Negotiation responses acknowledged their efforts to manage uncomfortable situations and where possible, remain in the dive. Through their actions divers demonstrated that they wanted to move beyond the constraints to comfort being experienced.

As shown in Chapter Six, the prevailing features of in-water constraints resulted in three main types of negotiation. These strategies were to consolidate, co-operate or cancel the SCUBA dive. The negotiation approaches that were pursued represent each diver’s interpretation of their situation and the severity of constraints experienced. A decline in comfortable circumstances introduced sufficient disturbance to cause divers to review their position and consider what was necessary to try and improve the recreational experience. Negotiation reflected the divers’ belief that they were able to manage the in-water constraint, whether they required the support of a diving buddy, or if the circumstance was such that they should exit the ocean.

The constraints negotiation strategies have generally been ordered according to the intensity of the situation discussed by each diver. Ordering constraints negotiation strategies according to the intensity perceived has occurred in previous research on leisure constraints. For example, Henderson and Bialeschki (1993) examined women’s abilities to negotiate leisure access and participation. Their findings reflected acceptance, or not, of the issues that surround leisure constraints for the women studied by using terms such as achievers, attempters, compromisers, dabblers and quitters to indicate the type of negotiation adopted (Henderson and Bialeschki 1993).

Other literature has also discussed the methods used in response to barriers experienced during recreation. Johnson and Dawson (2004) and Schuster, Hammit and Moore (2006) identified two broad response approaches. They determined that minor concerns are usually managed by rationalising the inconsistencies, which are either ignored or pushed to the background. Severe situations are said to be dealt with by problem-based methods that involve making temporal or spatial adjustments from the point of concern. However, in a theoretical model that measured appraisal and coping responses, Schuster, Hammit and Moore (2003) reverse the idea, contending
that people chose to manage emotions when faced with difficult situations. The divers in the present study seemed to use both types of responses in their individual interpretations of the severity of each in-water constraint.

### 7.4.1 Consolidating to stay in-water

In-water there were situations when divers elected to simply ignore the presence of a constraint and carry on, or turned their focus towards pleasurable elements of the SCUBA dive. Negotiation responses used during those events included positive self-talk strategies. At those times divers chose to remind themselves of the absence of harm and the need to remain calm in-water. In doing so, the perceived impacts and magnitude of the constraint was revised to diminish the disruption to their comfort.

Because divers wanted to remain comfortable and in-water, they used a ‘consolidate’ negotiation strategy. Having appraised the situation they reconsidered the presenting challenge. Minor constraints included feeling slightly cold, having restricted visibility or concerns about a diving buddy. While divers acknowledged the constraint was not ideal, it was manageable and so they sought to ‘settle into the dive’.

Another method used to negotiate minor concerns was to shift the focus towards positive issues such as the natural beauty of the marine environment divers were witnessing. Such responses allowed divers to be self-encouraging and optimistic. According to Lazarus and Folkman (1984), these are cognitive forms of coping which apply when one is unable to control a circumstance, yet can manage by changing the meaning of an encounter. Circumstances do not alter; instead, one takes a different view of the situation. The process acknowledges that divers used their ability to transfer the perception of some constraints by filtering or putting the issue aside (Lazarus and Folkman 1984).

When recreation participants have invested time and energy to undertake an activity they try and balance inconsistencies to improve perceptions of the experience (Johnson and Dawson 2003, Stranger 1999). Perceptions of danger and risk might be revised when behavioural change is not desired and estimates of the uncertainty being faced are reduced (Brown 2005). Divers identified certain constraints as manageable because the preference was to remain in the SCUBA dive. At these times negotiation
options were supported by a review of the uncertainty they faced, followed by
approaches to manage any recognised risks.

The choice to rationalise the situation reflected the divers’ autonomy to isolate
constraints and accept the associated risks. To continue participation in the face of
perceived risk is considered as a positive affective outcome that can decrease
perceptions of risk. Parker and Stanworth (2005) hold a view that voluntary risk-
taking is complemented by confidence and commitment to the activity. Researchers
note that individuals seem to voluntarily accept the presence of certain risks within
activities they have chosen to pursue (Fine 1988, Olivier 2006). Voluntary acceptance
of risk seems to be the case in Lipscombe’s (1999) research with skydivers. In the
study, participants became anxious just prior to their second consecutive jump. The
presence of risk was evoked, yet they continued with the jump. Statements from
participants to this thesis concur as there were divers who indicated that they elected
to continue with a dive because they “just wanted to do it” even though they were
experiencing doubt or uncertainty.

Other researchers have also revealed that negotiation occurs in order to access and
continue with leisure (Henderson and Bialeschki 1993, Jackson and Rucks 1995,
Little 2000, Wilson 2004). For example, Little (2000:179) found in her research that
some women negotiated their leisure access by ‘accepting the constraint situation’
and ‘adopting a positive attitude’ which allowed them to continue with their
adventure. For others, once leisure has commenced negotiating in-situ constraints to
continue with travel experiences has also been identified. In Jordan and Gibson’s
(2005) work, constraints that reflected women’s feelings of vulnerability because they
were travelling alone, were resisted by those who wanted to continue with their
travels. In a similar approach there were times when amidst any feelings of doubt,
fear or unease, divers elected to continue, thereby ultimately accepting the intensity of
the prevailing constraint, be it cold water temperatures or nervousness.

Within the adventure experience of mountain climbing, Mitchell (1983) also reports
that some people worked to negotiate difficulties so they could continue with the
activity. He revealed that climbing involved the presence of monotonous and
unexpected tasks which were part of the adventure experience. Climbers negotiated
these by working through them and confronting each challenge so they could
continue with a climb. Divers also discussed routine procedures, such as checking equipment and making adjustments at the outset of a dive when they regularly negotiate as they descend from the surface. At other times the realization that visibility was poor or the ocean temperature was cold were expressed as “usual” challenges which are part of the activity.

Together, these negotiation approaches relate to the efforts taken by the recreational SCUBA divers when they chose to consolidate minor in-water concerns by ignoring the impact of the constraint, or shifting their attention to positive features of the experience so that they were in a position to remain in-water and seek comfort.

7.4.2 Seeking co-operation

On some occasions, the support of other divers assisted in resolving an uncomfortable situation. Several divers recounted experiences when they became quite anxious in an unfamiliar situation, such as a first night dive, being at a new site in unfamiliar ocean conditions or feeling claustrophobic from the amount of thermal protection worn on a cold water dive. Fellow divers played constructive and supportive roles in the process of negotiating constraints. Their presence offered guidance and a state of calm for the uncomfortable diver which helped them in the process of negotiating these more intense experiences of constraint. Divers indicated the physical contact made by their dive buddy was a measure of reassurance. The contact helped the divers immensely and reminded them that they had a companion with whom to share the dive and negotiate constraints.

Reassurance provided morale and negotiation possibilities for the uncomfortable diver in the form of social support. Some of the divers’ responses reflect those within adventure literature where more experienced participants have been constructive as a form of support. Arnould and Price’s (1993) study of river rafting, and Beedie’s (2003b) work in mountain guiding, acknowledge the effective role that guides play in orchestrating satisfying visitor experiences. In those situations participants could normalise perceptions of risk by discussing their experiences and establishing a sense of security (Hunt 1995, Schuchat 1983). Rothbaum, Weisz and Snyder (1982) recognised the support of experienced others when they considered that during times of limited abilities, individuals may decide to align with more powerful forces.
Seeking the co-operation of others is a known form of behaviour in negotiating leisure constraints (Coble, Selin and Erickson 2003). Wilson’s (2004) work demonstrated that solo women travellers elected to accompany others on part of their travel journeys, as a means of reassuring themselves during periods of vulnerability, and hikers in Coble, Selin and Erickson’s (2003) research into negotiation strategies used to overcome fear, also confirmed that support from companionship boosted their negotiation efforts amidst difficult periods along the hiking trail.

Elsewhere, literature discusses social support as a way to manage leisure problems post experience. Researchers point out that social support is recognised as the opportunity to discuss stressful leisure events (Rosario, Shinn, Morch and Huckabee 1988, Schuster, Hammitt and Moore 2003). Cohen and Wills’ (1985) work has shown that social support provides well-being for those experiencing stress, by acting as a buffer against the influence of stress. The buffer analogy has relevance to this current work when considering the constraint situations that resulted in divers seeking co-operation. This is because indications were that divers sought the reliance of another person’s physical presence as well as their mutual support to be able to work through the challenges that were evident during those uncomfortable underwater periods.

7.4.3 Cancel

At other times, in-water situations presented serious threats to divers which not only constrained their comfort, but potentially offered a high level of personal threat. These experiences involved dives when there were equipment malfunctions that dramatically limited the available air supply, divers endured periods of extreme cold, or the onset of nitrogen narcosis, which brought with it a lack of clarity and co-ordination. At other times, divers noticed the presence of dangerous marine life within their vicinity. The situations held little ambiguity and the divers had no wish to remain in-water as doing so might have ended in serious illness, accident or death.

The emphasis divers gave to extreme constraints resonates with literature in environmental psychology that considers environmental load. Environmental load is an individual’s capacity to tolerate a particular environment. When one’s environmental load has been exceeded, people often react by avoiding the site (Fisher, Bell and Baum 1984, Hartig and Evans 1993, Mehrabian 1976). During those
episodes of acute stimulation or load, divers negotiated constraints to comfort by restricting their attention from other aspects of the dive towards the presenting constraints. In turn, the negotiation process was started when the divers commenced their ascent and moved to end the dive.

Negotiating to ‘cancel’ was an approach to re-establish a sense of control (Lazarus and Folkman 1984, Schuster, Hammitt and Moore 2006). Divers recognised their comfort and safety was best achieved by exiting the ocean. Within adventure experiences uncertainty can be appealing because it offers challenge in the form of unknown or novel experiences (Cater 2006). However, the appeal (and uncertainty) can diminish when circumstances become extreme (Holyfield and Fine 1997). In communicating findings from her work with rock climbers, Periera (2005) upholds that if risk becomes danger, the common reaction would be to avoid it.

Deciding to exit a situation in the face of constraints to adventure leisure was a strategy that both Wilson (2004) and Little (1997) also identified in their research. In Little’s work, some women ‘opted-out’ of ongoing adventure for reasons that included lack of support to continue, while Wilson (2004) revealed that harassment and unwanted attention from men constrained solo women who negotiated by exiting the country of their travel in order to remove the constraint.

Son, Kerstetter and Mowen (2008) raised the subject of the role of different negotiation strategies being used to mediate particular leisure constraints. They indicated that leisure time is often negotiated and reduced amidst interpersonal constraints. In this thesis it appears that the intensity or compounding feature of constraints were the focus of specific negotiation, including that during extreme situations leisure time was cut short when the cancel strategy was used.

7.4.4 Negotiated comfort

The use of a constraints negotiation lens to examine divers’ in-water experiences provides a more detailed picture of what happened during uncomfortable periods underwater, and the actions taken in response to those circumstances. The constraints negotiation framework also offers greater explanatory discussion of SCUBA diving experiences. The results presented in Chapters Four, Five and Six depict the in-water
efforts of recreational SCUBA divers who were constructive in their choices to engage with the many challenges that presented during the activity.

