Palliative People's Dreams and Dream-Related Perceptions and Interpretations

A Mixed-Method Investigation

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ABSTRACT

Dreams at end of life have always fascinated philosophical minds. Drawing on clinical anecdotes, a number of authors in the palliative field have argued that dreams of palliative care patients may contain common themes and personal meanings. Yet, despite major advances in general dream psychology, very little theoretical and empirical work has been done on end-of-life dreams or their subjective meanings. The main exception is represented by Jung and his followers who argued that dream content is essentially opposite to waking thought, compensating for maladaptive lapses of consciousness such as death denial. On the other hand, empirical investigations of dream content and its relationship with relaxed waking thought by cognitive and neurocognitive researchers do not support Jung's theory. On the contrary, studies with individuals and groups (e.g. blind, divorced, bereaved or elderly people) have consistently found that dream content is predominantly continuous, whether literally or metaphorically, with the dreamers' emotionally-salient waking concerns. The few existing dream studies on terminally-ill people were conducted mostly by psychodynamic therapists with single subjects or small groups. Although the results of these studies were interpreted by the authors in support of Jung's ideas, their small samples, clinical focus and other methodological shortcomings raise concerns about their reliability.

The main aim of this research was to systematically investigate prominent themes or patterns in the dreams of palliative people by combining qualitative and quantitative methods. The project comprised two successive studies where data was collected from palliative out-patients registered with six hospices in Auckland, New Zealand. The first study involved the thematic analysis of 90 post-illness and 16 pre-illness dreams collected from 13 participants through interviews and dream diaries. Themes across participants and recurring motifs in individual series were analysed. Data on the participants' dream-related perceptions and interpretations were also collected and classified thematically. The second study involved the use of a well-validated coding system (Hall & Van de Castle, 1966) to content analyse 100 recent dreams from 100 participants. To investigate distinctive trends in the dreams of the participants, the gender norms derived from healthy adults (Hall & Van de Castle, 1966; Schneider & Domhoff, 1995) were used as a control group. In order to investigate the influence of gender, ethnicity (Māori and Pacific Island versus European and New Zealand European), and dream type (recurrent versus one-off) on dream content, comparisons between appropriately grouped participants were conducted. Data on participants' dream-

related perceptions and interpretations were also analysed, using the thematic categories established in the first study to examine their prevalence in a large sample.

The two sets of results converged to a large extent. The most prominent themes in the participants' dreams were greater appearances of family members, including deceased loved ones, and journey references. There was little overall aggression, but aggression and victimisation appeared to be overrepresented in recurrent dreams. The dreams of male participants contained more attempts to control the circumstances than the dreams of female participants. The dreams of Māori and Pacific Island participants featured more 'positive' (friendliness, good fortune, success) and 'familiar' (e.g. people, locations) elements compared to dreams of European participants. With regard to participants' perceptions, most participants considered their post-illness dreams had changed in some way (i.e. more 'vivid', 'bizarre', or 'negative'). With regard to interpretations, literal interpretations of dreams as transparent reflections of memories, current problems and worries or wishes for the future were the most common. Other categories included metaphoric, spiritual, and medical interpretations. There was a trend for female participants to interpret their dreams more often than male participants. Compared to European participants, Māori and Pacific Island participants gave more spiritual interpretations to their dreams, including those portraying deceased loved ones. There were also participants who did not attach any meaning to their dreams. The theoretical and clinical implications of the findings are discussed. The limitations of this research are considered, directions for future research being suggested.

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THESIS OVERVIEW

The present thesis is organized as follows. Chapter 1 comprises a review of the relevant literature presenting the philosophical, clinical, and empirical backgrounds and the corresponding rationales for this investigation. Dreams at end of life have fascinated philosophical minds since ancient times (K. P. Kramer, 1993). While mainstream healthcare professionals tend to disregard dreams of palliative patients, a number of authors in the field (e.g. Betty, 2006; Bulkeley & Bulkley, 2005; Callanan & Kelley, 1993; Goelitz, 2007; Gratton & Seguin, 2010; Kearney, 2000) have argued that these may be meaningful, if only at a subjective level. On the other hand, despite major advances in general dream psychology over the last century, there has been little theoretical and empirical work on dreams of seriously-ill people. The only exception is represented by Jung (1963, 1974b) who thought that dream content, in general as at end of life, is essentially opposite to waking thought compensating for lapses of consciousness such as death denial. However, empirical investigations of dream content and its relationship with waking thought by cognitive and neuro-cognitive researchers (e.g. Cartwright, Agargun, Kirkby, & Friedman, 2006; Domhoff, 1996, 2003; Foulkes, 1985; Hall & Nordby, 1972; Nir & Tononi, 2009; Pace-Schott, 2007) do not support Jung's views. On the contrary, these investigations have consistently supported the 'continuity hypothesis' (Domhoff, 1996, 2011; Hall & Van de Castle, 1966) which posits that dream content is predominantly continuous, whether literally or metaphorically, with the dreamers' waking concerns. The few studies of dreams with terminally-ill people were conducted mostly by psychodynamic therapists (e.g. Groth-Marnat, 1977, 1988; Hone, 1983; Welman & Faber, 1992; Wheelwright, 1981) with single subjects or small groups. Although these studies claimed to support the Jungian model, their small samples, clinical focus and other methodological problems raise concerns around their reliability. Chapter 1 concludes by stating the aims of the project.

Chapter 2 describes the ethical and methodological considerations when conducting research on palliative people, on the one hand, and on dreams, on the other hand. Epistemological options and dilemmas are also considered and the case for the paradigm of 'Pragmatism' as being best suited to addressing the anticipated challenges is put forth. Chapter 2 also includes an overview of the mixed-method design and concludes with a reflexive account of the doctoral student's background, assumptions and pre-research preparation.

Chapter 3 presents the first study in its entirety, comprising methods (recruitment, participants, data collection and data analysis) and results. The findings in relation to dream content include themes spread across multiple participants and individual dream recurrences. Another set of qualitative results refers to the participants' perceptions around changes in post-illness dreams and to their own interpretations of their dreams.

Chapters 4 to 7 refer to Study Two. Chapter 4 details the methodology of the second study, outlining the Hall and van de Castle (1966) coding system used for the quantitative analysis of 100 dreams. The creation and development of the system are presented and the eight categories utilised for coding the dreams are briefly described. Next, the findings of the original study are reported, along with findings of a series of replications which suggest that the original findings may be useful as a normative basis for new cross-cultural investigations of dreams, including one concerned with elderly individuals in New Zealand.

Chapter 5 presents the Study Two methods (recruitment, participants, data collection and data analysis) for the investigation of dream content. Chapter 6 reports the findings of Study Two with regard to patterns of dream content. In the first part, the overall quantitative results of the statistical analyses across general, gender, and cultural/ethnicity levels are presented. The second part reviews the quantitative trends relevant to each content category being analysed and also reports a series of qualitative trends and individual examples. Chapter 6 concludes with a comparison with the relevant themes established in Study One, examining converging trends and apparent discrepancies between the two. Chapter 7 reports the methods and results on the participants' dream-related perceptions and interpretations. A comparison with the relevant findings from Study One is also included.

Chapter 8 discusses the results of the two studies in light of previous clinical and empirical findings and of the relevant theories introduced in Chapter 1. Due attention is also paid to the clinical implications of the findings in terms of their potential to inform dream-based needs assessments and/or interventions by health professionals who work with palliative patients. The limitations of the present research are discussed and suggestions for future research are put forward in the last part of the thesis.

CHAPTER 1: Literature Review

Overview

This chapter reviews the clinical, theoretical, and empirical literature considered relevant to the present project. It comprises four sections. The first section briefly examines the philosophical connections between dying and dreaming established from ancient times in various cultures. The second section presents clinical anecdotes and views regarding the dreams of palliative care patients. The third section reports on psychological theories and empirical findings about dream content, both generally and at end of life. The final section presents the aims of this research.

Philosophical associations between dreaming and dying

Philosophical associations between dreams and death have been documented since ancient times (Bulkeley & Bulkley, 2005; Halifax et al., 1997; Kearney, 2000). For instance, the Tibetan Book of the Dead suggests that dreams may offer a preview of the dying experience, calling them 'little deaths' (Shambhava, 1993). In the Sumerian Epic of Gilgamesh, Enkidu, Gilgamesh's companion, had a frightening dream where he was taken to a dark house from which there was no escape (*The Epic of Gilgamesh*, 1960). Gilgamesh was deeply upset by this dream which he interpreted as an omen of death: "the dream was marvellous but the terror was great; we must treasure the dream whatever the terror; for the dream has shown that misery comes at last to the healthy man, the end of life is sorrow" . According to the book, Enkidu fell sick and, 12 days later, he died.

Connections between dreams and death were also noted in Greek mythology where Hermes was portrayed as guiding the souls of the dead to the underworld through the 'demios oneiron' ('the village of dreams') (K. P. Kramer, 1993). There was also a genealogical link in Greek mythology. Specifically, Night (Nyx) was the mother of two twin sons, Sleep (Hypnos) and Death (Thanatos). Morpheus (Dreaming) was the son of Hypnos, thus grandson to Nyx. Furthermore, some Greek philosophers believed in premonitory or 'prodromal' dreams, Socrates himself reportedly learning the exact day of his death in a dream (Plato, 1954).

Similarly, the various tribes of Australian aboriginals who have developed over a 50000 years span shared a common myth about 'Dreamtime', a sacred space where the clan's totem was located (Chidester, 1990; K. P. Kramer, 1993; Maddock, 1972). People were though to leave

this place at birth and to return to it at death. While the idea that death originated in Dreamtime was common across most tribes, there were different variants about how death came into the world. In one of these, the Moon had asked the humans to drink her urine so that when they died they could come back to life just as the moon always did but they drank the urine of a Wallaby instead, thus becoming mortal (Chidester, 1990). In Dreamtime, deceased ancestors were thought to share mystical and practical information with the living, in line with a cyclical view of time, life and death: "Death was an integral part of the life cycle, not a final end, but part of the nomadic lifestyle animated by the Dreamtime" (K. P. Kramer, 1993, p. 71).

Like other Polynesian cultures, the Māori people of New Zealand have held the belief that at death the *wairua* (spirit) returns to a sacred place called *Reinga* from which humans have come into the world at birth. References to *Reinga* or the 'leaping-off' place from where the spirits of the dead are thought to depart are mentioned in almost all the laments for the dead (Pomare & Cowan, 1930/2012). Apart from death, *Reinga* is able to be visited by the living in their dreams, whose content offers a record of *wairua*'s temporary wanderings and communications with the ancestors (Cram, Smith, & Johnstone, 2003; Medical Council of New Zealand, 2006). Consequently, the Māori have traditionally paid close attention to the contents of their dreams and have avoided disruptions of wairua's peregrinations by waking sleeping people too suddenly (Hanson & Hanson, 1983). Like the Australian tribes and other Polynesian cultures, the Māori have held a cyclical view of time. In this culture, the past has been considered as equally important if not more than the future and death has been represented as a territory populated by ancestors, commonly visited by the living in their dreams (Durie & Hermanson, 1990; Tipene-Leach, 1981).

Given that strong connections between dreams and death were established in various cultures even before religions were born, anthropologists have argued that dreaming may have provided early humans with the experiential basis for conceiving the possibility of an afterlife (Foucault, 1984-1985; J. Lincoln, 1935). More specifically, the basic observation that sleeping people are physically inert yet have vivid experiences of travelling and interacting with others, including the dead, may have led to the idea of a non-physical soul wandering away in dreams (K. P. Kramer, 1993). Along the same lines of thought, cognitive psychologists have argued that most cultures throughout history have entertained the basic conceptual metaphor 'death is sleep' which often incorporates references to dreaming (Lakoff & Turner, 1989). These authors have proposed that the universality of this metaphor was

facilitated by the obvious physical analogies between 'death', the 'target' domain being explained, and 'sleep', the 'source' domain easily understood by lay people across time and cultures:

> The corpse corresponds to the body of a sleeper, and the appearance of the corpse - inactive and inattentive - to the appearance of the sleeper. Optionally, the experiences of the soul after death correspond to our mental experiences during sleep, namely dreaming. And just as death is a particular sort of departure, a one way departure with no return, so death is a particular sort of sleep, an eternal sleep from which we never awaken. (Lakoff & Turner, 1989, pp. 18-19)

Metaphoric representations of death in terms of sleep and dreams can be found in many phrases used in everyday life by lay people when referring to someone who has died in terms of 'resting', going to a 'place of final rest', to burying someone as 'being laid to rest', or to pets being euthanatized as 'being put to sleep'. This pervasive metaphor has also been used in many poetic works, including in Hamlet's famous monologue:

"To die; to sleep; -

To sleep? Perchance to dream! Ay, there's the rub;

For in that sleep of death what dreams may come..."

(Shakespeare, *Hamlet*, Act 3, Scene 1, p.3)

Besides the evident correspondences between death and sleep/dreams with regard to people's physical appearance, a more subtle analogy has also been noted. Specifically, these ever mysterious phenomena occurring outside everyday consciousness pose the same ontological question of what is real or exists. The puzzling 'reality' of dreaming was remarked over 2500 years ago by a Chinese disciple of the legendary Lao Tzu:

> Once upon a time, I, Chuang Chou, dreamt I was a butterfly, fluttering hither and thither, to all intents and purposes a butterfly. I was conscious only of my happiness as a butterfly, unaware that I was Chou. Soon I awaked, and there I was, veritably myself again. Now I do not know whether I was then a man dreaming I was a butterfly, or whether I am now a butterfly, dreaming I am a man. (Soothill, 1913, p. 75)

Similarly, French philosopher Blaise Pascal was intrigued by the ontological dilemma posed by dreaming, noting that the only essential difference from real life is a lack of continuity. This, however, is not to be overrated for real life has its own disruptions:

If an artisan were sure to dream every night for twelve hours' duration that he was a king, I believe he would be almost as happy as a king, who should dream every night for twelve hours on end that he was an artisan [...] But since dreams are all different, and each single one is diversified, what is seen in them affects us much less than what we see when awake, because of its continuity, which is not, however, so continuous and level as not to change too; but it changes less abruptly, except rarely, as when we travel, and then we say 'It seems to me I am dreaming'. For life is a dream a little less inconstant. (Pascal, 1958, pp. 104-105).

Finally, psychologist Havelock Ellis (1923) took the parallel between dreams and human life a step further, adding the ultimate discontinuation brought into the equation by the inevitability of death: "Dreams are real while they last. Can we say more of life?"

In conclusion, connections between sleep, dreams and death have been present in most cultures since the dawn of history. The dreams of people approaching death bring these perpetually mysterious phenomena ever closer, further accentuating their physical and ontological analogies. Specifically, as dying people tend to sleep longer and longer becoming gradually withdrawn (Karnes, 2008; Kübler-Ross, 1969), the very concept of 'reality' may lose its phenomenological substance. At the end of the day, some palliative people may come to realize that they may never wake up to this reality for they may die in their sleep, possibly dreaming.

Clinical views and anecdotes about dreams in times of serious illness

Similar to the philosophical correspondences between dreams and death, the idea that dreams may have clinical uses in times of serious illness has very old roots. In ancient Greece, when ailing people lost all hope that a cure was possible by usual means, they would travel to the temples of the god Asclepius, son of Apollo (Kearney, 2000). Sleeping amongst serpents, who were believed to be Asclepius's sacred assistants, the sick entered a dream incubation process. This was aimed at connecting them with Asclepius who would 'appear' to the worthy and give them advice on the nature of their illness and/or any available cures. Such beliefs in the power of dreams were held not only by lay people but also by medically-educated Greeks, including Hippocrates and Galen (K. P. Kramer, 1993). In ancient China, dreams were considered symptomatic of physical health problems and discussed by physicians with patients as part of routine examinations (Barrett, 2001). Elsewhere, Shamans, spiritual healers present in many tribal cultures, reportedly had 'true' dreams in which they were able to connect with the spirits about the problem solving needs of lay tribe members (generally considered opaque to the meaning of their own dreams), including healing techniques for the gravely-ill (Garfield, 1991).

On the other hand, in modern mainstream palliative care dreams do not tend to be discussed much, except perhaps for recurrent nightmares which patients may bring to the attention of healthcare professionals (Kearney, 2000; Kvale & Shuster, 2006). Such anxiety-filled dreams may be particularly vivid, to the extent that patients are sometimes unsure whether it was a dream or not, which may lead carers and family members to conclude that they must be delirious or hallucinating (Bulkeley & Bulkley, 2005; Callanan & Kelley, 1993). Indeed, troubling or unusually vivid dreams are often perceived in palliative care as symptomatic of neurological deteriorations and dealt with briefly by changing medication regimens (Fountain, 2002). While this biological approach tends to prevail in the Western world, a slow but undeniable shift towards a holistic model has been noted, that gives more credit to end-of-life dreams and even nightmares. A growing number of authors in the palliative field (e.g. Betty, 2006; Bulkeley & Bulkley, 2005; Callanan & Kelley, 1993; Goelitz, 2007; Gratton & Seguin, 2010; Kearney, 2000) have argued that such intense dreaming experiences may be highly meaningful, if only at a subjective level, as they appear to express dying people's intimate aspirations and existential worries. Drawing on clinical experience, some of these authors (e.g. Bowater, 1997; Bulkeley & Bulkley, 2005; Callanan & Kelley, 1993) have

also written about 'visions' of unearthly beautiful places accessible only in dreams or dreamlike states. Instances of 'visitations' from deceased relatives and friends or from religious figures believed to be there to help the dying to 'get across' have also been mentioned (e.g. Callanan & Kelley, 1993; Fenwick & Fenwick, 2008).

It has even been proposed that end-of-life dreams may mirror to some extent the 'near death experiences' (NDEs) in which people report having left their body to find themselves in light-filled locations, where they may be met by their deceased loved ones (Alexander, 2012; Betty, 2006; Bowater, 1997; Moody, 1975). Indeed, some clinical authors have noted that pre-death dreams often contain themes of travel, such as driving a vehicle, flying on a plane or being at a cross-road (e.g. Bulkeley & Bulkley, 2005; Gratton & Seguin, 2010) and interpreted these as symbolic of a new journey about to begin. Instances of certain dreams being associated with the time of approaching death have been documented. Gratton and Seguin (2010) reported the case of a palliative patient who shared a journey-themed dream in which he was "packing my coat into a suitcase" (p. 3). Two days later, he peacefully passed away. Similar circumstances where dying patients disclosed dreams containing elements of travel shortly before their death were reported in Bulkeley and Bulkley (2005). "I am not afraid to die anymore. In fact, I feel more ready to go, more so every day", were the words that a hospice patient, formerly a merchant marine ship's captain, shared with his spiritual advisor one week after he had the following dream:

> I am sailing again at night in uncharted waters and the old sense of adventure comes back. I feel the tingle of excitement again, of pushing through the waves in the vast, dark, empty sea but knowing somehow I am right on course. (Bulkeley & Bulkley, 2005, p. 3)

Having previously suffered from profound depression, the patient died peacefully the following week, which the authors have considered to suggest that dreams may assist the dying to attain a much needed sense of emotional closure. Similarly, Byock (1997), a physician who championed the use of psychosocial and spiritual assessments in palliative care, wondered about the healing effects of dreams towards end of life. Specifically, he mentioned the case of one of his patients who had been expressing his anger at the world, including his wife and children, constantly adding to their sadness and to his own feelings of isolation. Yet, one day the patient's outlook appeared to change dramatically, according to Byock:

> I noticed a change as soon as I saw him. There was no anger in his greeting or posture. His calm was almost unnerving. I didn't know what to think. He spoke softly but was eager to see me. 'I'm glad you're here. I had a nightmare last night'. In his dream, he told me, he had visited his mother's grave and unearthed her body. He could not recall many details, but the dream was clearly an emotional watershed. Somehow in the dream, in the shadow of mortality, he had confronted his identity as a son – and, perhaps, as a father – more deeply than ever before. (Byock, 1997, p. 78)

Admittedly, these occurrences may be purely coincidental. Furthermore, such views that dreams reflect or even regulate emotional concerns at end of life could be justifiably criticised for being based on clinical experience or opinions rather than on research (Klass, 2006). On the other hand, it is clear from these accounts that dreams are sometimes meaningful and connected to approaching death in the eyes of palliative patients and are therefore arguably worth of theoretical and empirical interest.