Throughout the interviews, the unpredictability and variety of in-water circumstances that SCUBA diving provided was acknowledged as an interesting feature. Divers’ discussions of negotiation strategies reflect the effort that was taken to manage the disruption to their sense of comfort. Approaches to and perceptions of uncertainty and disruption in-water varied across the twenty seven divers. Divers interpreted their in-water circumstance and selected negotiation approaches. Three over-arching methods of negotiation were evident in this research. The approaches adopted included continuing by choosing to adjust the focus of the dive or managing emotions (Holyfield and Jonas 2003) as a way to deal with minor constraints. More intense experiences involved securing buddy support and working to negotiate constraints together. In extreme circumstances, negotiation involved removing themselves from the situation in an effort to seek safety and restore comfort on the ocean surface. Negotiating constraints to comfort can be interpreted as reinforcing the power of each diver’s approach to personal accomplishment and self-sufficiency (Dustin, McAvoy and Beck 1986, Holyfield and Fine 1997).

Meeting and negotiating constraints to comfort extended divers’ experiences with uncertainty during diving as they were wrested from positions of in-water comfort. In their efforts divers had the opportunity to build on previous encounters as each new situation allowed them to consider the sequence of events that might follow. With ongoing experience an environment can appear decreasingly complex (Fisher, Bell, Baum 1984). For example, while divers identified the means by which to negotiate immediate psychological constraints, it was with time that constraint from anxiety was overcome, including by more time spent in the underwater environment. Harrigan (1992) made such a point in his reflections on night diving, where he notes that what he once considered to be reckless, no longer caused him concern. The experiences had the potential to reduce divers’ perceptions of the risk involved as they became familiar with new situations (Brown 2005).
7.5 Risking Comfort

From the analysis of SCUBA divers’ interviews, it became clear that each diver held his or her own view of in-water comfort. Those views were neither static nor explicitly defined; rather they appeared to be influenced by the nuances that are associated with human personalities such as individual preferences. Each divers’ preference seemed to be tempered by the different characteristics that presented in each SCUBA dive. The means by which each person negotiated the situational constraints was a reflection of the individual’s reading of the presenting risk at that time.

The support of an inductive methodological paradigm and the application of a grounded approach to exploring SCUBA divers’ in-water experiences included the multiple views divers held of their time in-water. The grounded approach to the process was important to retain the focus on the experiential aspect of SCUBA diving which in turn helped to engender interpretation of the research findings. It is recognised that Bartram (2001) used a grounded theory method to assist in the identification of emerging themes that were relevant to her study of the lived experiences of white-water kayakers. Yet there does not appear to be a study evident that uses a grounded approach to consider the experiential elements of SCUBA diving.

The emergence of constraints to comfort as a personal interpretation of the divers’ experiences is given support in work by those who adopt a relativist position, compared with a realist position, to the construction of risk. From a social constructionist perspective, a realist position views risk as a negative objective reality which can be quantified (Lupton 1999a). On the other hand, a relativist position views risk as a social construction. If placed on a continuum, a weak relativist position at one end sees risk as an objective phenomenon which is able to be mediated through social and cultural discourses. At the opposite end, a strong relativist position holds that risk is constructed through social, cultural and political ‘ways of seeing’ (Lupton 1999a:35). The reasoning behind a relativist position on risk is outlined by Lupton (1999a:100) in the following way:
We are progressively understanding and acting upon ourselves … as self-actualising individuals who move between loose and fluid social aggregations, taking up different roles in each. These small affiliation-based groupings … deal with phenomena such as risk.

A strong relativist approach to risk (Lupton and Tulloch 2002) aligns with a context-specific experience of in-water comfort in SCUBA diving, as found in the current study. The divers’ statements reflect their views of in-water experiences which were formed from SCUBA diving, as well as the social and cultural influences and discourse that surround their involvement with the recreational activity. For example, divers’ views of social comfort and social constraint reflect their personal preferences about diving with others. There were divers in this thesis who preferred the company of familiar others when they were in-water as a condition of social comfort, whereas other participants preferred to dive solo as a condition of social comfort.

Divers also reflected on their personal histories which involved childhood experiences when they recreated in marine environments. Included within many of the recounts were comments that not only had divers recreated on or in the marine environment, but also indications were that they had been introduced to experiences of being underwater from popular media, including television. Television introduced a number of the divers to the Underwater World of Jacques Cousteau as well as fictional underwater personalities. Some discussed the stories they heard from older members of their families who shared positive experiences and close associations with the sea. Those early encounters were offered by the divers as being influential to their desire to know what it was like to be underwater, and are further contributions to the development of divers’ positive socialisation with the marine landscape, which was evident from their statements. Those memorable encounters have contributed to the divers’ attitudes towards being comfortable in-water, and their view of the risk associated with being in those underwater environments.

### 7.5.1 Rethinking risk

Ewald (1999:227) notes that approaches towards risk have begun to acquire an ontological status, thus acknowledging that there exists more than one worldview to how risk is perceived and constructed. The influence of socio-cultural views brings to the fore a positive approach to risk that is found in the literature. A positive position
on risk might be considered to be a ‘counter discourse’ because socio-cultural views underpin the construction of perspectives about risk (Lupton and Tulloch 2002:114). Yet taking such an approach also allows for understanding the influences and circumstances which surround individual experiences with adventure and risk from a participant perspective, using participants’ voices as central to analyses.

Tulloch and Lupton (2003) contend that knowledge of risk can embrace the idea of risk-taking as deliberate and acceptable, which shifts the focus away from risk being seen in a negative way as ‘risky behaviour’ (Lupton and Tulloch 2002). According to Douglas (1996), the pattern of risk perception is culturally acquired when competence recognises, assembles and sorts relevant elements. Douglas (1996) also points out that cultural ‘input’ was once considered a weak determination of risk, which rendered any subjective thinking about risk as irrational and weak.

Socio-cultural influences of the construction of risk support a view that not only might risk be reviewed as a positive feature of an experience, but that it is very much an individual interpretation. Joffe (2003) identifies responses to risk as being dynamic and subjective, while Slovic and Peters (2006) recognise instinct and intuition to be influences on human response to risk. Their comments appear to align with Luptons’ (1999a) claim that individuals make meaning of risks at the time when they are in the presence of danger. Further, Brown (2005) is among those who contend that people deliberately review thinking about risk to ease any associated anxiety which could impact on their self-esteem (Greenberg, Solomon, Pyszczynski, Rosenblatt, Burling, et al 1992). Within the adventure and recreation context, the subjective interpretation of risk is acknowledged by Lipscombe (2007) who holds that increased participation and familiarity with an activity will replace the perception of what might be a risk, with experience and knowledge of what are real risks.

The descriptions of divers’ in-water experiences are also reflected in discussions on participation with ‘risky’ sports. Slanger and Rudestam (1997) hold the view that an ability to tolerate high levels of risk is entirely subjective. The level of stimulation experienced is said to be a way of assessing an individual’s self-efficacy. The dynamic features of in-water comfort, constraints and negotiation discussed by the divers for this study indicate there was substantial variation in the interpretations of risk that were part of each dive, reinforcing the subjective views that can exist
towards risk. Ryan (2003) also puts forward that in adventure tourism the subjective
assessment of risk is entirely relative.

Acknowledgement has been made across the broad field of adventure literature that
what constitutes risk is a matter of subjective interpretation (see for example Ewert
authors listed in all three sections of Table 2.2. However, as studies began to reflect a
shift in the research methodology away from quantitative approaches towards
qualitative methodologies, the opportunity incorporated an ontological focus which
recognised and supported multiple realities (Jennings 2001, Denzin and Lincoln
2005). One implication from the expanded ontological perspective is revealed in the
breadth of engagement with adventure, including positive approaches towards risk in
research identified in Experiencing Adventure (Table 2.2).

During divers’ interviews, there were situations when the subject of risk was raised to
gauge divers’ attitudes of risk during SCUBA diving. Divers acknowledged that risk
was certainly part of SCUBA diving but the topic was not identified as the focus of
their involvement. Discussions did not suggest the divers believed they were involved
with something particularly risky, especially when they were comfortable. Comments
that were offered included ‘there is risk in anything you do’ (Jill) and ‘some people
think diving is risky’ (Sammy). While divers acknowledged that they understood
there was risk involved with SCUBA diving, some countered their involvement as
being more planned and managed. For example one diver said ‘we mitigate any risks
before a dive’ (Brad) and another’s view was, ‘we don’t do stupid things down there’
(Donna). By not associating with risk, divers were in a sense giving themselves
immunity from involvement with risk and danger in SCUBA diving. In a similar way,
Lyng (1990:857) notes that voluntary risk takers are acutely aware that the potential
for harm is ever-present even though ‘participants often claim that only those who
don’t know what they are doing are at risk’.

Lyng’s (1990) comment is reflective of the SCUBA divers’ experiences, such as
those with Grey Nurse sharks. Public perception generally seems to hold that the term
‘shark’ represents an animal that is dangerous and something to be avoided. Sharks
are possibly one of the most demonised species in human history (Dobson 2006).
Some divers in this study recognised this fact with one commenting that ‘the whole
shark thing is blown out of proportion' (Carla). The interview analysis demonstrated there were several divers who expressed comfort in the opportunity to witness Grey Nurse sharks in their natural habitat. Divers indicated being relaxed and content while they experienced the visual amenity offered during these episodes. Attitudes among divers regarding sharks have shifted in recent years, and the popularity of shark watching events has increased in recent years (Dobson 2008, Topelko and Dearden 2005). Research on Grey Nurse sharks has discovered that these once feared and hunted creatures are a harmless and declining species (Byron 1984, Cropp 1977).

A social constructionist position, such as the one taken by Lupton and Tulloch (2002) in their research on voluntary risk-taking, acknowledges that learning about risk is mediated through discourse and socio-cultural frames of understanding. In such a light the broader public perception of danger that is attached to sharks can be understood for its general attitude. Meanwhile, SCUBA divers likely have exposure to a more defined cultural frame that has been acquired through processes such as reading information about marine life and stories which are shared within a divers’ social and cultural world, which recognises the truth and reality regarding the low risk of diving with Grey Nurse sharks.

One subject that reflected individual constructions of risk emerged when divers identified a condition of their in-water comfort as the opportunity for freedom from usual life routines. Comments expressed the appreciation and peace that divers experienced underwater, where an absence of worry was possible. The appeal of this freedom extended to some divers’ preference for solo diving. Those who were comfortable diving solo had completed more SCUBA dives and training, and possibly saw themselves in a different category of diver. That category includes having sufficient technical competence and ability to embark on solo-diving excursions. The divers’ approach to the risks they interpreted from diving solo are also noticeably different to the views held by many others within the group. Ewert and Hollenhorst (1989) note that solitude is a preferred social orientation for some adventure participants.

Skill and competence appears to equip those with more experience to enjoy solo diving and demonstrate their ability to manage the situation. In his study of voluntary risk-taking and sky-diving, Lyng (1990:872) uses the term ‘edgeworkers’ when
referring to those people whose recreation involves managing themselves through periods of high risk. He proposes that ‘edgeworkers may create more powerful feelings of competence … because it … maintains the illusion of controlling the seemingly uncontrollable’. Lyng’s comments parallel those made by Galloway (2006) who raises the idea of adventure recreation as ‘positive deviance’ noting that some people will deviate from the ‘norm’. Those who were comfortable as solo divers were aware that their choice was not preferred SCUBA practice. However, their extensive experience with the activity was offered as an influencing factor in their decision to undertake some dives alone. For example, Jill indicated ‘I dive within my capabilities and know how to look after myself. I’m comfortable when I don’t have to look after anyone down there’ inferring that she was aware of preferred procedure for buddy diving, yet had a desire to dive solo.

The notion of positive risk-taking is also found in a study of high altitude climbers’ experiences with risk. Using an in-depth interview technique, Pereira (2005) revealed that the climbers involved in her study had a strong concept of the potential for risk, even suggesting that risk was important to their involvement. The theme continued through the climbers’ perception and control of risk in high-altitude situations, offering that they were drawn to and negotiated the risks involved as a way of making their lives individual and distinctive.

Within discussions of risk in adventure, authors have revealed that the potential to control a situation increases with improved participants’ skill (Elsrud 2001, Lyng 1990, Vanreusal and Rensen 1982, Watson and Pulford 2004, Schreyer and White 1979). Gaining control is how individuals respond to environmental stresses as they seek to improve the situation, and thereby increase the potential for perceived leisure freedom (Propst and Kurtzz 1989). Such control manifests as the thrill derived from the enjoyment of having control of the situation (Watson and Pulford 2004). Because the adventure activity is guided from a subjective perspective, what transpires is in fact a positive response to perceptions of the risk involved (Bem 1971, Dickson 2004). The issue of control was often mentioned in this study of SCUBA divers. For example, as reference was given to having control, it was in a positive light that divers recalled pleasant times being in-water. This could suggest that comfortable experiences reflect ones ability to manage and control risk.
It was not until such time as divers confronted what they considered to be a difficult situation that they identified with themselves as being at risk of danger. The various and subjective attitudes towards risk held by the divers is supported in views by Joffe (2003) who maintains that responses to risk are not necessarily based on rational information processing. Researchers such as Schuett (1993) and Ewert and Hollenhorst (1989) recognise that adventure enthusiasts’ perceptions of uncertainty and risk contribute to their enduring involvement and familiarity with an activity.

It is the view of some researchers (Cant 2003, Gyimothy and Mykletun 2004, Martin and Priest 1986) that challenge lies at the heart of achievement in an activity because it provides opportunity to confront elements of danger. In his model of Adventure Tourism Experiences, Morgan (2000:83) notes that the conditions of challenge include ‘exploration and experimentation’. From this, any sense of achievement might be seen as the ‘thrill’ of having control of the situation (Cater 2007, Watson and Pulford 2004). For divers, realising the ‘thrill’ appears to have been accomplished by embarking on a process of negotiating the risks that were present when comfort was constrained. The existence of constraints created opportunities for divers to reverse the degrees of jeopardy through processes of negotiation (Kjelsrod 2003, Lyng 1990).

Priest’s (1992) Adventure Experience Paradigm (AEP) and Csikszentmihalyi’s (1992) theory of flow are two theories that have been formulated on participant perceptions of risk or competence, and challenge. These authors offer that a positive adventure outcome is an optimal experience and relies on a person to be sufficiently skilled to control a situation. Adventurists are said to be motivated to seek flow or peak adventure experiences (Martin and Priest 1986:19). Extensive application of theories of both flow and AEP has been made to various contexts that involve leisure and recreational situations including sport psychology (Jackson 1992, 1995, 1996), human studies (Bloch 2000), leisure (Priest 1992) and adventure (Jones 2008, Jones, Hollenhorst and Perna 2003, Martin and Priest 1986). The works broadly acknowledge that achieving an optimal experience depends on how an individual interprets the situational features which impact on perceptions of the risk and challenge involved and the skill required to manage the circumstance.
As previously mentioned, this research did not pursue a deliberate examination of perceptions of risk during SCUBA diving. Nor was there intention to examine or measure concepts related to flow and the AEP. However, emergent findings reveal that each diver’s reading of the risk and challenge present in a SCUBA dive had an influence on the diver’s interpretation of their in-water comfort, constraints to comfort or method of negotiation.

It is understood that parallels may be drawn between the concepts examined in this thesis and other studies of adventure, given the predominant role that risk and challenge play in adventure research. However, if comfort is considered alongside the experience states reflected in the Adventure Experience Paradigm (Martin and Priest 1986) and flow (Csikszentmihalyi 1992), any association between the states may be revealed. For example, a person can be comfortable during adventure, when risk and challenge are at an acceptable level to the participant. This is possible during a number of experience states, including exploration, adventure, flow and peak adventure where risk is low or balanced with perceptions of competence (Priest and Carpenter 1993). It is also possible to be comfortable during experiences when skills are greater than the challenge involved. Interestingly these experiences are reflected elsewhere as negative states of boredom and apathy (Csikszentmihalyi 1992). However, no direct association can be formed between this thesis and those adventure states, as this research did not set out to examine the central concepts which underpin AEP or flow. Instead, this study found that divers experienced comfort when they were in situations they considered were easy and free from constraint.

It is not until difficulties and challenge enter the circumstance that participants perceive constraints to their comfort. Constraints present discomfort and unacceptable risk. At such a point comfort is diminished and the situation represents stages that align with experiences of misadventure (Priest and Bunting 1993) and anxiety (Csikszentmihalyi 1975). If negotiation is not undertaken the potential remains to lead into harm and spiral towards devastation and disaster.

The results of this research into comfort with recreational SCUBA divers extend explanation of the adventure experience in two ways. The study includes the social context of being in-water as part of divers’ comfort. Social comfort was recognised in the reassurance that divers felt during the adventure experience when they had trust.
underwater in a dive buddy. Also, the process of negotiating constraints to comfort does not seem to be apparent in the experience states recognised in other theories of adventure.

### 7.5.2 Finding comfort in adventure

The growth in popularity of adventure experiences seems to have created a loosening of the belief that adventure activities are only for daredevils and reckless people (Creyer, Ross and Evers 2003, Ewert and Hollenhorst 1997, Olivier 2006). The inclusion of the term ‘soft adventure’ into the language used to define some types of recreation activities gives further weight to this view. Taking a more expansive view of what is considered an adventure experience accommodates individual considerations of the concept of adventure. For example, Little (2002) found that some of her participants became involved in creative pursuits as a way to pursue adventures within their life circumstances. It is in the context of adventure tourism that Trauer (2006:185) holds similar sentiment noting that adventure ‘experiences have shifted from the search for the utmost challenging and dangerous to that of safety and comfort’.

The SCUBA diving encounters that have been examined in this thesis reveal that comfort presented in at least one context, for SCUBA divers who demonstrated a range of diving experiences and skill levels. This finding seems to counter a view proposed by Ryan and Trauer (2004) in their adventure tourism model in which they locate comfort between two axes; one of high-low involvement and another of hard-soft adventure. Their placement suggests that to achieve a comfortable state, a participant requires regular involvement with an activity. However, the divers interviewed in this study acknowledged in-water comfort in at least one context of their in-water experiences even though some were highly involved with diving, while others were new to the activity. The findings raise the suggestion that even beginning participants in an activity can experience comfort in certain situations.

Comfort for the divers interviewed here was context-specific and emphasised as an aspect of SCUBA diving that was possible when circumstances enabled divers to experience a sense that everything was calm and within their control. Comfort was evidenced by references to, and descriptions of, the absence of stress and tension
from various aspects of the activity. Trauer’s (2006) model of Special Interest Tourism (SIT) experiences offers a conceptualisation of comfort zones. The placement of comfort zones on the SIT model suggests a person familiar with a range of leisure and adventure activities can experience comfort because they ‘are a collector’ of experiences (pp 195). The SCUBA divers’ experiences acknowledge a lack of complexity in a comfortable situation because one is at ease with their surroundings and conditions relevant to that context. Comfortable experiences were not interpreted as extreme situations. In this way comfort can be likened to a soft adventure experience that Ryan and Trauer (2004) and Trauer (2006) offer. However, this is only in so far as soft adventure holds connotations as adventure which lacks difficulty because it is an experience offering managed exposure to risk (Lipscombe 2007).

Differences exist in that experiences identified by the divers are defined by specific contexts. Additionally, this thesis is an empirical study of experiences with comfort during SCUBA diving. Whereas for Trauer (2006) and Ryan and Trauer (2004) the focus included a broad range of experience states within their conceptualisation, of which comfort zones is one aspect. In such a way the current research highlights the experiences of comfort in one adventure activity, and explores the concept of comfort to a greater extent than appears elsewhere.

Lipscombe (2007:6) is another researcher who discusses soft adventure experiences, advising that they are designed for those with ‘novice capabilities with the activity and the setting’. This might in fact reflect the type of environment in which less experienced SCUBA divers were able to realise in-water comfort. This is because they were comfortable and at ease in one or more of the physical, social, psychological and visual contexts of the dive. Remaining within an adventure context, Panicucci (2007) used comfort to describe the relaxed state that participants experience when they are not ‘stretched’. The analogy resonates closely with the SCUBA divers’ descriptions of their comfortable in-water encounters in their discussions of comfort as relaxing, not difficult and uncomplicated.

Divers’ statements indicated that in-water comfort could be experienced differently on every dive, adding support for the view of comfort as a multi-contextual concept. Acknowledgement was also made that there were dives when comfort presented
simultaneously in all four contexts. To experience in-water comfort in multiple contexts appears to be a desired option. The proposition of comfort contexts has been discussed in nursing literature where the view of a holistic approach to comfort accommodates multiple contexts (Kolcaba 1994, Malinowski and Leeseberg-Stamler 2002, Tutton and Seers 2003). Support for an holistic view of comfort is upheld because it offers detailed explanation of a person’s overall involvement with comfort (Kolcaba 1994:1178).

Following from the nursing proposition, the ideal of holistic comfort within recreational SCUBA diving was indeed described by some divers when they recalled occasions when all contexts of the dive were comfortable from the outset until completion. Statements were made that ‘some days it is a spiritual experience, really peaceful, which you get while you float around and see the fish and marine creatures too’ (Wanda), or ‘diving in New Guinea is spectacular. There might be just 2 people on a reef, warm water and so much to see. That is what diving is all about’ (Bell). Another diver recalled an ideal dive he had as ‘one of those days when everything was perfect. It was like a movie. The visibility was so clear it was like looking on land, you could see the sun shining. We were in the Trench and I was on the sand looking up and there were thousands of fish’ (Bob).