Psychological theories and empirical findings

Section outline

This section will present theoretical concepts and empirical findings from the field of dream psychology considered relevant to this thesis. The dream theories that will be examined include Jung's model of dreaming, in general as well as at end-of-life. On the other hand, empirical findings about dream content and its relationships with relaxed waking thought by cognitive and neurocognitive researchers do not support Jung's views. The two main ideas supported by the findings of empirical studies are: 1). the continuity of dreams with the dreamers' emotionally-salient waking concerns, particularly during difficult life periods; and 2). the consistency of dream content over time, including into old age. Although the findings of the few existing investigations of dreams with terminally-ill individuals and groups generally supported Jung's views, there are serious methodological concerns around the reliability of these studies.

Introduction

Despite major advances in general dream psychology over the last century, very little work has been done on the dreams of the terminally-ill. The lack of theoretical coverage started with Freud, whose popular wish-fulfilment theory (Freud, 1900/1953) failed to account for dreams during difficult life periods including trauma (e.g. Hartmann, 1998b, 2002; M. Kramer, Schoen, & Kinney, 1987), divorce (e.g. Cartwright et al., 2006; Cartwright, Newell, & Mercer, 2001), bereavement (e.g. Barrett, 1992; Domhoff, 2008b), and, indeed, serious illness (Cookson, 1990; Funkhouser, Hirsbrunner, Cornu, & Bahro, 1999). Furthermore, Freud appears to have had little interest in the dreams of elderly people whom he considered to be marked by an unavoidable psychological rigidity: "near or above fifties the elasticity of the mental processes, on which treatment depends, is a rule lacking – old people are no longer educable" (Freud, 1905/1957, p. 264).

The failure by dream theorists to account for end-of-life dreams has continued following the revolutionary discovery of the inextricable link between dreaming and the Rapid Eye Movement sleep (Aserinsky & Kleitman, 1953; Dement & Kleitman, 1957b). This is not surprising given that most neuro-scientific theorists considered dreaming as an

epiphenomenon determined exclusively by bio-physiological factors. For instance, the main classic model, Activation Synthesis Theory (Hobson, 1988; Hobson & McCarley, 1977) proposes that dreams are the result of the forebrain "making the best of a bad job in producing even partially coherent dream imagery from the relatively noisy signals sent up to it from the brainstem" (Hobson & McCarley, 1977, p. 1347). In effect, neuro-scientists have often emphasized the bizarre nature of dream content (i.e. sudden scene changes, metamorphoses) which they compared to the disjointed hallucinations reported by psychiatric patients suffering from psychosis, delirium, or drug-induced states (Hobson, 1988; Hobson, Pace-Schott, & Stickgold, 2000; Pagel, 2008). As has been mentioned, this type of biological perspective is still dominant in mainstream palliative care, where dreams are given little attention by healthcare professionals, except perhaps when recurring nightmares are reported by patients.

Jung's model of dreaming

Jung stands out among dream theorists for acknowledging the importance of dreaming at end of life, which he integrated into his general view about life and death, the unconscious, archetypes and dreams. Like Freud, Jung (1963, 1974a) derived his ideas from his extensive practice as a psychotherapist. However, unlike Freud, Jung regarded old age as an opportunity for individuation, a process of personality growth starting during midlife years and culminating in death, being expressed and facilitated by the unconscious through dreams (Jung, 1954/1985).

Jung viewed the structure of the human psyche as being divided into the conscious, centred around the individual 'ego', and the unconscious, governed by the transpersonal 'self' (Jung, 1974a). He posited that the unconscious has two layers: 1) the personal unconscious, responsible for 'little' dreams, defined as "the nightly fragments of fantasy coming from the subjective and personal sphere" (p. 76); and 2) the collective unconscious, consisting of an immense reservoir of archetypes. Jung defined the archetypes as inherited universal concepts historically accumulated by the human species and manifesting in 'big' or 'symbolic' dreams as well as in myths and religious rituals across cultures (Jung, 1974a). Contrary to 'little' dreams, 'big' or symbolic dreams were said by Jung to "employ numerous mythological motifs that characterize the life of the hero, of that greater man who is semi-divine by nature" (p.79). Such highly meaningful dreams may manifest recurrently or progressively over time (1963, 1974a).

Jung considered that dreams are closely interconnected with one's life trajectory, which he viewed in terms of two essentially different halves. The first half of life was believed by him to be concerned with egotistic achievements and materialistic values. In contrast, the second half was thought to be characterised by a gradual disengagement from the external world and by a search for metaphysical, permanent meanings within (Jung, 1934/1969). The shift from the first to the second half of life was said by Jung to occur naturally at the unconscious level, under the government of the 'self' archetype. In line with this idea, Jung claimed that people's dreams change notably during midlife years. On the other hand, he argued that many people in modern Western society struggle in the second half of life with the idea that death ought to be a goal in its own right and tend to deny it instead: "We are so convinced that death is simply the end of a process that it does not ordinarily occur to us to conceive death as a goal and a fulfilment, as we do without hesitation the aims and purposes of youthful life in its ascendance" (Jung, 1954, p. 4).

Jung considered that the unconscious is reactive to the maladjustments in modern people's conscious attitudes and that in effect it compensates through dreams, in order to rebalance the psyche: "What we consciously fail to see is frequently perceived by our unconscious, which can pass the information on through dreams" (Jung, 1964, p. 51). Thus, for Jung, the content of symbolic dreams features the exact opposite of conscious thought. With particular regard to pre-death dreams, he believed that these contain certain themes signalling approaching death although people may not be aware or accepting that this is the case:

> In my rather long psychological experience I have observed a great many people whose unconscious psychic activity I was able to follow into the immediate presence of death. As a rule the approaching end was indicated by those symbols which, in normal life also, proclaim changes of psychological condition – rebirth symbols such as changes of locality, journeys, and the like. I have frequently been able to trace back for over a year, in a dream series, the indications of approaching death, even in cases where such thoughts were not prompted by the outward situation. (Jung, 1934/1969, pp. 410-411)

An example of such a journey-themed dream was recounted by Wheelwright (1981), a Jungian therapist, as being contributed by a woman suffering from cancer. In the dream, the patient was preparing "to move into a new house" (1981, p. 87), which the author interpreted as a symbolic indication of her approaching death. Coincidentally, the patient was said to have died later that year, around Christmas time. Such examples are similar to what was reported earlier in relation to clinical anecdotes and derived views.

On the other hand, Jung interpreted dreams of many of his elderly patients that lacked any death-related motifs or symbols as a confirmation that conscious acceptance of death had been attained, thus making compensation through dreams unnecessary (Jung, 1934/1969). Jung reiterated this idea in his last BBC interview shortly before his own death. Specifically, when asked whether he believed in an afterlife, he bypassed a direct answer responding instead that "dreams of people on the verge of death seem to ignore death as if it were a relatively unimportant event" (Freeman, 1959). Views with such a strong metaphysical flavour were echoed by Jung's many followers, including his close collaborator, von Franz:

> All the dreams of people who are facing death indicate that the unconscious, that is, our instinct world, prepares consciousness not for a definite end but for a profound transformation and for a kind of continuation of the life process which, however, is unimaginable to everyday consciousness. (von Franz, 1987, p. 156)

Apart from journeys, von Franz mentioned that archetypal symbols frequently occurring in dreams of dying people included images of vegetation symbolising a regeneration of life. Along the same lines, others have argued that child characters are common in pre-death dreams for they represent the 'self' archetype which guides people towards inner growth and individuation (Wharton, 1996). The Jungian ideas about dreams at end-of-life have appealed to many clinically-oriented psychologists and authors in the palliative field (e.g., Bowater, 1997; Bulkeley & Bulkley, 2005; Goelitz, 2007; Gratton & Seguin, 2010; Kearney, 2000). Furthermore, most investigations of dream content conducted by Jungian therapists with terminally-ill patients supported his theoretical model of dreams, by claiming that in such instances symbolic elements are common occurrences. These findings will be presented later in this chapter, in the section reporting the findings of studies on terminally-ill people.

On the other hand, the same section will report a series of empirical findings, some of them by authors by authors who sympathise with Jung but which contradict his model. Furthermore, Jung's main ideas about dreaming in general, including the changes said by him to automatically occur in dreams during mid-life years, are not supported by empirical studies of dream content. Systematic investigations based on the content analysis of long dream series have revealed little change and substantial thematic consistency in dreams of adults over years and even decades (Domhoff, 1996, 2003; Hall & Nordby, 1972). Furthermore, an investigation in which an experienced Jungian analyst blindly coded dreams from three groups of women before, during, and after menopause (i.e. an event associated with

important midlife changes in women) for degrees of 'archetypality' failed to identify significant differences (Abel, 1994).

It also needs to be said here that Jung's mains ideas about dreaming in general, including the one that much dream content is essentially opposite to conscious thought are not supported by empirical studies on dream content. On the contrary, a large body of studies with individuals (e.g. Bell & Hall, 1971; Domhoff, 1996; Gackenbach, Sample, Mandel, & Tomashewsky, 2011) and groups (e.g. Hall & Van de Castle, 1966; Maggiolini, Cagnin, Crippa, Persico, & Rizzi, 2010; Schredl, Petra, Bishop, Golitz, & Buschtons, 2003), as well as with children (e.g. Foulkes, 1982, 1999) and with aged individuals (e.g. Funkhouser, Wurmle, Cornu, & Bahro, 2001; Zepelin, 1980-1981) has revealed that dreams are largely continuous and literally reflective of dreamers' current waking thoughts and emotional concerns. Most of these empirical findings coming from of investigations of dream content by cognitive and neurocognitive researchers make the subject of the next section.

Cognitive and neurocognitive theories and findings

Following through from psychodynamic views of dreams as psychologically meaningful phenomena, cognitive researchers have focussed on the coherence and narrative quality of many dreams. More specifically, they have investigated patterns of dream content and their relationships with dreamers' waking life (e.g., thoughts, emotions, behaviour). Content analysis has been the method of choice used by cognitive psychologists for the quantitative analysis of dream reports. Over time, several hundred scales for coding and analysing the content of dreams have been developed, each contributing some useful knowledge (for reviews, see Schredl, 2010; Winget & Kramer, 1979; Zadra & Domhoff, 2010). Of these, the most elaborated and widely used system to date was that created by Hall and Van de Castle (HVDC) (1966) and further developed by Domhoff and Schneider (Domhoff, 1996, 2003; Schneider & Domhoff, 1995). This system covers a wide range of aspects and elements, including characters and social interactions, emotions and activities, misfortunes and good fortunes, successes and failures, settings and temporal references (i.e. elements from the past). As the HVDC system was also used in Study Two of this project, the advantages of its nominal-empirical categories over other scales of content analysis will be discussed in the Methodology chapter (Chapter 2) under data analysis considerations. Furthermore, a separate chapter (Chapter 4) will present the main features of the HVDC coding system, including its creation and development, its categories, content indicators and calculation formulae. Chapter

4 will also report the gender findings of the original study which have since been replicated and used as a normative basis in many other cross-cultural investigations of dream content, including Study Two of this project.

Empirical findings from content analyses of thousands of dreams across a multitude of studies, many based on the HVDC system, have provided support for two general trends in the understanding of the dreams of adults. The first trend relates to the continuity between dream content and the waking concerns of the dreamers (Cavallero & Foulkes, 1993; Domhoff, 1996, 2003; Hall, 1953a, 1953b; Hall & Van de Castle, 1966; Schredl, 2006). With regard to behavioural correlates, waking concerns refer to various forms of relaxed waking thought, including interests, worries, and fantasies of the dreamers (Domhoff, 2008b; Klinger, 1999). With regard to content, dreams appear to reflect mainly the dreamers' intimate concerns around self and relationships with significant others, while economic or political issues are rarely featured. Dreaming-waking correspondences have been found to be particularly strong during difficult life periods (e.g., trauma, divorce, bereavement, serious illness) when emotionally-salient concerns tend to be expressed in dreams recurrently (e.g. Barrett, 1992; Barrett, 1996; Cartwright, 1996; Cartwright et al., 2006; Cartwright & Lamberg, 1992; Hartmann, 1984, 1998b, 2002; Nielsen & Stenstrom, 2005).

The other notable pattern supported by a substantial body of studies (e.g. Achte, Malassu, & Saarenhelmo, 1985; Domhoff, 1996; Grenier et al., 2005; Herman & Shows, 1983-1984; Howe & Blick, 1983; Zepelin, 1980-1981) refers to the present-mindedness and substantial consistency of dreams over long periods of time, including into old age. This consistency principle is thought by cognitive psychologists to interact with the dreaming-waking continuity hypothesis in shaping dream content across cultures, time, and life circumstances (Domhoff, Meyer-Gomes, & Schredl, 2006; Lortie-Lussier, Cote, & Vachon, 2000; Nir & Tononi, 2009). Since these general trends are also of direct relevance to this investigation (i.e. with individuals likely to be elderly, facing a difficult time in their life), empirical findings supporting them, either separately or together, will be reported in the next part of this chapter.

The 'continuity hypothesis'

Cognitive and neurocognitive theorists have argued that there are far more similarities than differences between dreams and waking thought (e.g. Domhoff, 2003, 2008a; Foulkes, 1985; Hall, 1953b; Nir & Tononi, 2009; Schredl, 2006). This theory is supported by studies investigating levels of bizarreness and realism in dreams, which found that the bulk of dream

imagery contains realistic, albeit not perfect, replicas of everyday experiences, thoughts and concerns of the dreamers (Antrobus, Kondo, & Reinsel, 1995; Domhoff, 2008a; Dorus, Dorus, & Rechtschaffen, 1971; Snyder, 1970). Some authors have pointed out that the sensorial information in dreams is experienced by dreamers as 'real' (Kerr, 1993; Rechtschaffen & Buchignani, 1992). Others have seen in the narrative quality of most dreams a mental functioning which resembles waking consciousness as similar attempts to make sense of the sensorial information at hand are being made (Foulkes, 1993).

In an early study that led to the formulation of the 'continuity hypothesis', Hall content analysed a series of 1368 dream reports from 'Norman', a child molester in his 30's (Bell & Hall, 1971). The dreams were mailed to Hall by clinical psychologist Alan Bell, accompanied by minimal information about the dreamer, such as age and gender. From the multiple sexual references to children and exposed bodily parts in the series, Hall correctly inferred that the dreamer was a child molester. His various predictions matched to a considerable extent the clinical notes regarding Norman's basic interests, fantasies and preoccupations. These included predictions that Norman was an emotionally immature person, highly dependent on others, and displayed gender confusion. On the other hand, there were a few incorrect predictions, particularly around behaviour. For instance, despite his frequent sexual fantasising, Norman avoided masturbating which he considered morally 'wrong' and did not enjoy. This came against Hall's expectations, suggesting that the parallels with dream content were stronger for subjective interests, fantasies and concerns than they were for behaviour. Drawing on these and other similar findings, Hall and Bell (1972) argued that most dreams are a dramatized 'embodiment' of dreamers' long-standing conceptions as well as of their current worries and fantasies, but not necessarily of the corresponding behaviours. This idea essentially contradicts Jung's claim that much dream content is opposite to conscious thought as it reflects underdeveloped aspects or 'blind spots' of consciousness (Jung, 1964, 1974b).

The 'continuity hypothesis' has since been supported by a substantial body of empirical studies based on content analyses of both laboratory and home dream reports, with groups and individuals, children and adults (Foulkes, 1999; Gackenbach et al., 2011; King & DeCicco, 2009; Lortie-Lussier et al., 2000; Maggiolini et al., 2010; Schredl, 2006; Schredl & Hofmann, 2003). The general pattern across the various investigations was that the frequency of a certain element in dreams (i.e. character, setting, activity) reflected the intensity of the dreamers' waking concerns with that particular element (Cartwright et al., 2006; Domhoff, 2000; Hall, 1953a; Hall & Nordby, 1972). For instance, the amounts of waking time spent

talking to friends or driving cars correlate significantly with the frequency with which these activities occur in dreams (Schredl & Hofmann, 2003). Similarly, dreams have been found to express the intensity and nature of dreamers' involvement with computer games (Gackenbach et al., 2011). On the other hand, as indicated by Hall's early study, dreams are not necessarily continuous with waking behaviour. In fact, an opposite trend may occur. For instance, blind people dream of performing locomotions and travel activities far more frequently than sighted people (Hurovitz, 1997; Hurovitz, Dunn, Domhoff, & Fiss, 1999). While this pattern of content appears to contrast the reduced behavioural mobility in the waking life of blind people, the authors have argued that the continuity of dreams is with the increased waking concerns around impeded mobility typical in this group.

Support for dreaming-waking similarities from neuro-scientific research

This section will examine the neurophysiology of dreams in general. Although this dimension is not directly relevant to the current investigation, the findings presented here provide further support for the similarities between dream content and waking thought, an idea which is theoretically relevant to this thesis. The current knowledge about the neurophysiology of dreams has been revealed mainly through brain lesion and neuro-imaging studies. Solms (1997) conducted a series of in-depth investigations with 361 neurological patients suspected to have a brain lesion, about the changes in the frequency and content of their dreams occurring following their injuries. Of the 361 participants, 29 were found to have no brain lesions and were used as a control group for the remaining 332 patients who did suffer lesions. Data collected through neurological tests, CAT scans, and individual questionnaires were available for all the participants. A notable finding was that out of the 332 patients with brain lesions 200 did not describe any changes in dreams since their injuries. This suggests that the brain regions affected in this group (the sensorimotor cortices and dorsolateral prefrontal cortex responsible for sensation, locomotion, and high executive functions) may not be involved in dreaming (Solms, 1997).

Based on the analysis of the data obtained from the other 132 patients who did describe changes in dreams, Solms was able to identify two types of dreaming 'deficits' (complete loss of dreaming and loss of visual imagery) and two 'excesses' (increased frequency and vividness, and respectively, increased frequency of nightmares). With regard to dreaming 'deficits' the complete loss of dreaming was associated either with bi-frontal lesions in the ventromersial region or with injuries in the parietal-temporal-occipital area. On the other

hand, a lack of visual references in dreams was reported by patients suffering from brain lesions in the medial occipito-temporal region. Regarding 'excesses', lesions to the basal forebrain, anterior cingulate and medial prefrontal cortices were associated with an increased frequency and hallucinatory intensity of dreams to the extent that dreams often intruded into waking thoughts and in effect were confused with these by patients in this group. Finally, the increased frequency of nightmares was linked with lesions to the temporal lobe. Based on the observed correlations, Solms inferred that the regions of the brain which when affected attract changes in dreams must be involved in the neural mechanisms of dreaming (Solms, 1997).

A separate line of investigation into the neurophysiology of dreams was provided by imaging studies of the sleeping brain using positron emission tomography (PET) (A. R. Braun, 1997; Maquet, 1996; Nofzinger, Mintun, Wiseman, Kupfer, & Moore, 1997). These investigations produced a series of findings converging with Solms' (1997) studies on brain lesions. Specifically, the main areas found to be reactivated during REM sleep stage include the anterior cingulate and medial prefrontal cortices, the limbic area, the basal forebrain, and the occipital-temporal region, all of which were also assumed by Solms to be involved in dreaming. Conversely, the brain areas remaining inactive during the Rapid Eye Movement (REM) sleep stage which is most closely connected to dreaming (Aserinsky & Kleitman, 1953; Dement & Kleitman, 1957a; Nir & Tononi, 2009) are similar to those where lesions were not associated with changes in dreaming in Solms' (1997) studies. These areas include the dorsolateral prefrontal, the sensorimotor, the motor, and the posterior cingulate cortices.

On the basis of these converging findings, some neurocognitive theorists have recently argued that the neural substrate for dreaming may have substantial overlaps with the newly discovered 'default network' responsible for various forms of relaxed waking thought (Domhoff, 2011; Ioannides, Kostopoulos, Liu, & Fenwick, 2009; Nir & Tononi, 2009; Pace-Schott, 2007). Specifically, similar to the dreaming state, in the default mode the brain is not task-oriented, neither is it connected to any external stimuli and the self-awareness mechanisms are also shut down (Andrews-Hanna, 2011; Buckner, Andrews-Hanna, & Schacter, 2008). In terms of behavioural correlates, the default network is responsible for mind wanderings, which include daydreams, reveries and ruminations. A recent fMRI (functional Magnetic Resonance Imaging) investigation (Mason et al., 2007) measured the blood flow in the brain during memory tasks requiring little focus (thus enhancing mind wanderings) and compared these with blood-flow measures during newer memory tasks requiring focussed attention. The regions found to be highly active during mind wanderings

included the medial prefrontal cortex and the anterior and posterior cingulate cortices. Another recent fMRI study (Christoff, Gordon, Smallwood, Smith, & Schooler, 2009) of the brain during relaxed waking thought also found that the regions most activated in the default mode included the medial prefrontal cortex, the anterior cingulate cortex (ventral and dorsal) and the dorsolateral prefrontal cortex. Coincidentally, as has been shown, these regions are also more or less involved in the neural substrate for dreaming, although the extent of the overlaps remains a subject of future research (Domhoff, 2011; Nir & Tononi, 2009). With regard to content, the free-flowing thought associated with the default state was found to consist predominantly of imaginative simulations of hypothetical events or of scenarios relevant to people's current life problems and emotionally-salient concerns (Schacter, Addis, & Buckner, 2008). On the other hand, as has been suggested earlier in this chapter and as will be further evidenced in the next section, such emotionally-salient concerns, particularly around oneself and significant others are the very topics that much dream content also revolves around.

Continuity with waking concerns and repetition in dreams during difficult life periods

This section will report the main findings of dream studies by cognitive researchers with people going through difficult periods in their lives, including trauma, divorce and bereavement. Some investigations of dreams did not identify any meaningful correspondences to the dreamers' waking memories or concerns (e.g., Roussy et al., 1996). In explanation, Hartmann (1998b) argued that multiple emotional concerns may manifest concomitantly and may be expressed in dreams metaphorically rather than literally, making the task of discerning between them difficult. There is however an exception to this amalgamating trend, according to Hartmann. Specifically, "when an emotional concern is sufficiently clear cut, it occurs repeatedly in dreams" (Hartmann, 1998b, p. 227). From this perspective, difficult life periods when certain emotional concerns are likely to become dominant across individuals provide researchers with an ideal opportunity to investigate patterned relationships between dream content and emotionally-salient waking thought.

Various neuro-scientific studies support the idea that dreams are sourced and structured by emotionally-salient episodic memories. More specifically, the limbic regions, particularly the amygdala, have been found by neuroimaging and electrophysiological studies (Hobson, Pace-Schott, Stickgold, & Kahn, 1998; Nielsen & Stenstrom, 2005) to be far more active in REM-sleep, the stage most closely associated with dreaming, than in wakefulness. On the other

hand, brain imaging investigations with depressed individuals (Nofzinger et al., 2004) found an increased activation of the limbic and paralimbic systems in comparison to non-depressed subjects, suggesting that the high activation of these regions may be a response to an overload of affect arousal in depressed individuals. In effect, it has been suggested that the limbic system may be responsible for emotional information processing in dreaming as in waking life, particularly through the reciprocal dependence between the amygdala and the hippocampus (Cartwright et al., 2006; Hartmann, 1998a; Nielsen & Stenstrom, 2005).

The continuity between dreams and emotionally salient waking concerns has been supported by studies based on the content analysis of dreams from people going through difficult life circumstances. These include studies of dreams with survivors of traumatic experiences (i.e. war, abuse) but also with people facing more 'mundane' traumas of everyday life, such as divorce or bereavement (Barrett, 1996; Cartwright, 1996; Cartwright et al., 2006; Cartwright & Lamberg, 1992; Hartmann, 1984, 1998b, 2002; Pesant & Zadra, 2006; Zadra, 1996).

Traumatic nightmares and recurrent dreams

The nightmares of people suffering from Post-Traumatic Stress Disorder (PTSD) represent the most severe form of recurrent, emotionally-disturbing dreams. In terms of imagery, these nightmares tend to feature more or less accurate replays of the original events and are often paralleled by equally intense waking 'flashbacks' (Hartmann, 1984, 1998b; M. Kramer et al., 1987; Nielsen & Zadra, 2005). The frequency and affective intensity of traumatic nightmares were found to decrease over time, as people gradually overcome their emotional blockages (Hartmann, 1984, 1998b). Nevertheless, dreams about past traumas can reoccur long after the original nightmares have ceased, usually in connection to new waking stressors encountered in waking life (M. Kramer et al., 1987).

Recurrent dreams and repetitive dream themes have been considered reminiscent of traumatic nightmares as between 60% and 70% of these also have a negative affective tone (Cartwright et al., 2006; Cartwright & Romanek, 1978; Zadra, 1996). These tamer forms of dream recurrence have also been linked to increased waking distress. For instance, one study found that current recurrent dreamers scored significantly lower on multiple measures of wellbeing compared to former recurrent dreamers (Brown & Donderi, 1986). As will be shown next, investigations with subjects going through divorce (Cartwright, 1991, 1996; Cartwright et al., 2006) and bereavement (Barrett, 1992; Domhoff, 2008b) revealed substantial rises in

recurrent dreams which tend to revolve around the former relationships and people's grieving processes.

<u>The dreams of divorced individuals</u>

With regard to dreams following divorce, Cartwright and her colleagues and students conducted a series of cross-sectional and longitudinal studies (Cartwright, 1991, 1996; Cartwright et al., 2006; Cartwright et al., 2001). In an early study based on REM awakenings in the sleep laboratory (Cartwright, 1991), of the 31 divorced subjects meeting the criteria for major depression at the beginning of the study, 22 (74%) were found to be in remission one year later. At the first point of contact the subjects in the remission group had reported significantly more dreams about their ex-partners compared to the nine subjects who remained depressed at follow-up. Hence, the author argued that dreams of emotionally salient characters reflected their waking concerns and level of wellbeing/adjustment to their losses (Cartwright, 1991).

This idea was further tested in a longitudinal study conducted with 12 divorced subjects diagnosed with a recent episode of major depression (untreated) over an eight-month period (Cartwright et al., 2001). During this period the participants spent four nights in the sleep laboratory where they were awakened from Rapid Eye Movement (REM) sleep. By the end of the study, nine of the subjects went into remission, while three remained depressed. At the start of the study, the subjects who later went into remission rated the affective tone of the dreams incorporating references to relationships with their ex-partners as being predominantly 'neutral' or 'negative'. Unlike the subjects who remained depressed, at follow-up subjects in remission rated the dreams about their ex-partners more frequently as 'pleasant' and reported being better adjusted and emotionally disengaged from their ex-partners (Cartwright et al., 2001). In another longitudinal study (Cartwright et al., 2006). 20 depressed and 10 non-depressed participants were awakened from REM sleep on three bouts of two consecutive nights each over a five month period. At three different points during this period, the subjects were required to complete day-time assessments of depression. In line with previous investigations, the authors found that the degree of dreamers' waking concern about their ex-partner significantly correlated with the frequency with which these occurred in their dreams. These findings were interpreted by the authors in support of dreaming-waking continuities and of the idea of a potentially adaptive, mood-regulatory, function of dreams containing emotionally salient people (Cartwright et al., 2006).

The dreams of bereaved people

Similarly, studies of dreams with bereaved people have found that former partners, family members and friends, defined generically as 'loved ones', are frequently featured in dreams in the months and years following their death (Barrett, 1992; Domhoff, 2008b; Loconto, 1998). The most systematic knowledge in this area comes from Barrett (1992) who analysed a total of 77 reports collected in two separate studies from college students aged between 17 and 42 years. The first study was based on dream diaries kept by 149 subjects (58 men, 91 women). Overall, dreams containing deceased loved ones were extremely rare as only 2% ($N = 29$) of the 1412 dreams fell into this category. These unusual dreams were contributed by 12% ($N = 18$) of the participants, all of whom had recently experienced the death of a loved one. These included three women whose common friend had committed suicide during the period when they kept a dream journal and who contributed 11 reports between them. In the second study by the same author, a survey questionnaire was administered to 96 subjects (39 men, 57 women), specifically asking for dreams of deceased loved being recalled from any time in their past. Thirty seven subjects (39 %) reported a total of 48 eligible dreams.

Barret conducted a thematic analysis of the 77 dreams containing deceased loved ones collected across the two studies, classifying them into three main categories: 'Back-to-life' dreams (39%), generally occurring a short time after the death of the loved person and containing a mix of positive and negative emotions as the dreamers were shocked by the unexpected return; 'Advice' dreams (23%) were mainly about the deceased taking a protecting role, giving trivial or profound advice to the dreamer, these occurring several months up to a few years after their death and being generally pleasant; and finally, 'Leave-taking' or 'Resolution' dreams (29%), occurring anywhere between several months to several years from death, also featuring the deceased characters in a protective role, such as reassuring the dreamers that everything was fine and being associated with extremely positive feelings of guilt resolution and relief (Barrett, 1992).

Drawing on the content and sequential order of these thematic categories, Barret argued that dreams featuring deceased loved ones paralleled the waking stages of grief proposed by the main theorists (Bowlby, 1963; Kübler-Ross, 1969). For instance, the dreams in the 'Back-to-life' category appear to be consistent with fantasies of the dead coming back to life or of one's desire to be able to rearrange the sequence of events leading to one's death. These are thought to be typical in the early stages of bereaved people's grief over their lost loved ones.

On the other hand, 'Advice' dreams appear supportive of Bowlby's idea that successful resolutions of grief must incorporate the lost person (Bowlby, 1963). Finally, 'Leave-taking' dreams were thought by Barret to resonate with the state of closure and acceptance described by Kübler-Ross in relation to the final stages of grief in dying people (Kübler-Ross, 1969).

Based on these findings with bereaved individuals, Barrett theorised about dreams of terminally-ill people and included them under the same general umbrella of dreaming connected to 'traumas of normal living' (Barrett, 1996). More specifically, Barrett argued that a diagnosis with a terminal illness often brings about an existential crisis comparable to the death of a loved one. She further claimed that dreams of terminally-ill people may reflect their emotional struggles, particularly in the period immediately after the diagnosis when a loss of the sense of security may be experienced.

Barrett's (1992) generic themes in dreams of bereaved people were replicated at an individual level in a quantitative case study (Domhoff, 2008b). This was based on the content analysis of 143 dreams recorded for his own consolation by a widower over a period of 22 years following the death of his wife. Domhoff asked two blind researchers to score the dreams with several scales in the Hall and Van de Castle system, including interactions (i.e. friendliness, aggressions and sexuality), misfortunes and good fortunes, and emotions. The dreams were then compared with the norms for adult men to check for individual differences. In a separate analysis, the dreams were divided into two lots of 62 and 81 reports from before and after the half-way point on the recording period. This was done in order to examine changes in dream content over time and to compare these against the subject's waking thoughts and concerns at various points. These were extracted from his journal, which included his own interpretations of the dreams, and from a written testimonial of the relationship. Finally, the entire sample was coded with a scale measuring unusual elements considered as potentially symbolic or metaphoric rather than literal expressions of the subject's past or current concerns.

As in Barrett's study, the content of many of the dreams revolved around 'back-to-life' instances where the deceased wife was portrayed as alive and sometimes 'reassuring' the dreamer that she was fine. There were also some dreams replicating pleasant memories together, including sexual encounters, as well as portrayals of the wife in the final stages of her life as being ill or dying. The percentages of friendly and sexual interactions were far larger than that of aggressive interactions, these being significantly more often initiated by

the wife than by the dreamer. There were no differences between good fortunes and overall misfortunes in these dreams compared to the male norms, but there was a significant difference on bodily misfortunes. Specifically, all (100%) the misfortunes in these dreams were bodily (i.e. the wife portrayed as sick or as dying) compared to the HVDC male norms (29.3%). With regard to changes over time, there was a sharp decline in the frequency of dreams in which she was featured as alive. More specifically, the 'back-to-life' and 'reassurance' dreams belonged exclusively in the first half of the series. As a general trend, the author concluded that "the dreams become more everyday life as time goes by" (Domhoff, 2008b, p. 8).

The dream content patterns found in this series were judged by Domhoff to consist of realistic, literal reflections of the subject's perceptions of his former relationship with his wife (e.g., he always tried hard to please her, often unsuccessfully, and she was more likely to be aggressive towards him). Furthermore, the changes in dreams were thought to parallel the subject's gradual adjustment to the loss of his wife. These changes were interpreted in support of the idea that dreams are dramatized 'embodiments' of current concerns of the dreamers and thus can provide clues as to how well bereaved people are dealing with grief (Domhoff, 2008b). In relation to the more unusual elements in the dreams (e.g. distorted settings, unusual occurrences of characters, including the wife's returns to life), the author argued that some may have been metaphoric expressions of the subject's waking memories, fantasies and worries, while others appeared merely random, non-sensical. The best illustration of a dream thought to be metaphoric was one in which the wife was portrayed as alive and talking to the subject from the other side of a road, and he recalled thinking, within the dream, that he could not "cross the road" and "that she is dead, and that the road between us is the dividing line between Life and Death" (Domhoff, 2008b, p. 15)

In conclusion, empirical studies of dream content with people going through difficult life circumstances such as trauma, divorce and bereavement support the 'continuity hypothesis' and consequently contradict the Jungian theory that much dream content is essentially opposite to conscious thought. At the same time, the interpretation by Domhoff mentioned above around the more unusual elements which complement the literal, everyday life aspects in dreams raises an important question concerning the difference between cognitive theorists and Jung's model: are these unusual elements in dreams 'metaphoric' or 'symbolic'?

Symbolic versus metaphoric elements in dreams

As has been mentioned, Jung thought that 'big' or 'symbolic' dreams draw on innate archetypes residing in the collective unconscious (Jung, 1964, 1974b). On the other hand, cognitive theorists consider that typical dreams reported across cultures, including dreams of flying and of deceased loved ones, are 'metaphoric' rather than 'symbolic' (Domhoff, 2003; Hartmann, 2008; Lackoff, 1993, 1997; Lakoff & Turner, 1989). This view is based on the assumption that an all-encompassing conceptual system sources and regulates information both in dreams and in waking thought (Antrobus, 1993; Cavallero & Foulkes, 1993; Foulkes, 1996; Nir & Tononi, 2009). This conceptual system is thought to comprise cognitive schemata which are largely unconscious but can be accessed upon conscious reflection. There are two categories of schemata: experiential/literal and figurative/metaphoric. Experiential schemata are thought to be based on bodily perceptions and interactions with stimuli in the physical world. These may include sensorial discriminations and categorisations of objects, beings, or activities (i.e. 'cat', 'car', 'walking'), spatial-relations (i.e. up, down, forward), and of sensorimotor qualities such as temperature, movement, or touch (e.g. 'hot', 'fast', 'solid') (Domhoff, 2003).

The other cognitive schemata thought to shape dreams and waking thought alike consist of basic conceptual metaphors acquired by all individuals from childhood through linguistic socialisation (Lackoff, 1993, 1997). Such basic metaphors have the function to facilitate the understanding of abstract aspects, difficult to understand or unable to be experienced directly. Out of a multitude of possibilities, only few basic metaphors are said to be culturally selected. For a metaphor to 'hold' the analogies between what is being explained (i.e. 'the target domain') and the explanatory term (i.e. 'the source domain'), it must be intuitively powerful (Lakoff & Turner, 1989). For instance, the conceptual metaphor 'happiness is up', thought to come through in dreams of flying, is easily understood by most people and expressed in many everyday life phrases such as 'walking on air', 'being in the seventh sky', or 'feeling high' (Domhoff, 2003). A widespread metaphor for human life is 'life is a journey' evidenced in many common phrases such as children "getting off to a good start", people "making their way in life" or "giving their life direction", or the elderly being "at the end of the trail" (Lakoff & Turner, 1989, p. 3).

The perpetual mystery surrounding human death makes it into an ideal target domain for conceptual metaphors. As has been noted earlier, a basic metaphor used in many cultures to

understand death is in terms of sleep and dreams (Lakoff & Turner, 1989). Another quasi-universal metaphor for death is in 'journey' terms. Death may be culturally represented either as the end point on life's journey or as a transition and a beginning of a new journey (Bulkeley & Bulkley, 2005; Lackoff, 1993; Lakoff & Turner, 1989). The widespread nature of journey metaphors for death in the Western world is immediately apparent from the multitude of common expressions about death, dying, or the dead. For instance, people talk about dying as 'rite of passage', 'crossing over', or as 'going to the other side'. On the other hand, when referring to deceased individuals, people often say something to the effect 'He's gone', 'He's left us', 'He's passed on', 'He's passed away', 'He's been taken from us' (Lakoff & Turner, 1989, p. 4) and the examples can continue.

Across Western and Eastern cultures, metaphors for death have also been embedded in various myths and religious beliefs about how the journey on which the 'soul' or the 'spirit' is thought to embark on may look like (K. P. Kramer, 1993; Lakoff & Turner, 1989). Polynesian people have also imagined death as a journey, more precisely as a leap from *Reinga* - the place from which the soul is thought to depart. This is possibly the most deeply-settled article of faith across Pacific cultures as suggested by the fact that it is referred to in most speeches and laments for the dead (Hanson & Hanson, 1983; Medical Council of New Zealand, 2006; Pomare & Cowan, 1930/2012). As with other Polynesian cultures, for the Māori people of New Zealand the cultural representation of the spirit's journey at death is geographically-grounded:

> Māori believe that when a person dies, his body (*tūpāpaku*) is not vacated immediately by his spirit (*wairua*). The wairua is believed to wander at will, leaving and returning to the body for three to five days. After this, the wairua walks the path from Awanui (the southern point of Ninety-Mile Beach) to the northern part of New Zealand, then dives off and proceeds to the Underworld of Hine nui-te-po (the Goddess of Death) and then to Hawaiki or Tawhiti, the ancestral home of Māori. (Medical Council of New Zealand, 2006, p. 27)

The difference between symbolic and metaphoric elements in dreams is a matter of interpretation rather than of variations in the actual content of dreams. For instance, in line with Jungian views (Jung, 1934/1969, 1974b; von Franz, 1987; Wheelwright, 1981), themes of journeys in the dreams of seriously-ill individuals could be interpreted as 'symbolic' of a 'rebirth'. On the other hand, the same themes may be deemed 'metaphoric', in line with the cognitive idea that dreams draw on a conceptual mapping of death's mystery onto the experiential domain of 'journeys' (Lackoff, 1997; Lakoff & Turner, 1989). Complicating

things further, journey themes in dreams of palliative people could also be interpreted as literal reflections of typical waking concerns around mobility, similar to the interpretation proposed for journey-themed dreams of blind people (Hurovitz, 1997; Hurovitz et al., 1999).

The proposed mood-regulatory function of dreaming

As previously mentioned, some cognitive researchers have taken the idea that dreams reflect, whether literally, metaphorically, or both, the emotional concerns of the dreamers and extended it a step further. Specifically, it has been argued that dreams may have an adaptive, mood-regulatory function manifest particularly during difficult life circumstances (Barrett, 1992, 2001; Cartwright, 1996; Cartwright et al., 2006; Cartwright & Lamberg, 1992; Hartmann, 1998b, 2002). This idea is in line with the clinical views of some of the authors in the palliative field (Callanan & Kelley, 1993; Garfield, 1991; Gratton & Seguin, 2010; Kearney, 2000). In this respect, cognitive psychologists are also more similar than they are different to Jung's view according to which dreams are the means the unconscious uses to correct for maladjustments in conscious attitudes and to rebalance the psyche (Jung, 1934/1969, 1974b). A similar view has been proposed by evolutionary theorists (Revonsuo, 2000; Revonsuo & Valli, 2008). This potentially adaptive, affect-regulation function of dreams is of particular interest when investigating dreams at end of life, because this is a period when needs for reconciliation and closure are common and there is also a time pressure (Fenwick, Lovelace, & Brayne, 2009; Millison & Dudley, 1992). The discussion of other functions of dreams proposed by various theorists (e.g. memory consolidation, problem solving) is beyond the scope of this thesis.