During those states of holistic comfort it might be that divers had a peak or flow experience, similar to those at the centre of work previously mentioned by Csikszentmihalyi (1975). In his discussion of risk in recreation, Lipscombe (2007:11) considers that good risk encounters can be flow experiences because the individual is ‘performing within their capabilities’. It is recognised that when all elements of a dive were positive and within divers’ abilities, they may have experienced comfort in its holistic sense, or a state of flow. However, the primary consideration of this research has not been a study of flow, but rather an exploration of divers’ experiences of comfort which aligned with physical, psychological, social and visual contexts of comfort and constraints.

Comfort, according to the recreational SCUBA divers interviewed here does not necessarily require utilising skills to their maximum ability because risk and challenge, at that point in the SCUBA dive, are acceptable. What is inferred is the idea that a participant’s skill level or ability to confront risk and challenge is not a
defining feature of one’s interpretation of in-water comfort. Instead, as recognised by Jackson and Csikszentmihalyi (1999), comfort is more likely to be possible when there is less demand for skills, thereby acknowledging an absence of constraints to comfort.

### 7.6 A Model of In-water Comfort, Constraint and Negotiation

The aim of this study has been to explore the concept of in-water comfort in the experiences of recreational SCUBA divers. It should be mentioned that from the grounded analysis of interview transcripts the SCUBA divers recounted occasions when they became immediately comfortable in-water as they descended into the ocean. These dives commenced and in some cases continued free of constraints and any need for divers to consider a means of negotiation. However, there were many other cases when divers indicated being comfortable in some contexts of a dive while experiencing constraint with remaining contexts. It was the emergence of these types of situations that led to the assumption that in-water comfort is a negotiated experience.

The results of Chapters Four and Five recognise the importance of context to any considerations of in-water comfort in SCUBA diving. Similarly, the individual perceptions of comfort highlight the ambiguity that can surround how one interprets or defines comfort. That is, what one considers to be comfort may not be so for another. Accounting for the multiple perspectives and shared themes which divers described and are presented within this thesis, the ambiguous features premise the likelihood that comfort is a transitory state during SCUBA diving.

From a conceptual perspective this discussion highlights that there are difficulties in attempting to provide a diagrammatic view of the process surrounding divers’ in-water comfort, constraints and negotiation. Within a qualitative paradigm grounded theorists have used diagrams or models as a way of presenting conceptual development and theory to assist in communicating results to readers (Charmaz 2005, Jennings 2001). This current work presents a diagram or model that accommodates the generic elements of the process that was evident from analysis of the twenty-seven interviews. As explained in Chapter three, the conceptual model provided here has evolved inductively through numerous levels of analysis. This is similar to other
studies which employed a grounded approach to analyse data and conceptualise theory. Studies by Hottola (2004) and Holt and Dunn (2004) are examples of qualitative studies which used grounded analysis to conceptualise experiences with culture confusion in tourism (Hottola 2004), and psychosocial competencies in sporting success (Holt and Dunn 2004). Leisure constraints researchers including Crawford and Stodolska (2008), Little (2000) and Wilson (2004) have also employed grounded approaches to build theory from emerging themes in the data as well as retaining the views and opinions of those under study. Charmaz (2005:507) clarifies that grounded theory methods are essentially analytic guidelines that allow researchers to build inductive theories through successive analysis and conceptual development.

7.6.1 Features of the model

This section offers a conceptual model that depicts the relationship between SCUBA divers’ in-water comfort, constraints and negotiation. The aim of the model is to offer visual support to depict the general process divers moved through during a SCUBA dive, and not to diminish the complexity and detail that was part of the underwater experiences of comfort, constraints and negotiation. A circular model was chosen to acknowledge the point that events did not occur in any linear order. That is, the divers emphasised that ‘every dive is different’.

Figure 7.1 is a conceptual Model of In-water Comfort, Constraint and Negotiation consisting of three circles: (inner, middle and outer) which are labelled comfort, constraints and negotiation, respectively.
Figure 7.1: Model of In-water Comfort, Constraint and Negotiation
Inner circle: **Comfort**: At the core of the model a diver is comfortable according to at least one of four contexts. A diver has descended the ocean surface and passed through preliminary negotiation to settle into a dive and realise physical, social, psychological or visual comfort. Arrows within the four comfort contexts point inwards to acknowledge that a diver remained comfortable in that context throughout a dive. Risk is not a concern to the diver. A broken line at the outer comfort boundary acknowledges its transitory state. Arrows point from the comfort layer towards constraint, to reflect diminishing comfort from disruption via the introduction of constraints to comfort.

Middle circle: **Constraints to comfort**: Within the second layer of the model, four contexts of constraint are presented: physical, social, psychological and visual. Here, disruption has occurred, risk presents and a diver is no longer comfortable in either a single or multiple context. Constraint contexts can be simultaneous with contexts of comfort. This is due to disruption in some but not all four contexts. Providing constraints to comfort as a separate layer, allows a visual depiction of the shift that has taken the diver from their comfortable state. There is acknowledgement the diver has been moved or ‘stretched’ beyond comfort (Panicucci 2007).

Constraint is represented at its outer boundaries by a broken line depicting a temporary state. Arrows indicate movement towards negotiation, acknowledging a diver has moved to address the hindrance. Arrows within constraint point inwards from negotiation to reflect the ongoing and dynamic process of negotiating constraint. Examples include minor constraints which re-occur and are continually negotiated throughout a dive.

Outer circle: **Negotiation**: The outer circle signifies the role of negotiation in recreational SCUBA diving. Once a diver has descended the ocean surface, some form of negotiation may be required as they adjust to being within the ocean. Also at the end of a dive, negotiation forms part of the process of slowly and safely ascending to the surface.
While underwater, constraints were identified which divers sought to resolve. When minor constraints occurred, the consolidate strategy was used. The choice to negotiate by co-operating involved working with a diving buddy amidst more complex constraints. Arrows point inwards to the middle layer (constraint), and even the centre layer (comfort) to reflect the variation in outcome of constraints negotiation. That is, constraints negotiation may be ongoing, or comfort may be restored. Arrows also point from negotiation to the exit, which represents the negotiation strategy to cancel the dive. Here the diver has met with compounding or sufficient constraint to warrant exiting.

Figure 7.1 indicates there is an opening in the circumference of the concentric circles. The opening recognises when holistic comfort occurred and continued throughout a dive. The opening indicates that a diver has descended into the ocean and experiences comfort in every context. During their time underwater, there is neither a constraint to comfort nor a sense of any need to negotiate constraint. However, during the many occasions when divers confronted and negotiated constraints to their in-water comfort, as discussed in Chapter Five and Chapter Six, holistic comfort was not evident. Strauss and Corbin (1998:166b) note that ‘process in data is represented by happenings that may or may not occur in continuous forms or sequences’.

By recognising the contextual constraints to divers’ comfort, it is possible to reveal situations when constraint occurred in one (or more) context, while comfort remained in other contexts. For example, constraints to visual comfort occurred because poor ocean conditions restricted divers’ ability to see underwater. Yet, some of the divers recalled that when they were visually constrained, they could still remain relaxed and psychologically comfortable. As another example of simultaneous comfort and constraints, during visual constraint some divers continued to be physically comfortable in the calm ocean because they shifted their focus towards positive aspects of being underwater, such as enjoying physical effortlessness. There were regular recollections of constraint in one context and comfort in another, including visual comfort and physical constraint. Divers conveyed that they were comfortable with the good visibility and ocean conditions which allowed them to observe the
marine landscape. Simultaneously, they chose to tolerate the chilly ocean temperature as a minor annoyance that disrupted physical comfort.

When divers experienced constraint they pursued active strategies of negotiation which were both a response and effort to resolve the situation. Divers worked to overcome and manage the presenting risks which brought the disruption. In many circumstances the negotiation was also an attempt to remain within the dive. As a result, the minor or ‘nuisance constraints’ were negotiated as divers dismissed or pushed the constraint aside. More serious in-water situations were met with a physical effort in which divers sought their buddy in order to work through the constraint. In extreme situations which included experiences with technical malfunction, or if divers confronted immediate danger, they actively negotiated by cancelling the dive. Constraints to leisure can be a form of passive acceptance when ‘nothing could be done’, whereas active negotiation is the ability one adopts to overcome or modify the constraint (Henderson and Bialeschi 1993:404). For the participants in this thesis, active constraints negotiation efforts were pursued even though some responses involved minimal physical effort, such as when divers dismissed or ignored constraints. Henderson and Bialeschi (1993:404) explained that active responses include the ability to modify the intensity of constraint, including resisting them.

7.6.2 Application of the model

The Model of In-water Comfort, Constraint and Negotiation presented in Figure 7.1 differs from other models that focus on adventure, and constraints in a number of ways. Notably, the model has been grounded in SCUBA divers’ in-water encounters and is premised on the stories of a qualitative study of twenty-seven recreational divers. The methodological and ontological integrity of the thesis supports the centrality of divers’ descriptions of in-water comfort. From analysis, grounded in their meanings and understandings, statements of SCUBA diving experiences revealed contexts of comfort and constraint. From this, the model incorporates experiences of comfort, constraint and negotiation as transient and dynamic aspects that occur throughout a SCUBA dive.

The Model of In-water Comfort, Constraint and Negotiation places positive experiences with comfort at the heart of an adventure experience, while recognising
that some divers will trade the comfort of staying within their limitations for the thrill and challenge of negotiating constraints at the edge of their tested ability. In focussing on divers’ experiences of comfort, this model reflects an alternate position towards experiences with risk, compared with that evident in other work in the adventure literature (Priest 1992). Other models give their main focus to participant experiences with risk and challenge during adventure (Ewert and Hollenshorth 1989, Priest 1992). This thesis occupies a vacancy provided by the attention to risk given elsewhere, as it explores other experiential aspects of adventure leisure.

This Model of In-water Comfort, Constraint and Negotiation comparatively defines the process of comfort, constraints and negotiation for recreational SCUBA divers, as well as highlighting association among the three concepts. By describing and explaining what occurred during individual divers’ in-water encounters, this research has revealed the dynamic process that is involved with experiences during shifts from comfort to constraints and negotiation.

Application of the Model of In-water Comfort, Constraint and Negotiation extends understanding of adventure leisure by recognising engagement with comfort which can unpredictably move beyond what is a comfortable situation. The model (see Figure 7.1) shows that the central concept of in-water comfort is almost entirely encircled by the experience of constraints to comfort. This representation acknowledges that when divers were uncomfortable they shifted beyond comfort into a domain that included greater perceived risk, and more complicated encounters. An extensive literature has been based on empirical examinations of shifts that occur during adventure participation including work by Carpenter and Priest (1989), Lyng (1990), Lipscombe (2007) and Panicucci (2007).