Drawing mainly on findings with divorced people, Cartwright and Lamberg (1992) have argued that end-of-life dreams have an inherently adaptive function which, if acknowledged, can be enhanced to obtain the maximum benefits: "As we approach the end of life, dreams may help us accept the inevitable. The important point is not to wall off the messages in our night scripts from our waking recognition; our best healing is done with help from within" (1992, p. 179). Similarly, Barret (1996, 2001) extrapolated her views derived from studies with bereaved individuals to dreams of terminally-ill people, arguing that these may reflect the stages of waking grief and may facilitate the coming to terms with the inevitability of death.

Hartman's (1996, 1998b, 2008) connectionist model poses that dreams draw on old memory networks to provide a metaphoric context for the expression and the regulation of people's

new emotional concerns. In support of this model, he claimed that dreams of one being overwhelmed by a tidal wave or in which one is swept away in a whirlwind are common in trauma survivors, metaphorically expressing typical emotions of fear or terror. Hartmann further argued that dreaming is a form of internal therapy because it "connects more broadly and more widely than waking does" (p. 230). In effect, the waking stressors are thought to be gradually integrated into the old informational networks, the negative emotions being dissolved. Based on Hartmann's connectionist model, Bulkeley (2005) proposed that an alternative sense of self may arise at end of life from the ethereal realm of dreams:

> Because dreaming occurs without the constraints of focused waking consciousness, the mind is free to make wider, more far-ranging connections during sleep than is possible while awake. Dreams help restore some degree of stability and integrity to the self [...] What the dying person experiences in waking life as an agonizing onslaught of painful memories becomes, in dreaming, the raw material for new growth, broader connections, and a new sense of self-integrity. (Bulkeley & Bulkley, 2005, pp. 99-100)

A similar view is endorsed by evolutionary theorists who have argued that the general function of dreaming is to provide a 'safe' training ground for the rehearsal of responses to threats encountered in wakefulness (Revonsuo, 2000; Revonsuo & Valli, 2008). With specific regard to pre-death dreaming, Revonsuo proposed that the general principles should apply:

> The most salient threats from the past, the current stress levels, and worries and concerns about potential future threats (to oneself or to close ones and family members) should be selected by the dream production system for dream content; the less the patient is suffering from physical or psychological stress, and the more optimistic view she/he has of life (and perhaps afterlife), the less there should be threat simulation in the dreams. (Revonsuo, 2009)

While the empirical findings presented so far support the idea that dreams reflect emotionally-salient concerns of the dreamers, particularly during difficult life periods, the evidence for the idea that dreams also regulate emotions falls short at this stage. Although Hartmann (1998b) promised that, in support of his claims, he would present quantitative results derived from dream samples in his possession supporting his claims, he has not yet published any articles to that effect. Furthermore, studies on nightmares (for a review, see Nielsen & Levin, 2007) have found that anxiety and depression levels tend to be generally increased rather than alleviated by frequent nightmares, which contradicts the idea that dreams are adaptive in the sense of facilitating emotional regulation.

The consistency of dreams

The concepts and findings presented so far in this chapter are relevant to the 'continuity hypothesis' which poses that dream content reflects the dreamers' waking concerns, particularly around oneself and significant others. On the other hand, as mentioned at the beginning of this section, a consistency trend is also thought by cognitive theorists to shape the dreams of adults (Domhoff, 2008a; Foulkes, 1985; Hall & Nordby, 1972; Lortie-Lussier et al., 2000). While the 'continuity hypothesis' accounts for the impact of current problems, the consistency principle refers to the influence of individuals' long-standing conceptions and entrenched cultural beliefs on the content of their dreams. In support of this idea, large scale investigations with college students starting with the HVDC normative study (1966) revealed that a series of dream patterns have been very stable over generations in the US (e.g., Dudley & Fungaroli, 1987; Kane, Mellen, Patton, & Samano, 1993; Tonay, 1990/1991) and across other Western countries, including Canada, South America (Argentina, Mexico, Peru), and Europe (Switzerland, Netherlands, Germany) (for a review, see Domhoff, 1996, pp. 99-129).

The main findings of these studies, including the original HVDC study, will be reported in Chapter 4 which introduces Study Two of this project. As will be shown, a series of cross-gender patterns appear to exist, as well as a tendency for dreams to generally contain more instances of aggressions than of friendly interactions, more misfortunes than good fortunes and more negative than positive emotions (e.g., Blume-Marcovici, 2010; Domhoff, 1996, 2003; Hall, 1984; Krippner & Weinhold, 2002; Schredl, Sahin, & Schafer, 1998). On the other hand, a series of gender differences identified by the original HVDC study have been consistently replicated since. Such gender trends suggest that men dream more of male than of female characters while women tend to dream equally of men and women. Furthermore, compared to women, men tend to have more aggression, both general and physical, and more sexual references in their dreams. These trends have been explained in relation to differences in gender roles as being typical for most societies, men being thought to be more concerned with fellow men than with women and more preoccupied with aggression and sexuality than women are (Blume-Marcovici, 2010; Domhoff & Schneider, 2008b). Finally, as will also be shown in Chapter 4, cross-country comparisons have revealed a series of cultural differences in dream content (Bose & Pramilia, 1993; Gregor, 1981; Schredl et al., 2003). These too support the consistency principle in that they appear connected to deeply-settled particularities of the participants' cultures.

Present-mindedness and consistency of dreams in elderly individuals

Of particular relevance for this investigation is also that a series of cross-sectional and longitudinal studies looked at aged-related patterns in dreams. In an early study, Weisz (1969) used thematic analysis to investigate dreams collected in the sleep laboratory from four non-institutionalised healthy elderly men with ages between 60 and 71 years. The author found that current social and recreational themes were most prominent, thus contradicting the idea that dreams at this stage may be predominantly retrospective. Zepelin (1980-1981) used his own scales as well as some of the HVDC categories (e.g. characters, social interactions) to investigate age differences in the dream reports collected at home and in the laboratory from 58 men with ages between 27 to 64. Very little age-related variation was found. In fact, the only notable differences related to a linear decline in aggressive content and a prevalence of family-related content in the 35 to 55 years old group. This later trend was explained by the author as a function of the 'continuity hypothesis', that is, as reflecting an increased waking focus on family responsibilities (mainly child rearing) during that period.

In another study, Howe and Blick (1983) employed a 10-item emotional checklist to compare home dreams written down over a six week period by college-aged and elderly women with ages ranging between 59 and 87 years. The authors found a significant decline in aggressive emotions such as anger, hostility and fear in the older group, whose reports contained higher proportions of positive, joyous emotions compared to the younger participants (Howe & Blick, 1983). The decline in aggression and negative emotions with age was also supported by a study investigating nightmare incidence among healthy elderly (Salvio, Wood, Schwartz, & Eighling, 1992). Specifically, the authors found that the 51 subjects with ages between 50 and 70 years reported on average five times fewer nightmares compared to the control group made of 20 year old college students.

Age differences in dream recall were investigated in a large scale questionnaire study of men and women divided into six age groups: 17-20, 21-20, 30-39, 40-49, 50-59, and 60-69 (Herman & Shows, 1983-1984). All the participants were asked to provide estimates of their recall frequency. These were compared with the actual number of dreams participants were able to recall within a five-minute period. The two measures were highly correlated. Dream recall decreased with age and this declining trend was steeper for men compared to women. On the other hand, old age per se was not associated with low recall, the largest drop in the

frequency of recall occurring between the ages of 25 and 35 after which it almost plateaued (Herman & Shows, 1983-1984).

In a Finish study (Achte et al., 1985), 80 healthy retired subjects with a mean age of 75 years were asked to complete a questionnaire about sleep and dreams and were subsequently interviewed. Twenty two percent of the participants reported that they still dreamt of work-related situations, while the other subjects reported their dreams were largely focused on present matters. A few subjects dreamt of a deceased spouse asking them to be reunited either though a return to life or through the dreamer's own death. Based on the follow-up interviews, the authors concluded that these particular dreams may have expressed the participants' feelings of guilt and worthlessness, usually in association with suicidal thoughts. With regard to personal interpretations of dreams, the authors reported that hardly any participants thought their dreams were important. The few exceptions were related to dreams being interpreted as predictive and/or having unpleasant carry-on effects upon awakening.

A Canadian study used the Hall and van de Castle scales (e.g., characters, settings, interactions, emotions, striving) to code the dreams of 47 women with ages between 25 and 56 who were divided into three age groups: 25-35, 36-45, and 46-56 years (Cote, Lortie-Lussier, Roy, & De Koninck, 1996). Very small differences between groups were found across most of the content categories analysed. As with other studies, the only noteworthy differences were related to the frequency and affective tone of emotions in dreams, which in the oldest group were less frequent but more pleasant compared to the other two groups. Another Canadian study investigated parallels between the content of dreams and that of autobiographic memories with concern to temporal references (Grenier et al., 2005). A group of 28 women with ages between 18 and 25 years was compared with a group of 30 older women with ages ranging from 60 to 77 years. All the participants were required to keep a dream journal over a period of one week. At the end of this, all the subjects spent one night in a sleep laboratory being repeatedly awakened from REM sleep stage. The following morning all the participants were also required to identify biographic references in their recalled dreams as well as to provide autobiographical memory samples using a semantic cuing method. The authors found that the contents of dreams and of biographic memories followed a similar linear decrease in temporal references regardless of age. For the older group however, this trend only applied to the previous 30 years, as references to childhood, teenage years and early adulthood (up to the age of 29) were overrepresented both in their dreams and in their biographic memory samples.

Substantial consistency in dreams of aged individuals has also been found in content analyses of long individual series of 75 or more dream reports recorded over several decades (Domhoff, 1996, 2003; Hall & Nordby, 1972; M. Kramer & Roth, 1979). For example, a study by Domhoff (1996) compared two lots of 100 dream reports from the same dreamer 30 years apart: the first series from his 40's, the second from his 70's. The dreams were analysed with the HVDC scales and compared with the HVDC normative findings for males. Very little age related variation was found on most indicators. Highly consistent individual patterns included an unusually high frequency of sexual dreams compared to the HVDC norms. This was maintained from sample to sample despite the age gap, which could have been expected to attract a smaller frequency of sexual references in old age. Furthermore, the comparison of the two sets for 'elements from the past' found that only about 10% of all the reports in each set contained one or more such elements. Thus, young or old, the content of the subject's dreams revolved mainly around his current everyday life, his relationships and his recreational interests and activities.

The longest available individual dream series was mailed to Hall by a woman given the fictitious name 'Dorothea'. The series consisted of 904 reports spanning from 1912, when she was 25, to 1965, the year of Dorothea's unexpected death at the age of 78. Dorothea's dreams were content analysed in two separate studies 30 years apart (Domhoff, 1996; M. Smith & Hall, 1964). Aiming to investigate whether Dorothea was inclined to dream more often of her distant past as she grew older, Smith and Hall (1964) coded 'elements from the past' in the first 649 reports mailed by Dorothea up to the age of 75 years. These were divided into two sets: 188 dreams before she was 66 years of age and 461 dreams between the ages of 66 and 75 years. The comparison of the two sets found only a small difference between the percentages of dreams containing one or more elements from the past: 23% before the age of 66, compared with 29% after the age of 66.

In a subsequent analysis, Domhoff (1996) applied all the other HVDC content categories to investigate the entire 904 reports in this series. The author found substantial consistency over many years and, in some respects, over several decades. For instance, the frequency at which Dorothea dreamt of her parents remained almost constant throughout her life span, despite her father passing away when she was in her 20's and her mother when she was 61 years of age. Furthermore, the relative frequencies of character types (e.g. family, friends, stranger, animals), of aggressions and of misfortunes fluctuated only minimally across Dorothea's adult lifespan. The only notable exception related to the 'Male/Female' percentage which

dropped significantly as Dorothea grew older: from 53% in the first 100 reports as a young woman to 39% in the 100 dreams reported in the 75th year of her life. Domhoff explained this particular trend in connection to the changes in Dorothea's life: "As the number of males in her life declined so did the number in her dream reports" (p. 144).

Domhoff (1996) also conducted a thematic analysis of the series, finding that throughout Dorothea's life six distinctive themes were featured with very similar frequency. These themes accounted, fully or partially, for approximately 75% of all her reports. The prominent themes included eating or thinking of food (25% of the dreams), losing an object, usually her purse (16%), her room being in disorder or intruded by others (10%), being in the company of her mother (10%), trying to go to the toilet, usually being interrupted (8%) and being late or worried about being late or missing a bus or train (6%). Regardless of her age, most of Dorothea's dreams featured a combination of these themes, including her last dream which she mailed to Hall only four days prior to her unexpected death:

> Mother had dished out too liberally to the younger children so I asked E [a brother of Dorothea] to give her some of his. I still had nothing. Then we saw a potato on the floor by the door and it was divided with me. (Domhoff, 1996, p. 145)

The author pointed out that without the information about the themes consistently featured in Dorothea's dreams throughout her life (e.g. food and eating, being with her parents and siblings), this dream can easily be interpreted as symbolising Dorothea's concerns around a shortage of food in the rest home where she had been living. A Jungian analyst may be tempted to interpret this dream as an omen of Dorothea's approaching death which came unannounced, since she was not aware of having a life-threatening condition. While metaphoric or symbolic interpretations cannot be automatically dismissed, they must also account for the 'baseline' in Dorothea's dreams, namely the themes consistently featured in her dreams throughout her life.

In conclusion, the findings of the investigations of dream content with aged groups and individuals converge in supporting the substantial consistency of dreaming into old age. Like younger adults, dreams of healthy elderly are mostly present-minded and concerned with age-appropriate social and recreational themes. The only notable changes relate to the declines in aggressive content and negative emotions, as in the frequency of nightmares. These trends appear to parallel age-related patterns in waking thought and emotion, as the continuity of

dream content to current waking concerns interacts with the consistency of old patterns in shaping dream content.

With regard to parallels with temporal references in waking life, a large cross-sectional survey by Giambra and his colleagues (1977) investigated daydreams and other spontaneous forms of waking thought with individuals aged between 17 and 92 years old. The authors found that older subjects were as likely to think and daydream about issues of current concern as the younger adults were. Further support for this idea has been provided by the large similarities found between young and elderly groups of participants with concern to temporal references in dream reports and autobiographic samples (Grenier et al., 2005). On the other hand, the overrepresentation of memories older than 30 years both in dreams and in autobiographic samples from older participants replicates the findings of previous memory studies with aged individuals (e.g., Rubin, Rahhal, & Poon, 1998; Rubin, Wetzler, & Nebes, 1996).

Moreover, the declines in aggression and negative emotions in dreams of aged individuals were found to parallel the age-related changes in waking emotions. Specifically, older people report far higher rates of satisfaction with the current state of affairs compared to younger individuals (Herman & Shows, 1983-1984). Similarly, a more recent investigation has shown more efficient emotional regulation and greater positive to negative emotions ratios amongst elderly people compared to younger adults (Mather & Carstensen, 2005).

Studies on terminally-ill people

This section reviews the findings of the few investigations of dreams conducted so far with terminally ill individuals or groups. The scarcity of empirical data may be due to a lack of general interest in this particular group, but also to the many ethical, practical and methodological challenges involved (see Chapter 2). A search on the Psych INFO database revealed two scientific review articles on the topic (Cookson, 1990; Funkhouser et al., 1999). The investigations to date consist of single case or small-group studies. In most of them, the researchers were also the participants' psychotherapists.

In an early study, Norton (1963) examined the dreams of a 32 year old woman suffering from breast cancer. The dreams were gathered during the weekly psychotherapy sessions the participant attended over the last three and a half months of her life. Themes of 'sadness' and 'physical activity' were found to be the most common. The author interpreted these themes as

literally expressing the patient's struggles with her illness and, respectively, her wish to be healthy and active again (Norton, 1963). In another clinical study, psychiatrists Greenberg and Blank (1970) analysed the dreams of a 48 years old man who was undertaking therapy for depression and anger issues at the time when he learnt that he was suffering from carcinoma. The dreams were gathered over the last seven months of his life. Dreams in which the subject was pictured as frightened, disturbed or desperate were the most common. In light of the patient's persistent denial of his approaching death, the authors interpreted these themes in Jungian manner as an autonomous recognition and preparation for death by the unconscious. Furthermore, they suggested that the dreams may have expressed a non-pathological death wish – an interpretation reminiscent of Freud's wish fulfilment theory (Greenberg & Blank, 1970). Finally, the authors connected the changes noted in dream content as the illness progressed to the psychological conflicts associated with the process of dying. These intrapsychic evolutions included fears of dependency and a gradual withdrawal of psychic energy from the outer world ('decathexis').

In another case study, Jungian therapist Edinger (1972) analysed 180 dreams shared by a suicidal patient in his late 50's over a period of two and a half years preceding his death, which was caused by a cerebral vascular accident. Motifs of personal tragedy (e.g. being lost or scared, darkness) were the most common, while one third of the dreams contained elements of positive, peaceful imagery (e.g. physical exercise, light-filled room). This patient was also considered to display a very limited degree of death acceptance. The analyst argued that this combination of tragic and comforting themes reflected an unconscious process guided by the 'self' archetype through which dreams assisted him to relinquish his mundane ego and to reach a transpersonal level of consciousness and individuation. Other case studies based on Jungian theory (i.e. Bosnak, 1989; Danks, 2001; Pelgrin, 1962) arrived at similar interpretations of dreams as providing terminally-ill people with inner guidance in preparation for death.

However, as these single case studies focussed mostly on the authors' psychodynamic interpretations and the therapeutic relevance of the dreams, they collected little information about generic themes or typical patterns in end-of-life dreams. On the other hand, a number of researchers specifically aimed to examine general or typical themes by conducting small group studies with people facing impending death, some of them using non-dying controls for comparisons. One investigation was conducted by Gilbert (2004), another Jungian researcher, who used grounded theory data analysis to analyse a total of 88 dreams collected through

semi-structured interviews from eight participants aged between 82 and 94 years. Themes of loss, sadness and grief were found to be most common and were interpreted by the author in relation to the ideas that dreams facilitate the letting go of worldly attachments. On the other hand, themes of travel were also prominent and were thought by the author to symbolise unconscious preparations for death's journey.

There were also four small-group studies which used the Hall and Van de Castle system of content analysis to examine distinctive trends in the dreams of dying people. In an early investigation, Groth-Marnat (1977) scored 35 reports collected through personal interviews from three cancer patients with a life prognosis of less than one year. Compared to the normative findings on dreams of adults (Hall & Van de Castle, 1966), dreams of dying people contained larger percentages of travel activities, unfamiliar settings, and portrayals of the dreamer as a victim of aggression. The study also enquired about participants' personal associations to dreams. A thematic analysis revealed that at some point during the interview period, which ranged from two to seven months, each participant thought that their dreams expressed one of the following real-life problems: separation from normal existence; questioning the meaning of life; unresolved relational conflicts; and changes in levels of commitment towards family, friends, and work (Groth-Marnat, 1977). In a later study, Groth-Marnat (1988) coded with the HVDC scales 104 dream reports contributed by nine seriously-ill patients with a life expectancy of 12 months or less. Compared to the norms on healthy adults, the dreams of the dying participants were found to be generally blander, containing fewer overall interactions, activities, emotions, and settings. The only trend in the opposite direction related to a higher frequency of unfamiliar characters in dreams of the seriously-ill individuals compared to the normative findings derived from younger healthy adults. The author interpreted these patterns in relation to the social and emotional disengagement occurring during the terminal stages of a serious illness.

In the most systematic study using the Hall and Van de Castle coding system, Hone (1983) scored 48 reports, consisting of eight dreams from each of six cancer patients with ages ranging from 37 to 55 years. Three participants were terminally-ill while the other three were in remission, and as such, were used as a control group. The dreams were written down by all the participants as a requirement towards their regular psychotherapy sessions with the researcher. The dreams of the terminally-ill participants were found to contain more references to personal misfortunes, travel and settings of uncertain familiarity compared to the non-dying group. On the other hand, the dreams of people in remission scored higher on

friendly interactions as well as on most types of characters, emotions, and activities. The author interpreted these trends as reflecting stronger worldly attachments and an increased involvement with social life amongst the non-dying group. The patterns in the dreams of dying participants were considered indicative of a withdrawal from external living and of recognition of death by the unconscious in spite of and because of their conscious denial of death. In a purely Jungian fashion, the author argued that "the unconscious seeks to balance or make up for the one-sided conscious attitude by emphasizing the opposite through dreams" (Hone, 1983, pp. 61-62).