Distinction between the current work and others is evident in that the present research examines the elements of a SCUBA dive, and the process which featured as part of underwater experiences. The divers’ experiences examined using a constraints negotiation lens aid explanation of the elements involved. The approach seeks to expand understanding of adventure experiences by complementing existing work, rather than seeking to replicate the substantial contributions recognised elsewhere. The central focus on comfort indirectly accommodates consideration of divers’ experiences and approaches to risk during SCUBA diving. The emergence of risk in
the form of constraints to comfort has also extended the focus of this thesis to include positive approaches to voluntary risk-taking (Lyng 1990, Lupton and Tulloch 2002, Parker and Stanworth 2005). Divers in this research generally did not consider themselves to be engaged with risk, thereby reflecting a positive approach to risk especially when they were comfortable. It was the onset of constraints to comfort that introduced disruption and negative aspects of a dive which reflected divers’ experiences with risk.

### 7.6.3 Limits of the model

As with any conceptual model that is based on a grounded approach, there are limitations and restrictions in its ability to reflect the experiences of all ‘real life’. The model presented in this thesis is no exception. Firstly, the model has been limited to the four contexts of comfort and constraints that emerged from analysis of the data. However, further research into comfort and constraints, could likely reveal additional contexts which may be added to the model. Within the field of nursing, Kolcaba (1991) recognised that sense states were reflective of the intensity or level of comfort a patient experienced. In a similar way, leisure and adventure researchers have an opportunity to build upon the knowledge made available from findings of the current research that identifies contexts and conditions of comfort for recreational divers. By conducting further research, greater understanding becomes available of experiences with comfort.

Secondly, the Model of In-water Comfort, Constraint and Negotiation does not depict explicit linear actions of each diver in the process of comfort, constraints and negotiation. Instead this broad holistic model seeks to consolidate the collective undertakings adopted by all divers in the study. Thirdly, the outcome of the SCUBA divers’ efforts to negotiate constraints to comfort is beyond of the scope of this work. That is, this study does not attempt to identify whether divers were ‘successful’ at restoring in-water comfort or not. Instead, the work provides a discussion of the sorts of actions that divers pursued when they considered they were constrained and exposed to unacceptable risks to in-water comfort.
7.7 Chapter Summary

This chapter has focused on a discussion of the results presented in Chapters Four, Five and Six by presenting and examining similarities and differences with previous studies of comfort and SCUBA diving. Links with the broader literature in leisure and adventure were also established. Findings demonstrate that experiences of comfort in adventure are context-specific. In fact, particular findings of this study reveal how divers responded to the adventure leisure setting: the marine environment, personal experience of being underwater and to the social context of SCUBA diving. Each of these perspectives contributes to a broader view of more complex adventurous experiences, like diving. The social context of comfort is one which extends discussion of in-water experiences beyond a purely individual encounter with leisure or adventure.

The visual context of comfort emerged as an important and unique feature of the adventure experience. Analysis identified that viewing marine flora and flora is a regular component of discussions about being comfortable during SCUBA diving. The visual context gave a sense of purpose to the activity for many of the divers, and extends emerging literature which acknowledges the role of viewing and observing wildlife in natural environments during adventure and leisure.

Using the leisure constraints theory in this thesis has helped to explain what occurs during an uncomfortable situation for recreational SCUBA divers. At the same time it has been possible to contribute to understanding experiences involving in-situ constraints. Results support the work of other researchers who identified in-situ constraints during leisure and adventure (Jordan and Gibson 2004, Wilson and Little 2005). This thesis also recognises and supports the contexts of constraints during leisure and adventure, as reflected in the divers’ in-water experiences. The recreational SCUBA divers acknowledged that they use various strategies to negotiate constraints including managing their emotions, seeking the support of others or exiting the ocean. Choices were influenced by their own views on the severity of the in-water situation.

The conceptual model developed as a result of the grounded analysis is based on the central theme of being comfortable underwater. By locating comfort at the heart of
the SCUBA diving experience, recognition is given to the study aims, and the divers’ statements. These statements reflect positive, constructive and enjoyable aspects of SCUBA diving depicted by conditions within particular contexts. During those comfortable periods the specific context of the dive was unhindered and uncomplicated.
Chapter 8: Conclusion

This exploratory research examined the experiences of comfort for recreational SCUBA divers. As outlined in Chapter 1, the objective of the study was to explore the role of comfort in adventure, with a focus on how recreational divers defined, described and experienced in-water comfort. Further, the study considered what the SCUBA divers saw as constraints to their comfort, and the methods of negotiation that were adopted in response to constraints. The research used a qualitative, interpretive methodology and included semi-structured interviews to collect discussion of recreational divers’ experiences. There are several contributions to the adventure leisure literature that stem from this research. A number of conclusions can also be drawn as a result. In this final chapter, these contributions and conclusions will be discussed in light of the study’s limitations, together with opportunities for future research.

This thesis has demonstrated that there is validity in examining the concept of comfort in adventure leisure experiences. The first sub-objective explored the role and importance of comfort within adventure and leisure. From this examination into recreational SCUBA diving, comfort emerged as a context-specific experience. The idea of comfort broadens traditional ways of exploring adventure leisure. In Chapter Two it was revealed that comfortable experiences have only been acknowledged in leisure and adventure, with no substantial empirical attention given to the concept. Examining comfort is an opportunity to occupy this gap in adventure leisure and contribute to an underexplored area of the literature. This break from contemporary approaches has been an effort to expand the way researchers view engagement with adventure activities, particularly those which occur in challenging locations, such as marine environments.

The second sub-objective sought to explore what comfort means for recreational SCUBA divers. A sample of twenty-seven Australian male and female recreational SCUBA divers with experience extending from beginning divers through to advanced divers and those with many years experience reported on their underwater excursions, which occurred in many parts of the world. Grounded analysis of the interviews showed that comfort is experienced during SCUBA diving, in physical, social,
psychological and visual contexts. Research participants indicated they are comfortable when engagement with diving was within their capabilities, which was possible during pleasant and uncomplicated experiences. SCUBA dives which contained elements of certainty and a sense of assurance provided comfort.

Chapter Four made a key contribution to adventure literature with its description of comfort as an experience component. The divers revealed that comfort could be defined through physical, social, psychological and visual contexts. Together the four contexts acknowledge a holistic, or whole-person, approach to being comfortable during an adventure, such as SCUBA diving. Separately each of the four contexts reflects how individuals engaged with diving; that is physically, socially, psychologically and visually. These contexts are unique to research on comfort.

Conditions defined divers comfort in each context (see Table 4.1). Essentially, comfort meant that divers were at ease as they expressed views of certainty and assurance within at least one context of SCUBA diving. The divers’ statements recognised they had opportunities for calm and pleasant experiences in-water. Divers could relax psychologically or experience a spiritual-like state within the ocean, or have rich visual encounters. Divers discussed comfort in the physical familiarity and ease they felt when they were underwater. Prior experience within the ocean allowed them to relax and enjoy the feel or the movement of the ocean. Social comfort was explained as an important feature as divers sought experiences which could be shared with familiar people, or a buddy who was reliable and trustworthy.

The third sub-objective set out to explore recreational SCUBA divers’ constraints to in-water comfort. Applying a qualitative methodology which used constraints negotiation theory to study recreational diving experiences provided detail of individuals’ interpretation and management during the activity. Henderson (1991) contends that the complexities of leisure might be best examined using ways other than quantitative approaches. Interpretive, qualitative methods revealed that in-situ constraints involved challenges which were context-specific features which hindered divers’ ability to achieve in-water comfort.

Leisure constraints were originally seen as barriers to engagement, with later research finding constraints can be overcome to allow participation (Jackson, Crawford and
A robust body of work has examined the negotiation of constraints to leisure involvement. The use of negotiation resources, including personal factors such as confidence and belief in one’s ability assisted negotiation and participation (Alexandris, Kouthouris and Girgolas 2007, Jackson and Rucks 1995, White 2008). The positive effect of the constraints negotiation process is apparent as authors identify that through interaction with features of leisure constraints, negotiated participation can occur (Daniels, Drogin Rodgers and Wiggins 2005, Hubbard and Mannell 2001). While motivation to overcome leisure constraints likely influences the negotiation process, studies have recently begun to examine motivation within the constraints negotiation process (Alexandris, Tsorbatzoudis, Grouios 2002, White 2008). Findings from this current research reveal that in the longer term successful constraints negotiation builds experience and confidence that future constraints can also be dealt with. This, in turn reduces the impact of constraints to comfort when similar constraints are encountered again, thereby contributing to the development of ‘experience’.

Knowledge of constraints negotiation and leisure participation draws attention to the role of constraints during leisure or adventure experiences. This thesis is situated alongside other examinations of constraints which occur during the leisure and adventure experience (Wilson 2004, Wilson and Little 2005). The current study’s findings extend understanding to reveal context-specific constraints in this under-examined area of in-situ constraints research. Building on in-situ constraints, Chapter Five defined the contextual elements that constrained divers comfort. The contextual feature of constraints gave an explicit focus to each situation and collectively revealed conditions of constraint. Within the research the contexts of in-situ constraints allowed the limits of divers’ comfort to be revealed. Divers’ experiences of constraints recognised the absence of comfort, and defined the introduction of greater uncertainty and risk.

Sub-objective four involved an examination of negotiation methods adopted in response to constraints during recreational SCUBA diving. Three prominent approaches to negotiation emerged. Divers confirmed that even though constrained, on many occasions they remained in-water. They moved to negotiate constraints and
remain comfortable within the adventure. Divers pushed minor hindrances aside, to experience other comfortable aspects of a SCUBA dive. When constraints provided greater challenge these were dealt with through the support of diving buddies. Or, when presented with difficult and serious in-water circumstances, the negotiation option was to end the dive. The negotiation of in-situ constraints reflects the dynamic and evolving feature of SCUBA diving. Through their negotiation, divers demonstrated a desire to be involved with SCUBA diving. They were prepared to engage with the experience, and revealed their attitudes towards the challenges they faced.

Negotiation of constraints brought divers into direct contact with the management of their personal anxiety, fear, frustration and disappointment in-water. As they recognised the specific features that constrained them, divers negotiated according to their perceptions of the intensity or the compounding effect of the constraints. Henderson (1997:454) suggested that ‘the dynamism and cumulative effect of constraints may be more important than any one constraint’. Constraints were also considered to have a cumulative effect for those women who were accessing adventure experiences (Little 2002). Divers of each gender in this thesis acknowledged that there were in-water situations when the compounded effect of constraints exacerbated their perceptions of what was happening during a dive.

A constructive approach to working through the challenges was evident in the divers’ constraints negotiation, and reflects discussions held elsewhere on motivation to negotiate or mitigate constraints. (see for example Hubbard and Mannell 2001, White 2008). Samdahl (2007:140) pointed out that rewards from leisure involvement are important motivations in the desire to remove negative features of constraints. Divers’ negotiations were influenced by their wish for ongoing engagement with the marine environment, to continue with the opportunity to be within the ocean, because it brought them comfort as well as challenge.

A key outcome from this thesis recognises constraints as an important component of an adventure leisure experience. Constraints introduced divers to additional personal challenge. Negotiation responses to remain within the activity reveal that divers extended their experiences in the face of constraints. Research outcomes from this thesis add to broadening research into adventure leisure constraints to include
contextual and descriptive explanations of experiences (Wilson 2004). This aligns with an optimistic view that people can overcome leisure constraints. Acknowledging the difficulty constraints can present, authors affirm approaches towards negotiation can be influenced by motivation that results in an enhanced experience (Alexandris, Kouthouris and Girgolas 2007, Elkins, Beggs and Choutka 2007, Henderson 2007, Kleiber et al 2008, Little 2000, Todd 2004). The exposure to challenge from constraints to the divers’ in-water comfort befits this optimistic view. Opportunities to experience challenge and extend SCUBA diving capabilities and perceptions of risk were in line with the divers’ methods of constraints negotiation.

Negotiating constraints to comfort was a positive response to the challenges from SCUBA diving. One view is held that comfort in adventure will dissuade opportunity for development and encourage complacency (Dustin, McAvoy and Beck 1986). Being comfortable in adventure has been considered as the absence of challenge (McAvoy and Dustin 1990, Panicucci 2007). However, in the current research, divers viewed comfort as an opportunity for pleasurable experiences where they could appreciate a lack of complexity within the adventure. Application of the constraints-negotiation lens has highlighted the dynamic nature of an adventure environment, such as marine settings, which offer both comfort and constraint. Through their responses divers appreciated when they were comfortable and benefited from the opportunities that arose. During periods that were uncomfortable, divers allowed themselves a window of uncertainty to remain within the activity and deal with the challenges presented to them within the marine environment.

Following on from this, the current study of comfort and constraints presents a complementary perspective to the traditional view of challenge and risk during adventure. By exploring other aspects of engagement with recreational SCUBA diving, the focus has expanded knowledge of engagement with risk and adventure. From conducting this research comfort was defined as a component of adventure leisure able to be experienced within specific contexts. The presence of constraints to comfort contexts will influence a process of negotiation to remove the constraint, or enable continuation of the adventure leisure encounter. Being comfortable reflects a positive state during an adventure leisure activity. Within each of the four contexts, comfort allowed divers an opportunity to experience the marine surroundings or
enjoy the personal experience of being underwater. Features of the adventure were acceptable and challenges able to be met. Being comfortable within adventure reflects one’s ability to accept and accommodate the features and challenges that are present. The statements and views of the twenty-seven divers demonstrated that in-water comfort did not reflect their complacency or reveal any lack of desire to develop, there were no suggestions of boredom. Rather, being comfortable provided an opportunity to focus on the positive environmental and experiential features of recreating within the marine setting. Divers were in a position to have chance sightings of endangered sharks, to spend time studying marine flora or discovering features of the marine landscape that were new to them. Sharing underwater experiences with friends and family were comfortable social opportunities for some divers, while for others the chance to escape to the ocean was of great psychological comfort.

This study also makes a contribution to research on adventure in marine environments. Researchers have only recently focused attention on leisure and adventure within marine settings, as compared with land based activities. Yet the popularity of involvement with marine locations continues to increase (Higham and Lück 2008, Jennings 2007). This study’s research outcomes build knowledge of marine experiences and findings explain features and conditions of recreational SCUBA divers’ in-water comfort.

Quantitative studies of SCUBA diving have examined motivation, training development and attitudes towards marine environments, finding that increased skill level and SCUBA experience has positive implications for divers environmental attitudes and beliefs (Ditton, et al 2002, Meisel and Cottrell 2004, Thapa, Graefe and Meyer 2006, Todd 2004). Todd, Graefe and Mann (2002) also recognised a decline in the personal challenge divers reported with ongoing experience. However, these studies do not extend to examining comfort experienced during SCUBA diving. Quantitative findings suggest that awareness of the marine environment and familiarity with the demands of diving improves with repeated exposure. In fact, outcomes from this interpretive, qualitative thesis reveal that people are comfortable in-water when they have familiarity and knowledge of the marine landscape.
This current research also shows the importance of in-water experiences with marine flora and fauna. Wildlife observation is fast becoming a substantial feature of marine leisure time (Higham and Lück 2008). Musa et al (2006) recognised the appeal of sighting marine life in SCUBA diving. Chapter Four revealed that the visual context was consistently recognised as important to divers’ comfort, with encounters featuring marine wildlife well represented in discussions. Divers statements highlight that wildlife encounters are a valued component of underwater experiences. For example, Wanda discussed her comfort with marine wildlife in this way:

*I like nature, but diving is unique in that you are totally immersed in nature. It is like an out-of-body experience just floating around. There are not many other places where you can interact with animals in such a way. Say, octopuses. You can get close and you can have a really good look around.*

Rodger, Moore and Newsome (2007) noted the importance to sustainable management of investigating social and environmental aspects of visitor and wildlife interactions. Studying comfort and constraints found marine fauna to be an intrinsic component of a comfortable experience. With the exception of work on shark watching experiences (Dobson 2006, 2008, Topelko and Dearden 2005), only a few studies have examined in-water experiences that involve marine wildlife encounters. As such, this study demonstrates the role of visual comfort in SCUBA diving.

Marine settings which contained a rich abundance of flora and fauna offered divers visual comfort. SCUBA divers and freedivers have been recognised as underwater observers who have the ability to report on the quality of marine environments, (Diole 1953, Eyles 2005). In this way, any relationship between divers’ visual comfort and the quality of marine sites provides an opportunity for further research. For example, recreational divers’ observations can provide information on the marine environment in much the same way as terrestrial observations of amateur bird-watchers are integrated into scientific studies (Parker and Bucher 2000).

SCUBA divers have also reported the importance of the social context in underwater encounters, especially positive social experiences (MacCarthy, O’Neill and Williams 2006). The current research demonstrated there were two positions with regard to being comfortable socially underwater. One perspective held a need for the presence
of familiar others underwater as part of sharing the experience and providing social comfort. However, social comfort in diving does not always reflect the desire for close association with others. An alternate perspective was reported by some experienced divers who discussed their preference for diving with experienced buddies or for solitude so they could extend the opportunity to manage themselves underwater. Findings from this research reflect these alternate views and underpin different approaches individuals take towards leisure engagement. That is, some seek to share recreation while others pursue individual recreational outcomes.

Having a preference for solitude in-water brings into focus the subjective interpretation of risk in adventure experiences. Indeed perceptions varied across the group of divers. There were those who found that an absence of solitude was a constraint to their in-water comfort and experience outcomes rather than perceiving the potential for danger that might occur from being in-water. Some experienced divers indicated they were comfortable with risks associated with diving solo. Outcomes revealed comfort and constraints were defined by the conditions that were acceptable compared with those that were not acceptable, for each SCUBA diver.

This qualitative inquiry was not focussed explicitly on divers’ perceptions of risks. However, the focus on comfort, constraints and negotiation has revealed a rethinking of traditional complementary consideration of approaches to risk during adventure. Research sees adventure as largely associated with risk and challenge, with risk being cast as risky behaviour (Tulloch and Lupton 2003, Zuckerman 2007). Yet, some authors have considered that the predominance of risk in adventure research may obscure the emergence of other experiential components (Ewert 1994, Kane and Tucker 2004). Adventure literature has started albeit slowly, to reflect a positive view on engagement with risk, such as seeing adventure involvement as voluntary or positive risk taking (Cater 2007, Pereira 2005, Lupton and Tulloch 2002). This thesis supports the view of voluntary approaches towards risk, finding individual constructions of risk were informed by social and cultural frames of reference in SCUBA diving. Risk was acceptable during comfortable aspects of diving. It was the onset of constraints that directly exposed divers to unacceptable levels of risk and uncertainty. This research also shows detail on the range of experiences with risk, as part of divers’ in-water accounts of comfort and constraints. Through their personal
interpretations divers identified conditions and contexts of comfort and constraints which reflected individual perceptions of challenge and attitudes towards risk.

Leisure researchers have commented that change in social and cultural trends can influence the focus taken in the design and method of conducting research inquiries (Samdahl 1999, Stewart, Parry and Glover 2008). Following from this, adventure studies in contemporary literature have realigned the focus. Research trends have moved from clarifying adventure components and measurement, towards multifaceted and dynamic examinations of adventure and risk. In doing so, this body of leisure literature has matured to a stage where contributions are advanced by examining individual experiences (Beedie 2003b, Green and Singleton 2006, Samdahl 1999).

The current study contributes to the experiential focus being given to adventure and leisure research. This examination of participant experiences has adopted a methodological position which supports the existence of multiple perspectives and incorporates a subjective ontology (Jennings 2001) to inform the range of SCUBA diving experiences with comfort. Such a position aligns with the view held in the literature that adventure experiences are a personal and subjective interpretation of experiences (Green and Singleton 2006, Miles and Priest 1999, Ryan 2003). As such, a study of comfort in adventure, takes a complementary position from which to study adventure in seeking to expand understanding and knowledge of participant experiences.

A Model of In-Water Comfort, Constraint and Negotiation (Figure 7.1) was introduced in Chapter 7. Key features of this model include the contexts of comfort and of constraint, as well as three negotiation strategies used to deal with constraints. The model clarifies relations among contexts of comfort and constraint as closely linked elements of an adventure experience, which explains the occurrence of simultaneous and often conflicting contexts of comfort and constraints. Additionally, the study contributes the term in-water comfort to knowledge of experiences in recreational SCUBA diving. Previous use of the term is not evident, yet through this research divers defined their comfort was part of being in-water.
Providers of marine-based adventure leisure can benefit from knowledge of comfort and constraints as they seek to learn more about participant experiences. In these instances, physical and psychological comfort and constraints can build on requests for knowledge of social and visual aspects of engagement (Rodger, Moore and Newsome 2007). Knowledge of physical and psychological comfort extends awareness of individuals’ contact with natural sites, and gathers detail on psychological experiences from involvement. Outcomes will reveal conditions which provide and limit individuals’ comfort.

Knowledge of comfortable experiences extends the scope for participant involvement beyond that which appeals to adventure seekers. Contemporary discussions of ‘soft’ adventure experiences reveal it to be a managed approach to delivering adventure (Buckley 2004, Lipscombe 2007). In such a way, managed approaches to adventure broaden the appeal of many activities to a participation base that includes people who are risk-averse, yet curious about aspects of adventure involvement. For managers of leisure and adventure operations there is value in participants being comfortable during an encounter because of the potential which exists for ongoing involvement. Continued engagement with an activity may not be a desire for exposure to risk and challenge but rather a preference for accommodating and becoming proficient with the unpredictability of a natural environment.

A broad range of literature in leisure and adventure has been used to inform ideas which underpin this thesis and the model of Model of Comfort, Constraints and Negotiation. Its development as the result of research into SCUBA diving should not limit its application to only SCUBA diving or, in fact, marine based experiences.