However, the reliability of such Jungian interpretations of end of life dreams has been brought into question by an empirical component of the same study. Specifically, the author asked two independent Jungian analysts to blindly sort the mixed sample containing the 48 dreams into two equal lots of 24 reports from dying and non-dying subjects. Both judges correctly identified the group contributing the dreams at a low although significant rate of 66%, compared to chance levels of 50 %. The intercoder agreement was also low: 58%. Of particular concern is that only 46 % of all the reports were scored both correctly and in agreement by the two experienced analysts, raising serious doubts about the reliability, both common and interrater, of this method of analysis.

In another study, Coolidge and Fish (1983-1984) collected 37 dreams from 14 (11 females, three males) terminally-ill cancer patients with ages between 28 and 88 years (mean age: 46.5 years) through a standardised questionnaire administered by personal physicians. These were compared with 97 dreams gathered by undergraduate students from 42 (27 females, 15 males) healthy elderly aged 61 to 91 (mean age: 74 years) through several community agencies. According to medical records, the interval between dreams and subsequent death in the terminally-ill group ranged from one to 65 months (mean interval: 36.5 months). The questionnaire in this study contained 19 thematic categories, many of which were similar to the Hall and Van de Castle scales (e.g. characters, emotions, activities). The dreams were coded by two independent scorers. The inter-scorer reliability was 89%. A 'death' theme was coded for in this study. Sixty four percent of the dreams of terminally-ill people were checked for this theme compared to only 33% of the dreams from the healthy aged individuals. Similar to previous investigations, the prominent themes in dreams of the dying were associated with negative emotions (i.e. fear, loneliness, sadness). Yet, in contrast to previous studies the number of emotional references in the dying group was significantly larger compared to the non-dying group. Specifically, 79% (11 out of 14) of the dreams containing

emotional references compared to only 43% (18 out of 42) in the non-dying group. The authors explained this difference in relation to a heightened negative emotionality experienced by people aware of their impending death. Another atypical finding coming out of this study was that aggressions were more frequent in the dying group, although these, like death themes, rarely involved the dreamer's death but rather that of others. Finally, compared to the control group, dying people reported more dreams featuring babies, pregnancies and children (64% versus 7 %). This finding was interpreted as expressing a longing for youth and rejuvenation, in line with the Jungian theory that child characters in dreams symbolise the 'self' archetype which guides people towards inner growth and individuation (Wharton, 1996).

Prince and Hoffman (1991) aimed to replicate the findings of the Coolidge and Fish (1983-1984) study. To that end, they scored with the HVDC system 25 dreams collected through interviews with eight (six males, two females) patients with ages ranging between 32 and 74 (mean age: 71.5 years) admitted to a palliative care facility. The interval between interviews and death in this study was much shorter compared to the Coolidge and Fish study, ranging between zero and 40 weeks. The authors used the HVDC norms as a baseline. They did not find themes of death, aggression and of pregnancy or child characters to be more frequent in the dreams of dying people compared to the HVDC norms. The only noteworthy differences related to a lesser degree of physical activity and a slightly higher level of cognitive activity in the study sample in comparison to the HVDC norms. The authors attributed the discrepancies in dream content from the Coolidge and Fish (1983-1984) study to the potential effects of confounding variables such as phase of illness, median age (the age of their dying group was 71.5 compared to 46.5 in the Coolidge and Fish study) as well as pre-morbid interests and medication regimens. For instance, the differences between the mean ages of the participants classed as terminally-ill in each study may explain the unusually high emotional content in the Coolidge and Fish study. Furthermore, themes of aggression and death in the Coolidge and Fish study resonate with the early stages of a terminal illness, which makes sense given that the mean interval from death was quite large, 36.5 months. On the other hand, the subjects in the Prince and Hoffman study were far closer to death, raising the possibility that their dreams reflected the emotional withdrawal and acceptance associated with the final stages of the dying process. The authors also compared the dream reports with biographic information collected from the participants and argued that there were meaningful dreaming-waking continuities.

Arguably many variables (e.g. age, stage of illness, time from death) will have contributed to the apparent discrepancies between the previous studies with terminally-ill people. However, it is also noted that the investigation by Prince and Hoffman was methodologically weak as the analysed dream reports were very brief (mean length: 25 words). Given that longer dreams tend to contain more of each element (Domhoff, 1996, 2003; Hall & Van de Castle, 1966) and that the authors did not use any controls for dream length, the shortness of the dreams is likely to have contributed to the reduced frequencies found in most elements in dreams. Methodological shortcomings also existed in the other investigations mentioned above, which were based on single cases or small samples of participants and of dream reports. Most of these studies do not even mention the length of the dreams being analysed, including the Coolidge and Fish (1983-1984) study. In effect, it could be argued that these studies are far more informative about the authors' psychodynamic interpretations of dreams than they are about the common or recurring patterns in the dreams of palliative people. Finally, very little has been said in the investigations conducted by the therapists about the subjects' personal interpretations of dreams prior to participating in therapy.

Research aims

The main aim of this thesis study was to investigate the content of the dreams of palliative care patients and to compare their dreams to established norms

A second aim of the present project was to investigate palliative peoples' own perceptions about the influence of their illness on their dreams and their perceptions of whether their dreams had changed as a result of their illness.

A third aim was to investigate the meanings that participants gave to their post-illness dreams and the extent to which their interpretations related to their waking preoccupations.

The study also aimed to examine the impact, if any, of gender and cultural differences on the dream content of the palliative care participants.

Finally, the study aimed to contribute to theoretical development in dream psychology and to consider clinical implications for practice with palliative care patients.

CHAPTER 2: Methodological Considerations and Strategies

Overview

This chapter outlines the methodological considerations and the strategies employed in the present research. It comprises five sections. Section 1 reviews the ethical and methodological aspects of scientific inquiries about experiences of palliative people. Section 2 presents the challenges when investigating dreams and dreamers' interpretations, in terms of data collection and analysis. The third section describes relevant epistemological considerations and argues the rationale for pragmatism, the paradigm underpinning this research. Section 4 introduces the two complementary studies of this mixed-methods project. The final section presents a reflexive account of the doctoral student's position, including personal background, assumptions, and pre-research preparation.

Ethical and methodological issues when conducting research in palliative care

Methodological strategies must be tailored to suit the aims and problems of the research as well as participants' needs, in an ethical manner (Casile, 1988; Creswell & Plano Clark, 2007). Palliative patients are often fragile, physically and/or cognitively impaired, tiring quickly. Their ability to complete research tasks requiring sustained effort may be limited by the disease itself, cerebral metastases, confusion, medication, or other forms of treatment (Davies, 1995). Palliative people's short life expectancy further narrows the methodological options as prospective and longitudinal designs may not be available (Casile, 1988; Davies, 1995).

Studies of end-of-life related issues may be conducted on different units of analysis: either individuals close to the patients (e.g. family members, therapists, other clinical staff) or the patients themselves. Given the difficulties around involving palliative people directly in research, except perhaps for clinical trials of new drugs, many investigations of end-of-life experiences use family members or healthcare professionals as informants/participants (e.g. Egan, 2010; Fenwick et al., 2009). This approach may also be favoured because it acknowledges the important role of family members and carers who often take it upon themselves to protect the weakened patients from additional distress. However, collecting data about people's intimate experiences, as is the case with dreams and related interpretations, from family or friends poses a high risk of introducing bias (Casile, 1988; Davies, 1995). Using medical staff as informants or having clinicians taking on the

researcher's role is equally problematic given that therapeutic priorities are paramount and patient-carer relationships are highly individualised (M. Kramer, Roth, Arand, & Bonnet, 1981).

The alternative to using individuals proximal to the patients when studying end-of-life issues is to use the patients themselves as primary subjects. In spite of their ailments and frailties, palliative patients are often motivated to contribute to the wellbeing of others and many even draw a sense of support and personal satisfaction from being able to contribute to the progress of knowledge (Hughes, 2010; Mackilop, Stewart, Ginsburg, & Stewart, 1989). Previous investigations of the effects of dream-talk on the well-being of elderly people found no adverse effects on participants' quality of life and sleep (Funkhouser, Cornu, Hirsbrunner, & Bahro, 2000). It follows that, provided ethical considerations are carefully contained, collecting data directly from palliative patients about dreams and personal interpretations is the most desirable approach, one that may benefit patients and researchers alike. Therefore, collecting data directly from palliative patients was the method of choice in the present research, wherever this was possible. However, the option of asking for support from clinical staff or significant others with recording their responses was also available to the participants in this project.

Methodological issues when studying dreams

A very different yet equally important series of methodological considerations in this project stem from the phenomena of interest. Researchers have long debated the definition of dreaming (Hobson, 2009; Pagel, 2008; Rock, 2004). As Freud (1900/1953) pointed out, instantaneous interactions with dreamers cannot take place during sleep. Given the perceptual isolation involved and that dreams are not exclusive to any one sleep stage, REM sleep included, neuro-imaging techniques are not able to detect precisely if and when an individual is actually dreaming (Pagel, 2008). Hence, except for the rare occasions when dreamers sleep talk or suffer from REM sleep disorder (Arkin, 1981; Domhoff, 2003), it is not possible to establish whether one had a dream or whether their report accurately matches the experience of the dream. It has even been proposed that dreams may in fact be confabulations during the transition from sleep into wakefulness (Antrobus, 1993; Nir & Tononi, 2009). Dreams, then, 'exist' only in the form in which they are remembered and reported by people retrospectively, from a waking state. Hence, dream researchers are dealing not with one but with three phenomenological layers - an experienced dream, a recalled dream and a reported dream, but

have to accept that verbal or written reports are the only data available for empirical investigations.

On the other hand, dreams are often so vivid and compelling that they are subjectively experienced as 'happening' outside the dreamer's control. In effect, less responsibility is usually taken by people for the content of dreams than for their waking thoughts and beliefs (Hall & Nordby, 1972; Hall & Van de Castle, 1966). For this reason, dream reports can be considered as a unique type of self-reported data where honesty poses little risk to one's reputation, particularly if confidentiality and anonymity are guaranteed. Furthermore, cultural beliefs and expectations are likely to have a lesser impact on dream reports compared to other forms of verbal or written communication (Domhoff, 1996, 2003; Foulkes, 1985). On the other hand, people's views and interpretations about the nature or causes of their dreams are likely to be strongly affected by their personal histories, relationships, individual attitudes, and cultural stereotypes (Beaulieu-Prevost, Charneau Simard, & Zadra, 2009; Cartwright, 1990; Shanon, 1980). Therefore, in this research aspects of dream content and the dreamers' interpretations of dreams were treated as two different albeit closely interrelated phenomena.

Data collection methods

The methods commonly used to collect dream reports may be conceptually grouped into two broad categories: laboratory awakenings, mainly from REM sleep stage, used to collect data immediately following dreams and methods used to collect data retrospectively, at some point in time after the dreams such as questionnaires, interviews and diaries (Schredl & Erlacher, 2003; Zadra & Domhoff, 2010). Each method has its strengths and limitations. The approach chosen to collect reports has direct implications on the quality and representativeness of the data (Domhoff, 2000; Schredl, 2002). Laboratory awakenings from REM or Stage II NREM sleep tend to produce the best data in the form of detailed reports of up to five or six dreams a night, a substantial difference compared to everyday life where only 5-10 % of dreams are recalled (Aserinsky & Kleitman, 1953; Fosse, Stickgold, & Hobson, 2011; Foulkes, 1985). However, laboratory-based studies are costly and may not be appropriate when participants consist of elderly people who find it more difficult than young adults to go back to sleep (Fein et al., 1985; Funkhouser et al., 1999). These concerns are further accentuated when the population of interest consists of seriously-ill people.

As laboratory-based studies may pose ethical, methodological and costing difficulties, dream researchers have used alternative methods to collect data such as dream diaries, interviews and questionnaires. Data of a quality closest to laboratory awakenings can be obtained through brief diaries of dreams recalled at home in the morning (Domhoff, 2003; Fiss, 1983). Studies requiring dreamers to write down or tape-record their morning recalls over a period of time ranging from one week to several months may be criticised for the overrepresentation of morning dreams in the samples obtained. Furthermore, studies have shown that keeping a diary attracts an increase in recall for low and medium recallers and a decrease for high recallers (Schredl, 2002). Finally, there is also a risk of collecting fabricated reports as some participants may feel pressured to fulfil the researchers' expectations (Tonay, 1990/1991).

Although dreams recorded in diaries kept at home are subject to morning recalls, they do not necessarily produce biased samples. This is because dream content does not vary significantly from early to late REM sleep periods although these become longer and more intense as the night progresses (Antrobus et al., 1995; Strauch & Meier, 1996). Studies comparing the content of laboratory reports with that of home dreams contributed by the same participants found substantial similarities in most respects, except for physical aggressions which tend to be more frequent in home reports (Foulkes, 1979; Strauch & Meier, 1996).

Given their potential to generate quality reports, diaries of morning recalls at home were one of the methods used to collect dreams in this research. A series of factors were shown to influence the frequency and accuracy of the records made in dream diaries. In particular, dreams are far more likely to be remembered immediately after awakening, recency being the strongest determinant for recall (Cavallero & Foulkes, 1993; Moffitt, Kramer, & Hoffmann, 1993). Therefore, participants who agreed to record their dreams for the present research were encouraged to keep their journals by their bedside and, their wellbeing allowing, writing them down or dictating them to a significant other as soon as possible after awakening so long as their wellbeing allows.

Other tools used to collect data about dreams include questionnaires and interviews. The quality of dream reports obtained through these approaches has been questioned given the long delay between recall and experience and the obscuring effects of dreamers' post-awakening associations (Domhoff, 2000; Rubenstein & Krippner, 1991). Revealing in this

sense is a study by Bernstein and Belicki (1995) comparing participants' impressions about what they dreamt of most frequently with the findings of the content analysis of the two-week follow-up dream diaries kept by the same participants. The majority of the participants thought that they dreamt most frequently of friendly interactions, followed by sexual interactions and aggressions. Yet, the analysis of their diaries revealed a different order, with aggressions first, followed by friendly interactions, sexuality coming last (Bernstein & Belicki, 1995). Similarly, a later investigation compared the dreamers' retrospective perceptions regarding levels of anxiety in their dreams with the actual content of the dreams recorded in their diaries (Beaulieu-Prevost & Zadra, 2005). The study found that, for poor recallers in particular, the estimated levels of anxiety did not relate to the affective content of the dreams, but correlated to the emotional state of the subjects at the time of the evaluation. Such findings clearly indicate a need to separate dream content from dreamers' perceptions and interpretations when conducting dream research, given that the latter is not necessarily an accurate indicator of the former.

While interviews and surveys about patterns in one's dreams cannot replace empirical investigations of dream reports, these methods were shown to yield valuable data when used in combination with other approaches. Particularly when they include open questions, these methods are useful in getting people to talk about their personal interpretations and beliefs about dreams and the underlying emotions they consider relevant to the content of the dreams (Foulkes, 1978; King & DeCicco, 2009). In the first study of this project, semi-structured interviews were used in combination with dream diaries to collect dream reports from participants. Furthermore, both studies included closed and open questions about participants' thoughts about changes in the content of their post-illness dreams and about personal interpretations.

With regard to questionnaires, a series of researchers stressed the importance of collecting recent dream reports in a standardized manner (Hall & Van de Castle, 1966; Schredl, 2002; R. C. Smith, 1984). To that effect, a method has been developed, namely the 'Most Recent Dream' (MRD) approach (Hartmann, Elkin, & Garg, 1991). The MRD method was originally developed for the inexpensive simultaneous collection of dreams from a large number of participants at a single location (e.g., classroom, clinic). The MRD form (Appendix 5) asks solely for one dream per participant - the most recent one, "whether this was last night, last week, or last month" (Domhoff, 1996, p. 67). For the purposes of this study, the MRD form

was sent to some of the participants via letters and for others was administered individually, in phone or face-to-face interviews with the doctoral student.

A limitation of the MRD method is that only basic demographic information about the contributing dreamers is usually collected, such as age and gender. This narrows the possibility of investigating connections of dream content to dreamers' waking experiences, thoughts and emotional concerns. On the other hand, the MRD approach greatly reduces the biases typically associated with interviews and questionnaires about dream content (Domhoff, 2003). This is realized through the strong focus on the recency of dream reports which is reinforced by asking participants to report the date and time of recall. Dream reports collected using the MRD method are particularly instrumental in collecting a large amount of dreams from a specific group of interest in studies where patterns in dream content can be compared with the characteristics of the group and with typical waking conceptions and concerns of the dreamers (Domhoff, 1996, 2003). For instance, the MRD approach was used to collect dreams from 12 to 13 year old children (Avila-White, Schneider, & Domhoff, 1999). The findings on dream content were similar in many ways with those obtained analysing REM sleep awakenings of subjects from the same age group (Foulkes, 1982), suggesting that the MRD method facilitated the collection of quality dream reports. The MRD approach was also used to examine discrepancies and continuities between dream content and everyday life events in a study where data about the latter were collected with an adapted version of the MRD form (Maggiolini et al., 2010). Furthermore, given that these studies used the HVDC system for the content analysis of dreams, the findings suggest that the MRD method lends itself well to collecting dream reports in studies where dreams are analysed with the Hall and Van de Castle system (Domhoff, 1996; Hall & Van de Castle, 1966). Domhoff (1996, 2003) argued that between 100 and 125 dreams should be collected in a dream study using the MRD approach. In support of this idea he showed that it takes 100-125 reports to approximate the findings of the Hall and Van de Castle (1966) study derived from 1000 dreams (five reports from each of 100 males, and five from each of 100 females). In Study Two of this project, the MRD form was used to collect 100 dream reports (i.e. one per participant), that were content analysed using the HVDC system. More about the HVDC system and the findings of the original study used as a normative basis in a multitude of cross-cultural investigations will be said in Chapter 4.

To summarise, the present project used all three methods of collecting dream reports available outside the sleep laboratory. These included dream diaries and semi-structured

interviews in Study One and the MRD approach in Study Two. In both studies, data about participants' dream-related perceptions and interpretations were also collected.

Data analysis considerations

Methods of dream analysis include clinical-psychodynamic and empirical methods. The two main psychodynamic approaches used to interpret dreams are Freud's 'free-associations' method (Freud, 1900/1953) and Jung's symbolic analysis based on 'amplifications' (Jung, 1964, 1974b). A general critique of clinical-psychodynamic approaches is that they tend to merge dream content with dream interpretations, terming them as 'manifest' respectively 'latent' dreams. The impact of this amalgamating trend is that interpretations fitting the psychodynamic views of the analysts are often given priority over the substantive content of dreams and dreamers' personal interpretations (Mazzoni, Loftus, Seitz, & Lynn, 1999; Ofshe & Watters, 1994).

Psychodynamic methods of dream analysis

Freud's 'free-associations' method is based on the premise that all dreams contain episodic residues from the previous day as well as repressed wishes of a mainly sexual nature, usually rooted in childhood memories. Practically, the free-associations method requires dreamers to share, without any censorship, their spontaneous thoughts in connection to the sequence of aspects in the recalled or 'manifest' dream. This is done with a view to identifying the 'latent' content of dreams consisting of memories and repressed wishes disguisedly expressed and fulfilled through dreams (Freud, 1900/1953, 1940/1949). Free associations are thought to be a good 'ice-breaker' for getting people to share personal memories and current emotional problems that they may consider relevant to their dreams. However, no empirical evidence has yet been found to support the reliability of this method in interpreting manifest dream content. A systematic investigation of Freud's therapeutic work on dreams failed to find support for the usefulness of this method in providing a unique, generalizable answer to the question as to how dreams ought to be interpreted (Fisher & Greenberg, 1977). Similarly, Foulkes (1996) used the free-association technique with participants awoken in a laboratory setting. The author advised that he was unable to detect any patterned pathways between manifest dreams and the participants' associations, concluding that the method was essentially 'arbitrary'.