Understanding the experiences of comfort, constraints and negotiation during land-based adventure leisure experiences would recognise acceptance of the Model of Comfort, Constraints and Negotiation in activities including sky diving, mountain climbing, abseiling and skiing and their association within the model. Contexts and conditions which emerged from the recreational SCUBA diving experiences are relevant here as these themes might vary and their contextual interplay would inform the Model of Comfort, Constraints and Negotiation.
Negotiation processes which are pursued within other adventure leisure activities are important to reveal how individuals perceive the process, to identify hindrances to their comfort and to reveal the way they choose to respond. This will be interesting in activities which take participants into a location which is difficult to be removed from, such as a mountain environment. The contribution to information on negotiation strategies will be valuable. The marine environment is seen as one of the last frontiers, or inner space (Orams, 1999). Yet, the choice to cancel a dive because of extreme constraint to comfort conceptually only requires a recreational diver to swim to the surface. However, the opportunity for the CCN model to be considered within the broader experiences of leisure and recreation activities will strengthen the work.

This thesis has validated the exploration of comfort during adventure experiences. An interpretive, qualitative approach to examine the divers’ explanations and statements demonstrated that comfortable in-water states exist during SCUBA diving. Taking a context-specific position defined a notion of in-water comfort. This study generates potential for subsequent research to expand understanding of comfort to other adventure leisure activities, and indeed other marine-based activities to reveal what conditions define comfort in those activities. Extending further, there is scope to use quantitative measures which build on or ‘test’ the conditions which represent contexts of comfort with specific groups of adventure participants. For example, there is opportunity to explore the role of comfort with subsets of SCUBA divers such as various levels of certification and training or tropical and temperate water divers.

This study has ultimately shown that there is merit in giving attention to aspects of engagement with an adventure leisure activity, such as recreational SCUBA diving, that complements the predominant research focus on risk and challenge. Outcomes from this study of in-water comfort, constraints and negotiation recognise that participants do become familiar with aspects of the activity that enable pleasant encounters. During such times there are feelings of certainty and assurance when negative features are absent. The opportunity to contextualise the adventure activity also reveals the importance participants give to the different contexts that form part of engagement with an adventure leisure experience. When unacceptable challenge and
uncertainty featured as part of a context the experience was diminished and constrained.

As mentioned, simultaneous experiences of comfort and constraints to comfort provide detail in the range of in-water experiences. There is little known about the experiences of comfort and constraints for recreational divers, or other adventurers for that matter. The presentation of contextual and simultaneous comfort and constraints offers detail of how divers perceived their in-water encounters. Furthermore, the approaches taken to negotiate constraints to in-water comfort offer a reflection of the positive approach taken to managing adventure experiences.

Participants were able to demonstrate their desire and preparedness to be comfortable recreating within marine environments. Divers gave detail of what brought challenge to their experiences and were motivated to overcome difficult periods.

The divers’ statements revealed they engaged with the marine environment in ways that included experiences of comfortable encounters, through to constraints which resulted in active methods of negotiation. Their experiences with adventure reflected their willingness to pursue acceptable levels of risk-taking that were personal constructions based on social and cultural frames of reference, including previous involvement with the marine environment. The focus on comfort, constraints and negotiation reflects a snapshot in time of recreational SCUBA diving experiences of twenty-seven Australian recreational SCUBA divers. Subsequently, there remain opportunities to advance research in the area of recreational SCUBA diving and in-water comfort. Future research which adopts an international component with regard to cross-cultural perspectives as part of the study’s sample would build the scope of understanding divers’ in-water comfort, constraints and negotiation.

An important feature of managing leisure in marine environments involves sustaining marine resources as well as visitor experiences (Donnelly 1998, Higham and Lück 2008). Pursuing a nature-based tourism or recreational activity, SCUBA divers occupy a dual role as visitors to marine locations, and observers of the underwater world. Contexts of comfort reveal engagement with an experience that accommodates non-consumptive use of natural sites, such as in the opportunity for marine wildlife viewing (Davis, et al 1997, Tremblay 2002). The visual context of comfort and constraints reveals the role of visual encounters in reflecting the quality of the marine
The capacity exists to recognise impacts on marine environments as a result of in-water comfort and register issues which affect sustainability. For example, crowding reflects social constraints to comfort in the number and behaviour of individuals at a site. Sustainable encounters include the capacity for social comfort when individuals experience an enriched environment (Auster 2008).

It has been said that defining comfort is a difficult and illusive task, imbued with various meanings and interpretations (Davitz 1969, Kolcaba 1991, Tutton and Seers 2003). Yet, the term comfort has been applied widely across sectors and disciplines to reflect positive experiences featuring feelings related to assurance and a sense of certainty alongside the absence of stress or adversity. What constitutes comfort within disciplines is important to know what an individual experiences at the time. Regular use of the term further reflects comfort’s role as a desirable experience state and reinforces the need for definition. Such definition will likely be specific to the detail of a situation, activity or discipline that has been the focus of engagement or to the individual using the term.

In reaching the conclusion of this thesis, the field of leisure and adventure is appropriate for exploring conditions and contexts of comfort, constraints and negotiation. The challenges of marine locations are among those which present opportunities to examine what constitutes comfort and constraints to explain the contexts of engagement with the location, as well as the way individuals achieve and define comfort in particular activities. Similarly, application of a study into constraints during marine-based leisure will reveal contexts of constraints and extend understanding of views taken towards marine leisure constraints negotiation during an activity. This research provides a positive response to Jackson’s (2000) consideration on the relevance of leisure constraints research. By extending the focus to in-situ experiences of constraints allows research avenues to reveal an unexplored domain within an experience. Examining what constitutes comfortable adventure is an opportunity to explore perceptions which incorporate aspects of risk in marine environments. In doing so, factors identified as constraints to participation, such as perceptions of difficulty, physical inconvenience or lack of knowledge (Hudson and Gilbert 1999, Kerstetter, et al 2005) may be reconsidered in light of conditions which encourage greater leisure participation and, ultimately, enable comfort.
References


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Hall, C. M. (2004). Reflexivity and tourism research: situating myself and/with others. In J. Phillimore & L. Goodson (Eds.), Qualitative Research in Tourism: Ontologies, epistemologies and methodologies. London: Routledge.


Comfort in Adventure References


Appendices
Appendix 1: Semi-structured Interview Guide

Diver Interview Guide

Introduction
- Tell me why you started SCUBA diving?
  Where was that?
- Why have you continued to SCUBA dive?
  What further training have you undertaken?

Memorability
- Can you describe a dive that stands out as above average?
- What were you most aware of during this dive?
- What were the distinguishing features of the dive?

Meaning
- What are your favourite aspects about being underwater?

Comfort
- Are you comfortable when you are in-water?
- When you dive what creates in-water comfort?
- Have you ever been uncomfortable underwater?
- What were the contributing factors?

Duration
- How much time do you like to spend underwater?
- What does being underwater offer you?
- Is this comparable to anything else?

Intensity
- How often do you dive?
- What senses does diving activate for you?

Tourism
- How far have you travelled to undertake a dive?
- Is it usual for you to use a commercial dive operator?
  - Why is that?
- What does diving in a marine park offer you?

-- ends --
Extras:

- What does SCUBA diving mean in your life? (Patton, 1990)

**Anatomy**

- Is there a ‘best’ part of diving?

- Is there a ‘least enjoyed’ aspect of a dive?

**Wind-down**

- Do you have a regular dive site?

- What about a preferred dive site?

  - Why that site?
Appendix 2: Recruitment Advertisement

Southern Cross UNIVERSITY
A new way to think

Research into Recreational Scuba Diving

I’m a recreational diver and PhD student at Southern Cross University.
I’d love to talk with other divers about underwater experiences in Australia.

Tell me what you enjoy about the underwater world, your favourite sites, diving history, what you love and don’t love about diving.

No specific experience or certification level is needed. All comments will remain anonymous.

If you’re interested in participating in this research contact me at email: kdimmock@scu.edu.au or phone 02/66203981
Appendix 3: Research Recruitment Letter

INVOICE TO PARTICIPATE IN A RESEARCH PROJECT
The experiences of recreational SCUBA divers in marine environments.

Dear:

Thank you for your interest in this project. As I mentioned in our phone conversation, I am undertaking research as part of my Ph.D which is investigating the experiences of recreational SCUBA divers. The title of my thesis is Exploring the experiences of recreational SCUBA divers in marine environments.

A significant part of my research looks at aspects of the SCUBA experience and diver perceptions of these aspects. The research hopes to reveal how divers describe exceptional dive experiences, dive sites and what contributed to those experiences.

My reason for wishing to interview you as part of this research is because of your involvement in diving. I would like to speak with you about SCUBA diving as a recreational activity in your life e.g. what diving means to you, what you enjoy about it.

The interview is anticipated to take about an hour of your time and can be held at a convenient location of your choice. Your participation in this project is voluntary and please be assured that your contribution to the project will remain anonymous. I will attach a list of topics that I hope we can discuss when we meet. If you agree to that meeting I will bring a letter of consent to that meeting which requires your signature please. The letter outlines how I will use information from the interview.

Thank you for your time in considering involvement. If you have any questions please call me on (02) 6620 3981 or email me on: kdimmock@scu.edu.au. You may also call Dr. Erica Wilson, my supervisor, regarding any aspect of this project on (02) 6620 3151.

Many thanks,

Kay Dimmock
PhD Candidate
School of Tourism and Hospitality Management
Southern Cross University
Lismore NSW 2480
Topics which may be covered in your interview:

- How you became involved in SCUBA diving
- Memories of exceptional SCUBA dives
- Where you undertake SCUBA dives
- Your level of diving experience
- Comfort while SCUBA diving
- Diving in marine parks
- Diving with commercial operators
Appendix 4: Informed Consent

Dear

My name is Kay Dimmock and I am a PhD candidate with the School of Tourism and Hospitality Management at Southern Cross University. I am inviting you to participate in a study that explores the experiences of recreational SCUBA divers in Australian waters. Your contribution to the study will assist understanding of diver experiences within the marine environment.

A period of approximately 1 hour is requested to conduct a semi-structured interview during which questions will be asked about aspects of your SCUBA diving experiences in Australia. During the interview some or all of the topics listed on the attached interview guide will be the point of focus. If more time is needed, your permission will be sought to extend the interview beyond one hour. If you agree the interview will be recorded on audio tape, however, you are free to request that interviews not be taped. In this case I will request permission to take notes during the interview. Please be assured that responses will remain entirely anonymous.

Possible Discomfort and Risks

I do not anticipate any discomforts, inconveniences or risks to you from being involved in the research. The only inconvenience might be the amount of time taken on your behalf to be part of the project.

Responsibility of the Researcher

Any information that is obtained in connection with this study, and can be identifiable will remain confidential and will be disclosed only upon their permission.

Original records of interviews, including notes, transcripts and audio-tapes (if you consent to the interview being recorded), will be kept in a locked and secure place at SCU. A copy will be kept under locked and secure conditions at the researcher’s place of residence. Should you wish to allow access to documents, you may determine the terms under which access is allowed. This access will be subject to privacy requirements regarding identification of 3rd parties. You may examine the tape recording to verify your responses to interview questions. Except at times when the tapes are being used for data analysis, they will be kept in a lockable drawer in my office at the university.
Your right to withdraw from this project without need for a reason to be given, and at any time, will be respected. On your withdrawal, all copies of notes, tapes and transcripts will be returned. Information from you which has been ‘de-identified’ (made anonymous) will not be used in the thesis if you so desire.

We recognise your right to remain anonymous when any data from the interviews is published. In any publication using interview data you will be referred to by first initial and suburb. For example, P, Annerley.

A transcribed copy of the interview will be forwarded to you for confirmation and accuracy and for your personal records. I will make contact with you seeking permission to proceed with the adjusted transcripts. You are also welcome to receive a copy of the overall project findings on completion.

Responsibilities of the Participant

Participation in the interview is entirely voluntary, and you may end the interview at any time you choose. There is no obligation to take part in the interview, but your participation would be greatly appreciated.

Inquiries

If you have any questions please do not hesitate to ask the researchers. The contact details appear below:

**Project Supervisor**

Dr Erica Wilson, Lecturer, School of tourism and Hospitality Management, Southern Cross University, PO Box 157, Lismore NSW 2480. Phone (02) 66203151. Email: ewilson@scu.edu.au

**Principal Researcher**

Ms Kay Dimmock., PhD Candidate, School of Tourism and Hospitality management, Southern Cross University, PO Box 157, Lismore, NSW 2480. Phone (02) 66203981. Email: kdimmock@scu.edu.au

Problems associated with the conduct of this project

The ethical aspects of this study have been approved by the Southern Cross University Human Research Ethics Committee. The approval number is ECN-05-58. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Ethics Complaints Officer, Mr John Russell, (telephone [02] 6620 3705, fax [02] 6626 9145, email: jrussell@scu.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

Kind regards

Kay Dimmock

PhD Candidate

School of Tourism and Hospitality Management

Southern Cross University
Consent to participate in a research project

Project: To explore the experiences of recreational SCUBA divers in Australian waters

Part A: For the participant to complete

☐ I have read and understood both pages of the introductory letter regarding research on the experiences of recreational SCUBA divers in Australian waters.

☐ I am over the age of 18 years and would be pleased to be involved in the project.

☐ I agree to my interview being recorded on audio-tape
   OR
   ☐ I do not agree to my interview being audio-taped and prefer the researcher to take handwritten notes

☐ I wish to remain anonymous in any publication arising from this research,
   OR
   ☐ I consent to being identified in any publication arising from this research, on the understanding that I approve a final version of the material containing my name

☐ I understand that all references in my interview to third parties will not be incorporated in published work unless the third party consents.

Your name: ............................................................................................................................

Your signature: .......................................................... Date: ............

Name of witness: .................................................................................
   (independent from project)

Signature of witness: ..........................................................Date: .....................

Date: ..............................................................................................................
Part B: For the researcher to complete

I certify that the terms of this research have been carefully explained to the participant by letter and follow-up discussion (if any), and that the participant appears to have understood.

The participant has indicated the following restrictions are placed on any data generated during the research **(note if none apply)**:

....................................................................................................................................................
....................................................................................................................................................

Name of researcher: ..............................................................................

Signature of researcher: ................................................................. Date: .........................
Appendix 5: N6 to First Level Coding

In-water comfort during recreational SCUBA diving

<table>
<thead>
<tr>
<th>N6 Labels</th>
<th>Collapsed Groups</th>
<th>First Level Coding</th>
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</thead>
<tbody>
<tr>
<td>1 Getting started</td>
<td>1, 3 &amp; 38</td>
<td>Getting started</td>
</tr>
<tr>
<td>2 Initial responses</td>
<td>2 &amp; 4</td>
<td>Initial responses</td>
</tr>
<tr>
<td>3 When began</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 First sensations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Ongoing sensations</td>
<td>5, 6, &amp; 11, 16</td>
<td>Ongoing experiences</td>
</tr>
<tr>
<td>6 Playfulness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Uniqueness</td>
<td>7 &amp; 8</td>
<td>Uniqueness</td>
</tr>
<tr>
<td>8 Differences Underwater</td>
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<td></td>
</tr>
<tr>
<td>9 Memorable</td>
<td>9 &amp; 35</td>
<td>Memories</td>
</tr>
<tr>
<td>10 Sharing</td>
<td>10 &amp; 26</td>
<td>Sharing</td>
</tr>
<tr>
<td>11 Stepping out of reality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Unpleasant</td>
<td>12 &amp; 32</td>
<td>Constraints</td>
</tr>
<tr>
<td>13 Decision-making</td>
<td>13 &amp; 15</td>
<td>Negotiations</td>
</tr>
<tr>
<td>14 Emotion</td>
<td>14, 24, 30</td>
<td>Emotion / Feeling</td>
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<tr>
<td>15 Negotiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 Reality</td>
<td></td>
<td></td>
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<tr>
<td>17 Evaluation</td>
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<tr>
<td>18 Comfort</td>
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<td>Comfort</td>
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<td>19 Stress</td>
<td>19 &amp; 25</td>
<td>Stress and Risk</td>
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<tr>
<td>20 Different locations</td>
<td>20</td>
<td>Different Sites</td>
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<td>21 Carrying Capacity</td>
<td>21 &amp; 22</td>
<td>Other Divers</td>
</tr>
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<td>22 Diver behaviour</td>
<td></td>
<td></td>
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<td>23 Commercial Operators</td>
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<td>Commercial Operators</td>
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<td>24 Centrality</td>
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<td></td>
</tr>
<tr>
<td>25 Risk</td>
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</tr>
<tr>
<td>26 Social</td>
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<td>27 Visual</td>
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<td>28 Mental</td>
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<td>29 Regularity</td>
<td>29</td>
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<tr>
<td>30 The wonder of it</td>
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<td></td>
</tr>
<tr>
<td>31 Photography</td>
<td>31</td>
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</tr>
<tr>
<td>32 Dislikes</td>
<td></td>
<td></td>
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<tr>
<td>33 Dive travel</td>
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<td>34 Marine parks</td>
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</tr>
<tr>
<td>35 Memories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36 Dreams and plans</td>
<td>36 &amp; 40</td>
<td>Ambition</td>
</tr>
<tr>
<td>37 Training</td>
<td>37</td>
<td>Training</td>
</tr>
<tr>
<td>38 Predisposed</td>
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<td></td>
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<tr>
<td>39 Likes and Dislikes</td>
<td>39</td>
<td>Likes and Dislikes</td>
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<td>40 Goals</td>
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## Appendix 6: Second Level Coding

### In-water comfort during recreational SCUBA diving

2nd Level Codes

<table>
<thead>
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<th>Code Number</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>motivation</td>
<td>reasons for involvement with SCUBA</td>
</tr>
<tr>
<td>2</td>
<td>appeal</td>
<td>why divers continue SCUBA diving</td>
</tr>
<tr>
<td>3</td>
<td>demographic</td>
<td>training level, number of dives, age, gender etc</td>
</tr>
<tr>
<td>4</td>
<td>comfort</td>
<td>descriptions and reference to in-water comfort</td>
</tr>
<tr>
<td>5</td>
<td>constraints</td>
<td>factors and descriptions which prevented comfort</td>
</tr>
<tr>
<td>6</td>
<td>strategies</td>
<td>actions taken towards negative features</td>
</tr>
<tr>
<td>7</td>
<td>marine setting</td>
<td>preferred sites, marine parks</td>
</tr>
<tr>
<td>8</td>
<td>dive tourism</td>
<td>dive travel, industry and management</td>
</tr>
<tr>
<td>9</td>
<td>likes</td>
<td>features of SCUBA divers liked</td>
</tr>
<tr>
<td>10</td>
<td>dislikes</td>
<td>features of SCUBA divers did not like</td>
</tr>
</tbody>
</table>
Appendix 7: SCU Confirmation of Ethics Approval

SOUTHERN CROSS UNIVERSITY  
~ MEMORANDUM ~

To: E. Wilson/K. Dimmock  
School of Tourism and Hospitality Management  
ewilson@scu.edu.au,kdimmock@scu.edu.au

From: Secretary, Human Research Ethics Committee

Date: 23.5.05

Project: To investigate the scuba diving experience of recreational scuba divers in Australia.

Status: Approved subject to the usual standard conditions and special conditions.

Approval Number ECN-05-58

HUMAN RESEARCH ETHICS COMMITTEE (HREC)

At the HREC meeting held on the 16 May, 2005, this application was considered. It has been approved subject to the usual standard conditions and the following special conditions.

Please note that you must comply to these special conditions within one month of this approval, otherwise the approval will be revoked. Please send your responses and the signed certification to the Secretary by the 20th June 2005.

Special Conditions

(a) In the Invitation to Participate, it should be explicit that participation is voluntary.

(b) At Question 26c, anonymity of divers is not possible because interviews are being used.

(c) The Committee thought that more extensive de-identification of divers’ identity (as mentioned in the information material) would be appropriate. Would the researchers please consider this and inform the Committee.

Please return the attached signed certification with any specific documentation to the Secretary when you have complied. This will be included in the next appropriate HREC Agenda for noting by the Committee.
Standard Conditions (in accordance with National Health and Medical Research Council Act 1992 and the National Statement on Ethical Conduct in Research Involving Humans):

1. That the person responsible (usually the Supervisor) **provide a report every 12 months** during the conduct of the research project specifically including:
   
   (a) The security of the records
   
   (b) Compliance with the approved consents procedures and documentation
   
   (c) Compliance with other special conditions.
   
   (d) Any changes of protocol to the research.
   
   Please note that compliance to the reporting is mandatory to the approval of this research.

2. That the person responsible and/or associates report and present to the Committee for approval any **change in protocol** or when the **project has been completed**.

3. That the person responsible and/or associates report immediately anything that might affect ethical acceptance of the research protocol.

4. That the person responsible and/or associates report immediately any adverse effects on participants.

5. That the person responsible and/or associates report immediately any unforeseen events that might affect continued ethical acceptability of the project.

6. That subjects be advised in writing that:

   *The ethical aspects of this study have been approved by the Southern Cross University Human Research Ethics Committee. The approval number is ECN-05-58. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Ethics Complaints Officer, Mr John Russell, (telephone (02) 6620 3705, fax (02) 6626 9145, email: jrussell@scu.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.*

   Suzanne Kelly
   Secretary, HREC
   Ph: (02) 6626 9139
   skelly1@scu.edu.au

   Dr Baden Offord
   Chair, HREC
   Ph: (02) 6620 3162
   rofford@scu.edu.au
CERTIFICATION

Approval Number ECN-05-58 – E. Wilson/K. Dimmock – May HREC

To investigate the scuba diving experience of recreational scuba divers in Australia.

Please return the following certification when the special conditions have been addressed. Include a copy of your changes so that the Committee can note the changes at the next HREC meeting.

Certification

Conditional approval will lapse one calendar month from the date of this memorandum if the special conditions have not been fulfilled, and thereafter the University will not accept any further responsibility in regard to the research.

If special conditions have been imposed, you must complete this and return it to the Graduate Research College by the lapse date. Please notify the Secretary if timing is a problem.

I certify that the special conditions outlined above have been fully met, a copy is attached, and that the standard conditions will be met.

Signature of Researcher: ___________________________ Date: ________________