The other main psychodynamic method of dream interpretation, Jung's symbolic analysis (Jung, 1964, 1974b), is based on the assumption that 'small' dreams are produced by the individual unconscious and express everyday life memories and preoccupations. On the other hand, 'big' or 'symbolic' dreams were said by Jung to tap into the immense reservoir of archetypes residing in the collective unconscious and to provide individuals with spiritual guidance from within. Such symbolic dreams are thought to be experienced by people across many cultures throughout history. They may also be repeatedly experienced by individuals, signalling ongoing issues overlooked at the conscious level. Practically, Jung's symbolic analysis requires dreamers to 'amplify' each part of the dream separately rather than sequentially as is the case with 'free associations', in order to discern the type of dream and uncover the relevant archetypes.

Although Jungian interpretations of dreams have become increasingly popular with authors from the palliative field (e.g. Bulkeley & Bulkley, 2005; Goelitz, 2007; Kearney, 2000; Lowther, 2003), in empirical investigations Jungian analyses of dreams have very low rates of agreement even between very experienced judges (Hone, 1983). Furthermore, no differences in the 'archetypality' of dreams were able to be established by an experienced Jungian analyst between groups of women before, during, and after menopause (Abel, 1994). On the other hand, it must be said in Jung's defence that he never claimed that his metaphysical ideas would satisfy the requirements of empirical methods which he considered as having limited value in illuminating the transcendental realms of the collective unconscious (Jung, 1963; von Franz, 1987). Psychodynamic methods of dream analysis were deemed as inappropriate for analysing the content of dream reports in this empirical research project. Yet, relevant psychodynamic concepts will be referred to in the discussion and interpretation of the patterns found in the manifest content of dreams through the methods of analysis chosen for this project.

Empirical methods of dream analysis

The empirical methods of dream analysis most commonly used are thematic analysis and content analysis. These methods are somewhat similar in that they both aim to detect patterns across an individual dream series or across a set of dreams contributed by a group of dreamers. Their essential differences lie in how the dream reports are coded and analysed: qualitatively for the former, quantitatively for the latter. Indeed, thematic analysis involves a qualitative inductive approach where self-report data are coded with the purpose of

identifying recurring or typical themes (V. Braun & Clark, 2006). For example, the thematic analysis of dreams was used in the previously mentioned investigation by Barrett (1992) concerning dreams about deceased loved ones. Thematic analysis was also used with end of life people to analyse 88 dreams contributed by eight end-of-life participants aged between 82 and 94 years, it finding that themes of loss, sadness, grief, and travel were most prominent (Gilbert, 2004).

The main methodological concern with the thematic analysis of dream reports, as in general, is that different coders are likely to come up with different themes, which limits the reliability and generalizability of the findings (V. Braun & Clark, 2006). On the other hand, thematic analysis allows for an exploratory approach particularly useful when investigating understudied phenomena (Bergman, 2008; Gephart, 1999). This is arguably the case with the dreams of palliative patients. Another advantage is that the findings of exploratory thematic analysis based on small samples can be used in mixed-methods designs to inform and/or be validated with quantitative large-scale follow-up investigations (Bergman, 2008; Creswell & Plano Clark, 2007). Furthermore, thematic analysis is ideally suited to investigating people's personal interpretations of dreams. Unlike dreams, personal interpretations are far more likely to be filtered through individual beliefs and social prejudices (Beaulieu-Prevost et al., 2009; Beaulieu-Prevost & Zadra, 2005; Bernstein & Belicki, 1995). In this project, thematic analysis was used to explore common themes across participants and individual recurrences in Study One. Thematic analysis was also used in both studies to analyse the data relevant to participants' thoughts about changes in post-illness dreams and about personal interpretations, in the first study inductively, in the second deductively.

The quantitative method of analysing dream reports of direct relevance to the present study is content analysis. This was developed as an alternative to psychodynamic and thematic analyses with the aim of conducting systematic investigations of statistical trends in dream reports (Domhoff, 2003; Schredl, 2010; Winget & Kramer, 1979). The content analysis of dreams involves converting elements in dreams (i.e. characters, interactions, activities, settings) into numbers (i.e. frequencies, percentages). The numbers can be subjected to various statistical analyses to test for significant differences in comparison to control groups (Krippendorff, 2004; Osgood, 1959). Content analysis was deemed by reviews of a multitude of studies to be valid and reliable, in terms of both of common and interrater reliability (Krippner & Weinhold, 2002; Schredl, 2010). It was therefore the method of choice in Study

Two of this project where the elaborated and well validated HVDC coding system was used to analyse patterns of dream content and to compare these with the existing adult norms.

Methodological issues with the content analysis of dreams

The first step of content analysis of dreams, as in general, is formulating categories able to produce valid and reliable results. The categories may involve either ordinal or nominal levels of measurement and may be derived either empirically or theoretically (Domhoff, 2003; Schredl, 2010; Schredl & Erlacher, 2003; Zadra & Domhoff, 2010). Rating scales resting on the ordinal level of measurement imply the assumption that aspects in dreams lie on a continuum on which 'lower' and 'higher' points can be established. Rating scales are thought to be particularly useful when investigating attributes of dreaming which can be assigned weights or rankings such as 'emotional intensity' or 'pleasantness'. For instance, in a previously mentioned study, Howe and Blick (1983) developed a 10-item checklist for emotionality in dreams to compare dreams of college-age and elderly women. The authors found a decline in negative emotions and a rise in positive emotions with age.

On the other hand, rating scales at the ordinal level may be criticised for failing to account for the narrative content of dreams. For example, measuring levels of 'vividness' or 'emotional intensity' tells researchers nothing as to what a highly vivid, emotionally intense experience was actually about. In effect, it is also not possible to investigate with such scales how dream content may have related to the waking conceptions or concerns of the dreamers. Even when rating scales specifically account for the substantive content of dreams their implicit assumption that such aspects necessarily lie on a continuum raises concerns around validity. This is because with these scales the rank scores must be added together to obtain a global score for the measured dimension. For instance, a rating scale for aggression where the lowest score is given to unexpressed hostility while murder is ranked highest (i.e. Gottschlack & Gleser, 1969) essentially means that an accumulation of hostile thoughts or angry remarks is the equivalent of a murder.

Nominal scales have also been developed for investigating patterns in dream content and parallels with dreamers' thoughts and concerns. The main drawback with nominal scales is that the processes of learning how to use them and then the actual coding of dream reports are far more time-consuming than is the case with rating scales (Domhoff, 2003). Yet, nominal scales have several important advantages. Firstly, they do not automatically assume degrees

of intensity and can be defined in a lot of detail which leads to high interrater reliability. Secondly, nominal scales allow for adding or amalgamating categories as the coding progresses if it is thought that certain aspects are not well covered with the existing scales, an option which is not available with ordinal scales.

Nominal scales for coding dream reports were found to be particularly useful and reliable when they were developed empirically rather than theoretically. Theoretical scales are usually of psychodynamic extraction such as 'masochism' (Beck & Hurvich, 1959) or 'ego synthesis' (Sheppard, 1969) and tend to impose links between separate elements in dreams in ways consistent with a unifying theory. Such scales suffer from the same problems discussed above in relation to the psychodynamic methods of dream analysis, including low interrater reliability (Foulkes, 1996; Hone, 1983). On the other hand, empirical scales are derived from basic-level perceptions and cognitions. Relating to natural aspects of human experience, these can be intuitively understood by inexperienced researchers and have high interrater reliability (Domhoff, 2000; Hall & Van de Castle, 1966). Furthermore, of particular relevance for this project is also that empirical scales owe little to pre-existing theories and are therefore best suited to exploratory investigations.

The usefulness of the HVDC system and of the findings of the original study as a normative basis for new cross-cultural investigations has been evidenced by the substantial number of studies based on this system that have been conducted since its creation. Many of these investigations have been presented in the literature review. The HVDC system was also used in a few studies based on the content analysis of dreams with terminally-ill people (Groth-Marnat, 1988; Hone, 1983; Prince & Hoffmann, 1991). Unfortunately, these studies were based on small numbers of participants contributing a handful of reports each. Schredl (1998) reported that about 20 reports per participant are required for content analysis to allow for detecting interindividual differences.

On the other hand, as has been mentioned the HVDC norms are well approximated with random samples of 100-125 dreams (Domhoff, 1996, 2003). This suggests the use of the HVDC system for the content analysis of large samples collected with the MRD approach is ideally suited to investigating differences in dream content and correspondences with waking life in a group of dreamers expected to share similar experiences and concerns. Since terminally-ill people are thought to be a highly distinctive group in terms of existential concerns typical for end of life (Bulkeley & Bulkley, 2005; Kübler-Ross, 1969), the use of

HVDC system in Study Two of this project to analyse the 100 dreams collected mostly through the MRD method is considered justified.

Epistemological dilemmas and stances

Empirical investigations are founded in epistemological paradigms or worldviews which inform and guide the methodologies, designs, and procedures employed by researchers (Plano Clark & Creswell, 2008). Traditionally, distinctions have been made by social scientists between positivist/essentialist worldviews and interpretive/constructionist paradigms (Y. Lincoln & Guba, 1985; Merriam, 2009). There are genres and variants within each of these but also some common underlying views with respect to what reality is and how it ought to be investigated (Bergman, 2008; Gephart, 1999; Tashakkori & Teddlie, 2003).

By and large, positivist or essentialist paradigms posit that reality is objective, unique, fixed, and can be mathematically modelled and measured using quantitative methods such as experiments or surveys (Creswell & Plano Clark, 2007). Positivist-quantitative researchers are assumed to be detached from phenomena, which they investigate deductively, through theory-derived falsifiable hypotheses (Bergman, 2008). Working with large representative samples, they aim to obtain replicable findings about universal causal or correlational laws. Critics of this paradigm argue, on one hand, that positivist-quantitative researchers ignore the impact of the context and of their personal values on the investigation process and, on the other hand, fail to account for single participants' individual experiences of the phenomena of interest (Merriam, 2009). Given their typical reliance on existing theories, positivistic-quantitative methods may also be criticised for excluding explorative approaches which could lead to new discoveries (Gephart, 1999).

In contrast, interpretive/constructionist worldviews posit that 'reality' is subjective, invested with meaning by individuals 'constructing' it in tune with their personal histories, cultural beliefs and social interactions (V. Braun & Clark, 2006; Crotty, 1998; Gephart, 1999; Y. Lincoln & Guba, 2000; Littlejohn, 2000). Within this paradigm, experiential phenomena are considered as "holistic, multidimensional, and ever-changing" (Merriam, 2009, p. 213) and consequently as unable to be quantified or tested. Hence, the end goal of researchers adhering to this worldview is "the researcher's understanding of the participants' understanding of the phenomenon of interest" (Merriam, 2009, pp. 23-24). Researchers in this category regard themselves as being on a continuum rather than detached from their subjects and from their phenomena of interest. Using observations and interviews to collect data from small numbers

of participants, interpretive-constructionist researchers typically conduct investigations based on qualitative analyses (Guba & Lincoln, 1994; Y. Lincoln & Guba, 2000).

Of the qualitative methods used in empirical research underpinned by interpretive worldviews, thematic analysis is the most basic being essentially embedded in most qualitative methods (V. Braun & Clark, 2006). Thematic analyses usually start with a focus on individual participants' views, followed by the identification of patterns across participants, and then by broader theoretical implications, integrations within existing models or development of new models (Merriam, 2002; Patton, 2002). Critics of qualitative research raised concerns about the low reliability, in that different investigators are likely to produce different thematic categories, and about the fact that generalizing findings based on unrepresentative samples beyond the immediate context is not achievable (Bergman, 2008). To this critique, qualitative researchers may answer that transferability or extrapolations of the findings to other situations may still be legitimate provided that richly descriptive contextual data is provided and that the identified 'themes' are consistent with the supporting data being presented (Y. Lincoln & Guba, 1985; Merriam, 2002, 2009).

Traditionally, the dichotomous positions described above were considered irreconcilable, positivism and quantitative research dominating in social sciences for many decades (Y. Lincoln & Guba, 1985; Plano Clark & Creswell, 2008; Tashakkori & Teddlie, 2003). However, interpretive-constructionist paradigms underpinning qualitative research have been increasingly accepted as valid and legitimate in the social and human sciences (Denzin & Lincoln, 2005) and as complementary to quantitative research (Patton, 2002). This trend has been paralleled by the rise of an alternative worldview, namely 'pragmatism' (Bryman, 2008).

Pragmatism is a worldview centred on "the primary importance of the question asked rather than the methods" (Creswell and Plano Clark, 2007, p. 23). This paradigm focusses on tying the findings of research to its practical ends (Maxcy, 2003). Pragmatism is eclectic and the paradigm of choice for investigators who combine quantitative and qualitative methods with a view to make the most of their individual strengths and to offset their specific limitations (Morgan, 2007; Tashakkori & Teddlie, 2003). Owing to this methodological flexibility, mixed-methods projects underpinned by pragmatic paradigms are considered as ideally suited to investigating the most complex phenomena, for "the researcher can measure trends, prevalences, and outcomes and at the same time examine meaning, context, and process"

(Creswell & Plano Clark, 2007, p. 175). In mixed-methods designs, the method-specific findings relating to the same phenomena can be compared, contrasted, and validated with each other (Creswell & Plano Clark, 2007; Jick, 1979). The method triangulation provides a means to increase reliability (Merriam, 2009). To maximize the benefits of mixed-methods research and avoid potential criticism that it lacks methodological rigour, it is crucial for the qualitative and quantitative components of a mixed-methods project to be well integrated in terms of conceptualisation and execution (Bryman, 2008; Plano Clark & Creswell, 2008).

The above-mentioned discussion is of direct relevance to the present project. Indeed, dreams are most complex phenomena calling for a flexible methodological approach. Specifically, dreams are often intense, compelling, and perceived by people as 'happening' largely outside their control thus less likely to be deliberately manipulated or filtered through cultural beliefs compared to other written or verbal communications, including dream interpretations (Domhoff, 2003; Foulkes, 1985; Hall & Nordby, 1972). Hence, dream reports have been considered as 'real' experiences and investigated quantitatively, from a positivist perspective. On the other hand, people select words, ideas, and references when translating their private dreaming experiences, which are predominantly visual, into verbal or written reports. This suggests that the 'reality' of dream reports could be considered as 'constructed by people in line with their individual backgrounds, relationships, and cultural beliefs (Antrobus, 1993; Shanon & Eiferman, 1984). This standpoint calls for a qualitative approach to analysing dream reports. Furthermore, a qualitative approach also suits the investigation of dreamers' perceptions and interpretations, an arguably qualitative type of data. Given the dualistic nature of the phenomena of interest as well as the many practical, ethical, and methodological challenges predicted to be encountered as discussed at the beginning of this chapter, a mixed-methods approach underpinned by a pragmatic worldview was the design of choice in the present research.

Overview of the present mixed-methods project

In order to fully benefit from a mixed-methods design, this project consisted of two consecutive studies: one using a qualitative approach and one using a quantitative approach. As these studies investigated the same experiential phenomena, the overall results of the research are the combined results of both studies.

In Study One, 16 pre-illness and 90 post-illness dream reports were collected through semi-structured interviews and dream journals for a minimum period of six weeks from 13

palliative out-patients registered with two hospices. Inductive thematic analysis (V. Braun & Clark, 2006) assisted by the NVivo 8 software (Bazeley, 2007) was used to identify common motifs across participants as well as individual recurrences and progressions. Participants were also interviewed using prompts and open questions about their perceptions around post-illness changes in dreams and about their personal interpretations of the dreams. For ethical reasons and to promote honesty, participants were reassured that there were no right or wrong answers and the exploratory nature of the research was repeatedly highlighted. Thematic analysis assisted by the NVivo 8 software package (Bazeley, 2007) was used for identifying categories of dream-related perceptions (around post-illness changes in dreams) and interpretations.

Study Two was a mostly quantitative investigation involving 100 palliative outpatients from six hospices. Post-illness dreams were collected using the MRD method (Hartmann et al., 1991). The dreams, one per participant, were either written down by the participants following morning awakenings or by the doctoral student through face-to-face or phone interviews at a time varying between one day and several months after the dream. The dream reports were coded using the Hall and Van de Castle scales (1966). The associated DreamSAT statistical package (Schneider & Domhoff, 1995) was used for analysing gender, cultural and general trends in dream content in the study sample and to compare these with the HVDC normative findings used as controls (Hall & Van de Castle, 1966). Participants' dream-related perceptions and interpretations were also investigated quantitatively in Study Two. Specifically, relevant data were collected via questions added to the standard MRD form (Appendix 5). Thematic analysis was employed deductively using the themes established in Study One with the aim of examining their prevalence on a large scale, as well as the distribution of the interpretation themes across genders and ethnic groups.

Both investigations in the present project were largely exploratory. Triangulation was ensured across studies by means of using mixed methods to investigate the same phenomena. It was also ensured within each investigation by using independent researchers to either match data extracts against the established themes (Study One) or to code the dreams blindly, without being given any information about the participants' background (Study Two). Disagreements and mismatches were resolved through discussions. Interrater scores will be reported in the methods sections of each study. In order to contain the cross-study 'contamination effects', the doctoral student avoided the in-depth familiarisation with the HVDC coding system used in Study Two prior to completing the inductive thematic analyses of Study One.

Reflexive account of doctoral student's background and assumptions

It has become common practice for social scientists to disclose relevant biographic experiences and personal prejudices or assumptions that may impact on various aspects of the research process, from data collection to interpretation (Roberts, 2007). It is only when the researcher's viewpoints are explicitly identified that they can be 'bracketed' so that their interference with the investigation is contained (Merriam, 2009). Reflexivity, defined as "the process of reflecting critically on the self as a researcher, the 'human as instrument" (Y. Lincoln & Guba, 2000, p. 183), is particularly useful in qualitative studies where issues around researchers' credibility, dependability, and integrity are paramount. Self-reflections are less common in quantitative studies where it is generally assumed that the researcher is considered to be detached, having little influence on the investigation (Merriam, 2009). Given that this project involved a mixed-methods design where the doctoral student collected all the data in Study One and most of the data in Study Two and also coded and analysed all the data in both investigations, a brief reflexive account is considered appropriate.

Prior to this research, I personally had very little to do with the area of terminal illness or dying. So far I have never been suspected of suffering from a serious illness. The closest people to have passed away from amongst my circle of family and friends were my grandparents. I was particularly moved by the experience of one of my grandfathers who died approximately 15 years ago, following an illness that kept him bed-bound for several months. I recall that during our last conversation he expressed concerns at going through phases where he felt that he was doing something with his hands like eating or turning the pages of a book and the next minute he was surprised to see that there was nothing in his hands. As he passed away soon after, this episode made a lasting impression on me in that I may have connected the experiences he described to nearing death, when one is or exists one moment but may vanish the next.

My limited personal experiences around death and dying matters drove my involvement in this project. This was because I wanted to learn from other people about end of life issues and existential concerns a time in my life when I was not yet forced to do so by a serious illness. At the same time, I hoped that the findings of my research would make a theoretical contribution to the study of dreams and also that they would benefit palliative patients and the health professionals in the field.

With regards to academic background, my scientific interest in death-related attitudes and experiences has started about seven years ago with my honours dissertation. This was in the area of social psychology and investigated death-related superstitions from a Terror Management Theory (TMT) perspective. My pre-research knowledge about dreams was limited to general readings available to undergraduate psychology students, most of them of psychodynamic orientation (e.g., Freud, Jung, Adler, and Fromm). I had no particular views or strong beliefs about the nature or functions of dreaming. Given that sleep dreams are so intimate and personal and at the same time so evasive, often being forgotten in a matter of seconds, I have been and remain sceptical about any firm, universal formulae of dream interpretation.

Hence, I believe I approached the present research with an open mind and with a few intuitive assumptions. These included ideas such as: dreams may be influenced by our waking thoughts and experiences; given the dramatic changes in waking life associated with a terminal illness the content of dreams may also change; and that people nearing death may be tempted to 'read' transcendental meanings into their dreams. In any case, with the exception of the idea based on personal experience that ongoing issues on one's mind do sometimes come up in dreams, whether accurately or distortedly, I was not attached to any of these tentative ideas. Instead, I was determined to learn whatever was to be learnt through empirical research with palliative people themselves as informants.

To compensate for my lack of pre-research involvement with palliative patients, it was decided in agreement with my supervisors that it was best for me to start by immersing myself into the palliative care environment. To that end, for a period of five months prior to commencing the actual research, I had extensive discussions about my topics of interest and other related aspects with all the members of the clinical team at a hospice in Auckland, a team consisting of nurses, physicians, clinical manager, chaplain, counsellor, and social worker. During that period I also attended all the weekly staff meetings where medical, psycho-social, and spiritual issues concerning various patients were discussed in-depth and inter-disciplinarily. Finally, I joined several of the hospice nurses on home visits to outpatients who had agreed in advance to have informal discussions with me, sharing their thoughts and experiences. I believe that this intensive exposure to the hospice culture and clinical practice enabled me to 'situate' the topics of my research within the wider context of medical, psycho-social, and spiritual dimensions of end-of-life experiences. As I became

more aware of palliative people's everyday life predicaments and problems, I was able to prepare a more realistic, methodologically adequate and ethically responsible research plan.

During my provisional year I also attended the Psychology of Death and Dying postgraduate paper at the University of Auckland, which provided me with a better insight into the theories and empirical findings relating to the typical end of life concerns and experiences, including dreams and related interpretations. At the end of the semester, I gave a class presentation on dreams of terminally-ill people. As I familiarised myself with the literature, I emailed the authors of articles or books which I thought dealt particularly well with aspects relevant to my research, briefly describing the project and asking for suggestions concerning relevant readings, theories, and predicted methodological issues. This academic journalism allowed me to receive advice by email from a series of important researchers from the fields of dream research and palliative care, including William Domhoff, Ernest Hartmann, Anti Revonsuo, Rosalind Cartwright, Art Funkhouser, Eric Nofzinger, Margaret Bowater, Ira Byock, Peter Fenwick, and Kelly Bulkeley.

STUDY ONE

CHAPTER 3: Study One – Methods and Results

Overview

This chapter presents the first study of this research in its entirety and comprises five sections. The first section is about methods and reports on recruitment, participants, data collection and data analysis. The second and the third sections present the results of the thematic analysis with regard to elements in dreams, in terms of themes across participants and individual dream recurrences. The fourth section reports the findings regarding participants' perceptions around post-illness changes in dreams. The final section presents the categories established in the analysis with regard to participants' dream-related interpretations.

Methods

Recruitment

Ethics approval for this study was obtained from the University of Auckland Human Participants Ethics Committee (UAHPEC – 2009/277) for a period of three years. Palliative people were recruited through letters of invitation to out-patients registered with two hospices in the Auckland area. The letters provided information about the nature and requirements of the study, advising that anonymity and confidentiality of participants were ensured (Appendix 1).

Clinical staff at the hospices (physicians, nurses, clinical coordinators) assisted the doctoral student with recruiting participants. Patients known to suffer from severely impairing physical conditions or from neurological comorbidities were screened out of the study for ethical and methodological reasons (i.e. inability to give informed consent, to communicate coherently).

Participants

Thirteen participants, seven men and six women (mean age = 66.4 years; range: 39 years to 84 years) were recruited. Twelve participants were European and one was Māori. Eleven participants suffered from malignant cancers and two participants from Chronic Obstructive Pulmonary Disease (COPD). Time from referral to hospice ranged from four days to 53 months (the second longest was 26 months), with an average of 14.6 months.

Data collection

The data for the present study was collected over a period of six months in three separate stages. The first stage consisted of semi-structured interviews with the doctoral student. The interviews enquired about sleep dreams before and after the participants registered with the hospice, thus becoming 'palliative'. The interview time ranged from 18 minutes to 51 minutes, with an average of 22 minutes. The first question enquired about pre-illness dreams, aiming to establish a tentative 'baseline' for post-illness dreams. The second set of questions addressed participants' perceptions around post-illness changes in their dreams (e.g. content, quality). The participants were also asked for their personal interpretations of any recalled dreams.

In the second stage of the study, the participants kept dream journals for a period of six weeks. To enhance recall, the participants were encouraged to keep paper and pen handy by their bedside and, whenever possible, to write down their dreams immediately after waking up. Participants were also able to dictate their dreams to their significant others. Three participants advised that they had received help from their spouses with writing down their dreams.

The third and final stage of data collection involved semi-structured interviews concerning the dreams recorded by the participants since their first interview, along with any related perceptions and interpretations. The time of the second interview ranged from seven minutes to 58 minutes, with an average of 21 minutes.

Of the 13 participants in the first interview, eight went through all three stages of data collection. Of the remaining five, two participants passed away before they were able to be interviewed the second time. The family of one of them kindly handed the doctoral student the four-week dream diary she kept until four days prior to her death. Hence, there were nine dream diaries in total. Finally, three participants did not record their dreams in the period between interviews, but agreed to participate in the second interview to discuss the dreams they had recalled since their first interview.

As indicated, two types of data were collected in the present study: 'Elements in dreams' and 'Dream-related thoughts and interpretations'. 'Elements in dreams' consisted of the actual content of the dreams reports. A total of 106 dream reports were collected. Written and oral reports describing the same dreaming experience were counted as one report. The average

number of dreams per participant was 8.2 (range: two to 17). Nine participants contributed a total of 16 pre-illness dreams. The remaining 90 reports were of post-illness dreams, of which 61 occurred during the period between the two interviews. The second type of data collected in the present study consisted of participants' dream-related perceptions and interpretations.

These two types of data were not collected in separate blocks. At interviews, these aspects were often mixed together and intertwined as the flow of discussion moved back and forth between the recalled dreams and participants' associated thoughts and/or interpretations. On the other hand, for the purposes of the analyses the two data sets were separated out as they addressed sensibly different research questions. Specifically, 'Elements in dreams' addressed the general question "What did participants dream of?" and its related sub-questions, including "What were the prominent themes in post-illness dreams?", "What were the themes in individual dream recurrences?" and "Did post-illness dreams differ in thematic content from pre-illness dreams?" On the other hand, 'Dream-related perceptions and interpretations' included data relevant to queries such as "Did participants think that their dreams have changed post-illness and, if so, in what way?", and "What were the main categories of dream-related interpretations?"

Data analysis

All the interviews were transcribed, some with the help of a transcriber, others by the doctoral student. Once completed, the doctoral student checked all the transcripts against the audio recordings. The hand-written dream journals were also converted into electronic format and collated. The entire data was then loaded onto the NVivo 8 software for qualitative analysis (Bazeley, 2007; Bazeley & Richards, 2000) which was utilised in the present study for all data management purposes. A thematic analysis was conducted on each of the two data sets. In line with the exploratory nature of the investigation, the themes being identified were not anchored in an existing theory. Instead, the themes were established at the end of a predominantly inductive process which was conducted in accordance with the step-by-step guide for using thematic analysis in psychology described by Braun and Clarke (2006), as detailed below.

The thematic analysis of 'Elements in dreams'

'Elements in dreams' consisted of the actual dreams, as they were recalled and reported by the participants. The data were systematically analysed with a view to identifying general themes across participants and individual patterns in terms of recurrent dreams, repetitive themes, or progressions. The first step in the analysis was largely intuitive. Specifically, segments of dream reports ranging from two-three words to one or two sentences were coded for potentially interesting features (e.g. types of characters, relationships, activities being performed, nature of the circumstances being faced, emotions etc.). This triage of the data was performed using the 'free nodes' function in NVivo 8 which permits the colour coding and collating of all the data extracts relevant to each individual node (i.e. 'physical pain', 'walking', 'pleasant memory', 'being lost' etc.). A total number of 52 free nodes were created in the first phase. Once all the dream reports were coded in this way, the free nodes were reviewed against the relevant data extracts and compared for similarities and differences. As a result, nodes thought to be overlapping were collapsed, while for others the titles were modified to better express the designated data. Another set of nodes were excluded as it was thought that there was not enough 'weight' in the data to support them. After this operation, 35 free nodes were retained in the analysis.

The next phase involved comparing the established free nodes in terms of potential relations and hierarchies. Using the 'tree nodes' function in Nvivo 8, free nodes sharing similar features were grouped together under one class (i.e. activities such as running, walking, climbing were classed as 'physical locomotions'). At this stage, deductive inferring started to be used in conjunction with the inductive approach (i.e. 'what other nodes may fit into this group?' and 'how could this group be re-defined to include other free nodes?'). Eleven tree nodes were created at the end of this organizing process. Following a similar process, the tree nodes (which in the presentation of the findings will be referred as 'subthemes' or 'subcategories'), were further integrated into more general themes (i.e. 'Physical Locomotions' + 'Travel Motifs' such as being in a car, a bus, a plane, a hotel etc. = 'Journey' theme).

In the next stage of the analysis, all the themes and subthemes were reviewed by the doctoral student against the data extracts relevant to each of the free and tree nodes they incorporated. For each theme, a descriptive definition aimed to capture its unique underlying features was given. In addition, a title reflecting what was thought to be the very 'essence' of the theme

was assigned. Finally, ways in which the established themes and subthemes may have connected to each other in telling a coherent story about the entire data they were derived from were examined. To assist with this process, the more complex dream narratives featuring a combination of several prominent themes were used as guiding lines as to how the themes may be integrated.

Once all the dreams were coded and analysed by the doctoral student, the tentative themes were reviewed by the primary supervisor against all the relevant data extracts. As a result of the collaborative review, the titles and definitions of some of the themes were further refined. Table 1 displays the final version of the themes identified in the present study.

Table 1
Themes in Dreams of Participants in Study One

Theme	Subtheme (Subcategory)
Adversity	Personal Impairments (Death or Illness)
	External Challenges
	Relational Problems
Biographic Links	Family and Friends (The Dead)
	Work and Hobbies
Journeys	Physical Locomotions
	Travel Motifs
Elements of Unknown	Strangers
	Unfamiliar Places

An independent researcher was provided with the list of titles and definitions for these themes and subthemes and asked to blindly match a set of 182 data extracts to these. There were 17 disagreements (intercoder agreement: 90.65%). Of these, eight related to mismatches between extracts and themes/subthemes. The remaining nine differences referred to difficulties by the independent coder to establish a clear correspondence between the data extracts and any of the given themes/subthemes. These disagreements were resolved through discussions in light of the descriptive definitions and of the wider contexts of the dream reports the extracts belonged to.

Findings on 'Elements in dreams'

The prominent themes and subthemes that had 'weight' in relation to the total number of dream reports *and* were featured in at least one dream from several participants were classified as 'Themes across dreamers'. On the other hand, the themes that were not necessarily shared between two or more participants but were repeated in dreams at least once within an individual series were classified as 'Individual dream recurrences'. Since most pre-illness dreams in this study were said by the participants to contain recurrent themes (13 out of 16), the findings in relation to pre-illness dreams will be presented under 'Individual dream recurrences'.

Themes across participants in post-illness dreams

Adversity

An 'Adversity' theme was identified, referring to instances in dreams where something was, was going or was about to go against the desired course of events. A total of 51 (57%) post-illness dreams from 10 (77%) participants contained one or more reference relevant to this theme. Adversity-themed dreams typically portrayed the characters, in almost all cases the participants themselves, as facing difficult challenges, whether obstacles or threats, from within or from without, usually without any means of control or resolution. Three 'Adversity' subthemes were identified: 'Personal Impairments' (subcategory: 'Death or Illness'), 'External Challenges', and 'Relational Problems'.

The 'Personal Impairments' subtheme referred to dreams where participants were portrayed as weak, vulnerable, unable to complete the task at hand, as was the case with the following report:

> Last night I was writing the next Harry Potter book and it was absolute rubbish, I could write it all down but it didn't make any sense at all, I seemed to have a good flow of words when I was writing but as soon as I wrote them down I realized that they made no sense, they didn't contribute to the story at all, they were just words.

A subcategory of 'Personal Impairments' was titled 'Death or Illness'. This included instances where the characters were portrayed as physically disabled, being in hospital or "lying ill in bed", as was the case in one of the dreams .This subcategory of personal impairments was not particularly prominent. Specifically, 10 (11%) post-illness dreams contributed by five (38%) participants contained relevant references. Of these, five dreams

were contributed by the same participant, as will be further reported under individual recurrences.

Similar to 'Personal Impairments', the 'External Challenges' subtheme related to barriers or threats getting in the way of what the participants' characters wanted to be or do in the dreams, the main difference being that external challenges stemmed from demanding or impossible circumstances rather than from their own inabilities. The following dream provides a good illustration for this theme:

> I'd be in these glass rooms and you could actually walk through each room but they would all be the same rooms all the time and no matter how many times I wanted to try and get out of there I couldn't, all four sides were glass brick rings and no matter how far you ran in any direction it didn't matter you were gonna be stuck in there anyway.

An extreme instance of external challenges was featured in a dream during which the participant was overwhelmed with terror: "I dreamt I was falling into void space without a parachute". It is noted that this was also the only post-illness dream in the present study which qualified as a 'nightmare'. Other dreams featured a combination of personal impairments and external challenges as illustrated by the following report:

> I was on the beach and I had been swimming and I wanted to get back into my clothes but my clothes had been pinched (*External Challenge*) and that included the prosthesis 'cause I had a breast off (*Personal Impairment*) and I couldn't shower and get back into my clothes because the clothes weren't there, and then when I did try and get into the shower it was actually too tight (*External Challenge*).

Most adversities related to impossible situations beyond control or resolution. Yet, there were also rare occasions where the challenges faced by the participants were successfully overcome, as was the case with the following dream:

> The sea was on one side and I was climbing this narrow rocky peninsula (*External Challenge*) to get to the top and at the top was a café full of light and people enjoying themselves and I knew I daren't fall either side 'cause I'd never make the café (*External Challenge*) and when I got to the café there were people I didn't know, I had a good time with just drinking coffee and that sort of thing...

The last 'Adversity' subtheme was titled 'Relational Problems'. This covered instances where, aside from the participants, other characters were featured and difficulties in communicating, joining in, giving or receiving help or affection occurred. 'Relational Problems' rarely involved physical aggression. In fact, there was only one report where the

participant's character was chased by a stranger and no acts of physical violence occurred. Hence, 'relational problems' were of a mostly psychological nature, as illustrated by this dream where the participant was faced with unreasonable demands: "Someone was going to say, even though we weren't at their place, we were putting the power bill up."

Many 'Relational Problems' in dreams revolved around participants' significant others, as illustrated by the following extract: "She [participant's friend] commented that if she listened to my ideas she'd be confused, even unable to pass them on verbally to others and my sister heartily agreed, I asked for an example but I couldn't relate to her reply."

'Relational Problems', particularly those around conflicts with participants' significant others, were selectively featured in recurrent dreams. Hence, findings relating to this subtheme will be further presented in the section on individual dreams recurrences. On the other hand, in a series of dreams coded for 'Relational Problems' the difficulty did not stem from participants' conflicts with others but rather from being isolated or unable to interact. This possibility is well illustrated by the following dream in which 'Personal Impairments' (being ill in bed, not having hands) appeared to preclude the participant from connecting with those around her:

> I was ill in bed explaining to people around my bed what I needed but without hands it was difficult to be understood. People around the bed were not known to me and during my requests they drifted away from my bed. I continued to repeat requests with no luck in being able to connect to anyone...

As suggested by this and the other reports quoted above, there were varying *degrees of intensity* of adversity in the dreams. In turn, the dreams containing this theme were more or less *saturated* with adversity. Situated towards the higher end of the spectrum, the following report featured a mixture of all the three subthemes:

> The house is on fire (*External Challenge*) and the main part of the fire is between my bedroom and my son's bedroom (*External Challenge*) and it's at night and the only way for me to get out of the house is through the garage (*External Challenge*) and he can get out his bedroom window and he can come out the front door so he does that, but I still need to check that he's out of the house (*Relational Problems*) but I can't get through, I can't race through - as a normal person would be able to race through - because of this walker (*Personal Impairment*), I have to go out the garage without making sure that my son is out the house safely (*Relational Problems*).

Biographic Links

The 'Biographic Links' theme referred to past, recent or current aspects of participants' everyday life, including relationships, interests, activities, events, and places. This theme was identified in 49 (54%) post-illness dreams, each participant contributing at least one relevant report. Two main sub-themes were established in relation to this theme: 'Family and Friends' and 'Work and Hobbies'. Dream extracts relevant to this theme have been quoted above and more examples will be given in relation to the other themes across participants. The 'Biographic Links' theme referred to connections to one's everyday life, past or present, that were explicitly stated in the dream reports. For instance, when characters' names or relationships to the participants (i.e. "the boss", "my ex-wife", "a group of friends from when I was young" etc.) were mentioned, these were classified accordingly. On the other hand, a series of biographic references in dreams were implicit and only became apparent when the participants reflected back or interpreted their dreams in light of personal issues they considered relevant. These will be further discussed in relation to participants' literal interpretations of dreams as expressions of everyday life memories, interests, and concerns.

The 'Family and Friends' subtheme included a subcategory titled 'The Dead' relating to dreams featuring participants' deceased relatives or friends. There were four (5%) post-illness dreams relevant to this subcategory, including the following report, also coded for a 'Death or Illness' subtheme (for the participant's mother being dead):

> Her [participant's mother] favourite hit was the Old Rugged Cross and my sister and I hated it but she loved it and it was sung at her funeral and I was at her funeral in my dream [...] I woke up with tears streaming down my face singing the Old Rugged Cross at the top of my voice…

Another dream in the same category was a replication of the participant's childhood memories of "singing at my grandmother' senior citizens' meetings". The participant advised that her grandmother had passed away approximately 30 years prior to this dream, which was part of a series of other dreams she had had about her childhood and teenage years.

Journeys

The 'Journeys' theme was defined in relation to dynamic dreams where the characters were involved in some form of moving or transitioning, whether this was physical or vehicle-assisted. This theme was identified in 37 (41%) reports from eight (62%) participants. Two subthemes were identified: 'Physical Locomotions' and 'Travel Motifs'. 'Physical

Locomotions' related to instances where characters were portrayed as fit and healthy and were walking, running, swimming or climbing rocks. No dreams of flying through one's own power were reported. 'Travel motifs' included activities which usually involved vehicles such as driving a car or a truck, travelling by bus, ship, or plane. Other motifs included in this subtheme were going fishing or hunting, being in a hotel or a holiday destination.

In some of the dreams coded for the 'Journey' theme, the destination was not identified, as illustrated by this extract: "There's no story to it, I'm just doing lots of long distance running" Another participant dreamt that she was searching for a place to relocate: "having a lovely walk over the hills and I seem to be buying a house somewhere, looking at houses and I'm saying well I don't think I'd like that one…" While most of the physical locomotions were of a realistic nature, there were a few exceptions, like in the following dream in which the participant "floated past the showers by pulling myself on the walls when I could touch them..."

The dreams coded for 'Travel Motifs' usually featured vehicles, as in the following dream: "Last night my dream was that I was looking at myself driving an open-top Mercedes…" Also journey-themed (e.g., swimming, walking, climbing) were some of the dream extracts quoted above in relation to the 'Adversity' theme. Another good illustration of a combination of 'Adversity' and 'Journeys' themes is evidenced in the following dream, which also contains biographic references:

> Visited rural UK (*Travel Motif*) branch of the family (*Family and Friends*) I never knew existed. They all knew me. Family meal. Family owns or has access to antiques shop, which is my real life interest (*Work and Hobbies*). Dream faded after most 'antiques' proved to be junk!" (*External Challenge*)

However, not all the journeys in dreams were fraught with adversity. For instance, the four-week dream journal kept by the participant who passed away during the research period contained the following dream, recorded approximately two weeks before her death:

> We had to push the car up a hill through grass turning a golden colour. A very pleasant time and I was enjoying every moment. I felt very comfortable there with the long comfortable grass all golden around us.

The last dream reported by this participant occurred only four days prior to her death and was also journey-themed: "Men coming back from the war in about 1945. Man had a pencil and paper talking to girlfriend. Going to a little bush town like a saw milling town. I was

watching it." The participant's comment about being an onlooker (i.e. "I was watching it") rather than a character in her dreams was made in relation to most of her other dreams she recorded in the period preceding her death. Her husband, who had supported her with writing down some of the dreams and kindly handed them over after she passed away, wanted to share his own observations and views about her last dream:

> 'M' seemed very anxious to get this written down – kept repeating 'he had a pencil and a piece of paper'. She appeared to be slightly agitated but said 'it's alright'. Made us think she was thinking about when her father and uncles returned from the war. For the record, she did live with her parents in a saw-milling town when she was little.

Elements of Unknown

The 'Elements of Unknown' theme was defined in relation to dream content that was new, unfamiliar, unconnected to any past or recent memories or problems of the participants. This theme was found in 42 (47%) reports contributed by nine (69 %) participants. Two subthemes were identified in relation to this theme: 'Strangers' and 'Unfamiliar Places'. References relevant to the 'Strangers' subtheme in dreams included "a young chap", "people not known to me", "Vikings", "women in grey satin robes", "an Asian man", "Indians with turbans" "small dark-haired woman with curly hair" and "a passer-by". Some of the extracts coded for the 'Unfamiliar Places' subtheme were "strange swimming pool", " a grey building street", "glass rooms", "a fairly small island", "an old house" "this remote village", "a part of the hospital I've never seen before", "in China", and "this peninsula place".

While 'Elements of Unknown' were by definition opposite to 'Biographic Links', distinguishing between these was not always straight forward given that some biographic links were implicit. For example, a dream where the participant was "shopping in Hawaii with eight year old granddaughter" was coded for 'Biographic Links' in relation to the granddaughter character while the location appeared exotic. Yet, at the follow-up interview, the participant revealed that he did visit Hawaii although not with his granddaughter as this happened long before she was born. In fact, it was not uncommon for dreams analysed in this study to contain a combination of biographic links and elements of unknown. This possibility is well illustrated by the dream quoted above where the participant met with a branch of his family he never knew existed but who owned an antique shop which did reflect the participant's lifelong hobby.

There was also an overlap between 'Travel Motifs', a subtheme of the 'Journeys' theme, and 'Unfamiliar Places', a sub-theme of the 'Elements of Unknown' theme. Specifically, in some of the dreams the mere portrayal of the participants as being in unknown or uncertain locations appeared to suggest that a journey was in progress, as can be seen in the following dream extract: "I was on this street and I thought it was an Asian city and I've never been to Vietnam or those countries but it seemed like that's where it was" Apart from their close connection with the 'Journeys' theme, 'Elements of Unknown' were sometimes also featured in contingency with 'Adversities' of various sorts, as was the case with the following dream:

> I'm driving a car (*Journey*), it's not my car it's a pick-up truck (*Unfamiliar place*), going down this hill (*Journey*) and all these Indian people with the turbans and that sort of thing (*Strangers*), they're coming up the hill towards me and they're dragging boxes and cardboard cartons and bags of beautiful crockery (*Journey*), some of it is damaged (*External Challenge*), and they just can't get up this hill (*External Challenge*) and they're begging me to put in on my truck but I'm going somewhere that I just can't put off (*Personal Impairment*) and I feel so terrible, I really feel like I should be helping them, and I can't (*Relational Problems*).

Finally, there were also some instances, albeit infrequent, where the characters successfully overcame the adversities being faced on their journeys into unknown territories. An example has been given above in relation to the participant who dreamt that he "was climbing this narrow rocky peninsula" and eventually arrived safely at "a café at the top". Another example can be seen in the following dream, in which facing the adversity was followed by a surreal yet most pleasant journey:

> A crowd watching (*Strangers*) off rocks (*Unfamiliar Place*), I could hear they were debating who was brave enough to jump into the blow hole and get sucked into the caves and then get blown out again (*External Challenge*), I put on a wetsuit and gear and waited for the right time and jumped in (*Journey*), found I could breathe easily and relax and I swam with the fish (*Journey*) and enjoyed the beauty and serenity… (*Unfamiliar Place*)

The overarching 'story' told by the dreams

In the final step of the analysis of dream content, ways in which the identified themes may have connected together in a coherent, meaningful way were examined. An overarching 'story' conveyed, more or less fully, by many of the dreams in the present study was that *'participants were faced with adversities from within and from without while on a journey into the unknown'*. Given the participants' real-life circumstances, it could be argued that dreams of palliative people may contain a metaphoric or symbolic expression of their end-of-

life predicament. On the other hand, the biographic links identified in many of the dreams (e.g. past and recent memories of friends and relatives, activities and hobbies) indicate that there is also a strong literal streak in the dreams of palliative people. An in-depth discussion around literal and metaphoric elements in dreams, in relation to findings emerging from this as well as from the second study of this project, will be presented in the 'Discussions' chapter (Chapter 8).

Individual dream recurrences

Only two of the recurrent dreams were said by the contributing participants to be exact replicas of previous dreams. The other dream recurrences were partial, relating to certain motifs (i.e. people, places, activities) being repeated, while other aspects differed. Thirteen (81%) of 16 pre-illness dreams reported for this study were recurrent. The percentage of recurrences was also large for the post-illness dreams collected during the first interviews (79%). The proportion of recurrences was far lower (24%) for the dreams collected during the research period, through dream diaries and/or at the second interview.

Pre-illness dreams

In contrast to the post-illness dreams, only two pre-illness reports, both from the same subject, were Journey-themed. Another distinctive feature was that adversities in these dreams which usually dated back to participants' childhood or teenage years were of a far more serious nature. These adversities consisted of physical threats or overt aggression directed at the participant-character, as illustrated by the following dream the participant experienced when she was a teenager: "It was almost like a shape and would just keep getting bigger and bigger and I couldn't get away from it and so it was almost like it was chasing me..."

Another participant reported that when she was a younger she often dreamt of being stalked by a man. This dream started following a real life incident where the she was subjected to a similar scenario and continued to reoccur regularly for several years. Another participant shared a pre-illness dream filled with a life-threatening adversity:

> My dream was that I got down in to the [water] tank for some reason either to clean it or I don't know, fell in, I can't remember, and it started to rain and the more it rained it came up to my chin and then it came up to me eyes and I started to swim but I couldn't hold on to anything on the sides and the rain was getting more and more and I was just hoping that it wouldn't stop because if it stopped I would be halfway and

not be able to get to the top, so that was a really frightening dream that I had for a long time…

Three participants reported dreams that had started prior to their illness and continued to recur post-illness, including a lifelong nightmare with explicit biographic links:

> My father used to terrify us, once he took me out the back with a knife and was going to cut it off, if I ever see you touching yourself there again I'll cut it off, I dreamt and dreamt and dreamt about that, I still do on occasion.

A more benign dream containing biographic links said by the participant to have continued post-illness was this:

> I worked for a firm in England delivering and selling bread and became part of my life because I was there six days a week [...] that dream keeps coming back about selling bread and I often say to her [wife] in the morning 'gee I sold a lot of bread last night!

In conclusion, most of the few pre-illness dreams reported by participants in this study were recurrent, containing adversities of a distinctively threatening or violent nature and rare references relevant to the 'Journey' theme.

Post-illness recurrences

Of the 90 post-illness dreams collected in this study, a total of 41(45%) were classed as recurrent, based on participants' own accounts. Adversities, particularly around relational problems concerning participants' significant others, were the subject of choice for many of the repetitive dreams, including this one:

> I'd be somewhere out in the sort of countryside one time, next time I'd be in some sort of western thing, next time I might be in some hotel sort of situation, he [participant's father] was always appearing in it and I'd be confronting him, but as soon as I started confronting him that would wake me up.

Another recurrent dream containing biographic links to an unresolved conflict was reported by a participant who in real life used to be a plasterer and who had recently been sued by a former client in relation to an old job:

> In my dream he admits to me it was a beautiful job and all this, the building leaked but it was other people's faults like architect and councils passing plans, but he still won't back off that part and he reckons I did a bad job...

The participant admitted that he underreported this dream because it disturbed him to even think about it, let alone write it down. The same theme occurred in one of his later dreams albeit in a different, dramatized context:

> Vikings wanting me to build something, holes in walls needing repair, but irreparable the way it is designed. This however makes no difference, they want it the way they want it. No way to fix, no way to resolve. Needed money.

Another participant disclosed experiencing recurrent dreams about being back with his ex-wife, his personal issues of guilt and 'unfinished business' coming through:

> Back in the UK alone with ex-wife in house, she brought with her divorce settlement (which I have never seen!). Present wife still in NZ. Ex-wife asks me to stay in UK. Racked with guilt but have to return to NZ. Airport. Back in Auckland.

While this was a post-illness recurrence, a pattern of anxiety dreams about 'going backwards' appears to have manifested in this participant's dream life long before he became seriously ill. This idea is evidenced by a dream from when he was a younger, working man: "We moved from house to house and the dream always seemed to be I was going back to the previous house and I thought to myself 'Oh, not back here again!' and 'I hadn't moved on!'" The participant also recalled a similarly regressive dream where he was smoking cigarettes which started to occur after he had given up smoking in real life.

One participant reported a series of five dreams containing a 'Death or Illness' reference. In one of these, the participant was "feeling like dying, legs and arms very weak". In another dream along the same lines, he "was surrounded by women in grey satin like nuns". In another report, "a black lamb had died".

A few recurrent dreams were associated with an apparent progression from one report to another, as illustrated by the following pair of dreams from the same participant:

> 1). I was on this street and I thought it was an Asian city and I've never been to Vietnam or those countries but it seemed like that's where it was and everybody in the street rushed, there were shops and offices in this big street with trees down either side and a lot of helicopters came along and everybody rushed in and this family grabbed me and said 'Come, come!' and we all get out the back in the store room, I've had that several times and that was a bit scary.

> 2). Another grey building street but this time people huddled in the doorways rather than going to the back of the shop, I felt like an outsider looking and everybody was being very kind.

The same participant reported what was arguably the most comforting dream shared in the present study: "I had these people, they would appear and they'd come over, they're just sort of like head and shoulders, would float over and give me a kiss and then float back again." The participant advised that the identity of her 'visitors' constantly changed from dream to dream. On one occasion it was her mother, on another a man she had never met but thought she recognised from an old family album. The participant advised that she had this dream almost every day for about four months until one day when she had to move downstairs for easier care at which point they ceased altogether. Dream recurrences will be further discussed in the next section reporting the results on participants' dream-related perceptions and interpretations.

Participants' dream-related perceptions and interpretations

The second data set analysed in the present study consisted of participants' dream-related perceptions and personal interpretations. As has been mentioned, separating out the elements in dreams from what they observed or thought about their dreams was not always easy because these aspects were usually reported in an amalgamated form. Specifically, participants recalled dreams and *at the same time* observed, reflected on or interpreted their dreams.

This data set was subdivided into two subsets: 1). 'Perceptions around post-illness changes in dreams', consisting of participants' comments in relation to changes observed in their post-illness dreams; and 2). 'Personal interpretations', relating to the meanings that the participants gave to their recalled dreams. A thematic analysis using the NVivo 8 software was conducted on each of these data subsets with a view to identifying the main categories of responses relating to participants' thoughts about changes in their post-illness dreams and to their personal interpretations of dreams. The categories were formulated by grouping together similar responses across a series of participants. Individual responses considered to be interesting will also be reported.

Perceptions around changes in post-illness dreams

Eleven (85%) of the 13 participants considered that their dreams changed in some way since they became seriously-ill, whether immediately after diagnosis or later on the illness trajectory. With regard to the nature of the changes, these related mainly to the nature of dreams rather than to their content. Two categories of common perceptions were identified in

the analysis: 'increased intensity' and 'increased bizarreness'. Seven (54%) participants described an increased intensity of their dreaming experiences. These participants made comments to the effect of dreams being particularly "vivid", "real", "true" or "convincing". One participant repeatedly stressed that one of her recent dreams "was more than a dream, it was happening" and another was adamant that his post-illness dreams "have definitely been more vivid". The second category of common perceptions was 'increased bizarreness'. Specifically, five (38%) participants made remarks to the effect that one or more of their post-illness dreams seemed particularly "weird", "bizarre", "strange", "incredible", or "way out". As will be further detailed with regard to dream interpretations, these more unusual dreams were often interpreted by the participants in connection to recent changes in their medication regimen.

In addition to these response categories, there were many highly individualised responses about the nature of post-illness changes in dreams. Such instances included: "more scary", "more pleasant", "more recurrent", "more unexpected", "more detailed", "about people I don't know", "about people who have died", "about when I was younger", and "about things that I liked".

With regard to dream recall, three (23%) participants estimated that they remembered fewer dreams than prior to their illness and two (15%) said they recalled more dreams, the majority being in the 'about the same' category. Four participants (31%) observed that they had recently been acting out their dreams, including speaking their thoughts out loud. For instance, a participant noticed that "as I go to sleep, there's a sort of area there in which you're sleeping but you're not sleeping, that's when I start finding myself doing things with my hands and speaking..." Another participant remembered that she also used to sleep-talk when she was young and healthy, only that was different from her recent dreams in which this became normalised:

> I used to talk in my sleep years ago but then I would call out and that was an anguish thing like I'm falling, but now I'm just talking, I'm just telling somebody 'Sorry, they're not here yet' or 'I don't know where they are and I've been looking for them and I still can't find them', but it's just talking in an ordinary voice, not shouting or panicking.

Furthermore, five (38%) participants commented about post-illness shifts in their daily routines as possibly influencing their dreams and/or dream recall. These changes included spending extensive periods of time in bed or on a couch, with the TV on, being "bored",

"confused", "muddled up", and "not doing much". For instance, the participant who had 'visitors' gently kissing her before fading away said that over the previous year she had spent so much time just "lying down" and "dozing off" that she was not absolutely sure whether these occurred while she was asleep or awake, in other words, whether they were dreams or fantasies.

Similarly, the participant who sleep-talked prior to her illness shared an incident which illustrates well how extreme the blurring of the waking-sleeping boundaries may become when one suffers from the severe fatigue associated with a terminal illness:

> I can fall asleep five or six or seven times while I'm actually eating food or drinking to the extent where a week ago – this was in the evening – I was sitting on that bar stool in the kitchen and I had a book and I just wanted to finish the last four pages of my book before I went to bed, and I had the wall beside me with the telephone on the wall and I kept on falling asleep and sort of falling against that wall and I sort of wake myself up and only had two mores pages to go, 'Come on 'A.', just finish these two pages!', and the next thing I woke up with the sound of my head hitting the concrete, hitting the floor.

Finally, another participant noticed that as her illness progressed she had been sleeping more and more and her dreams remained the only clues she had left as to whether she slept or not:

> I go to sleep not knowing I'm going to dream and I don't actually know that I am going to sleep either, normally you go to bed and you're a little bit tired and you go through that layer of going off to sleep, I'm unaware of going through that layer, the only way I know that I've been asleep is to wake up and know I've had a dream.

Personal interpretations

The thematic analysis of the data extracts relevant to personal interpretations led to the formulation of four main categories of dream interpretations: Literal, Metaphoric, Medical, and Spiritual. Each of these categories will be defined, described and exemplified. All the participants attributed some sort of interpretation to at least one of their dreams. Of the 90 post-illness dreams, 63 (70%) were given an interpretation, while the remaining 27 (30%) were not given an interpretation by the participants. Of the 27 dreams in relation to which no interpretations were given, three (13%) were recurrent dreams while the remaining 24 (87%) were one-off dreams.

In interpreting their dreams, the participants explored possible causes or functions of these (i.e. "this dream is a memory", "this person has been on my mind", "I watched something on TV last night", "my medication has been changed recently", "this dream could be a warning"

etc.). As a general rule, most participants in this study did not consider that their dreams were particularly important, in terms of containing essential information or affecting their wellbeing. Their interpretations of dreams were generally tentative rather than firm opinions and it was not uncommon for participants to propose more than one interpretation for the same dream. Hence, classifying participants into types based on their personal interpretations of dreams was not considered a valid alternative to analysing categories of interpretations.

Literal interpretations

With this category of personal interpretations, participants' considered their dreams to be mostly accurate, transparent replicas of their everyday life memories (of people, relationships, places, activities, objects, events) and/or to express their wishes, thoughts or concerns about the past, the present or the future. A total of 47 (52%) post-illness dreams contributed by all the participants in the study were interpreted in this manner. Literal interpretations were often attributed to dreams containing biographic links. In fact, at interview many participants *contextualised* their dreams expanding on the issues they considered relevant often without any prompting.

For instance, the participant who reported recurrent dreams where he felt guilty about "being back with ex-wife in the UK" disclosed that he had divorced her five years prior after almost 50 years together to marry his childhood sweetheart in New Zealand. Another disclosure of romantic problems brought about by dream talk came from a participant who reported the following dream: "Just a view of my husband's back. I felt very sad as he wouldn't let me touch him; he was walking around the bed..." The participant interpreted this, which was part of a series of dreams along the same lines, in a literal manner, connecting it back to a saddening moment in her life occurring three years prior:

> My husband told me he had fallen out of love with me and as far as I'm concerned that's the night I died, I've had my death, that was the most dreadful thing that's ever happened to me and ever will. When I went to the oncologist the next day on my own, having had obviously a dreadful night, the oncologist told me that the cancer had spread and it was now in my liver and that I had something like between six and eighteen months to live and he was surprised that I wasn't that upset because the night before was worse, so that's why I saw him walking past the bed, obviously he didn't have a shirt on and I would have loved to have held him but I knew that wasn't possible.

As mentioned, one of the participants reported a series of dreams where the central theme was always his confronting his father although the context changed from dream to dream.

The participant advised that as his dreams became more frequent, he came to realize that he needed to deal with the unresolved conflict: "it was telling me why have I held on to this for so long, until I actually try and deal with it, it wasn't gonna go away basically". The participant said that he eventually set up a real-life meeting with his father where they discussed some of their differences, after which the dreams continued but were "less intense" and "more spread out".

Some participants interpreted dreams literally in connection to their aspirations or worries about the future. For instance, one participant recalled dreaming of "catching that big marlin" which corresponded to his wish of going once again on a fishing trip, the chief priority on his "bucket list". Similarly, a participant recalled that one night after he overheard one of the nurses (he was in hospital at the time) talking about making plans to go on a motorbike ride he had a dream where he was part of a large group who "travelled to Whangarei on motorbikes".

With regard to concerns about the future, a participant adopted a literal interpretation in relation to a dream wherein her teenage son was "in a crowded concert" where he was "getting crushed and being frightened". The participant recalled that the dream occurred soon after she had learnt that her son was going to attend a big concert for the first time in his life and automatically started worrying about what might happen to him. Another participant dreamt one night that her daughter was "doing too much work" and considered this as a warning, following it up the next day with a phone call to her daughter to voice her concerns.

Some of the literal interpretations were more complex, involving correspondences both to the past and to the present or the future, both in terms of memories or experiences and in terms of current struggles or wishes. A good illustration of such a multi-levelled interpretation came from a bed-bound participant who reported a recurrent dream is which he was "running long distances":

> I used to do a bit of long distance running when I was a teenager, I was quite fit, obviously my condition is a respiratory condition and I have no mobility to speak of these days. I guess in part it's a reaction to the fact that I can't do it in real life so I'm sort of compensating for it in my dreams and not necessarily re-living something I've actually done but doing something I can't do and would like to be able to.

There were also some participants who deemed their dreams as essentially meaningless despite containing some biographic links. For example, a participant had several dreams where he found himself in various places he recognised from his past travels. The underlying

theme was that he was always "searching for a toilet" without being able to find one. Reflecting back on these dreams, the participant pointed out they made little sense because he had no memory of a similar experience neither did he wake up needing to go to the toilet.

Metaphoric interpretations

This type of interpretation related to participants' talking about their dreams as containing meaningful analogies with their real-life problems or experiences. Compared to literal reflections, metaphoric interpretations were more 'loose' and independent from biographic links in dreams, hence more 'constructed'. Metaphoric interpretations typically implied that waking issues of concern were conveyed in a disguised or cryptic manner, being suggested or alluded to rather than simply mirrored in dreams. Similar to literal interpretations, metaphoric interpretations of dreams implied that essentially responsible for dreams was the participants' mind rather than an external factor, as was the case for spiritual or medical interpretations.

Six participants (46%) proposed metaphoric interpretations in relation to some of their dreams. For instance, a woman participant whose husband had passed away three years prior reported a recurrent dream where she was "angry with him for leaving a mess in the kitchen for me to clean up". The participant stressed that in real life her husband used to be a very tidy man. In attempting to explain the contrast between dream and reality, she wondered whether the inaccurate portrayal of her husband metaphorically reflected the distress she had experienced following his death:

> The only thing I could think about is I was angry because he's gone […] that he'd died because since he died there's been so much to do 'cause when you've got everything joint legally and financially, there's still a heck of a lot that you can't do, I can't get the garden done, I've gotta get the cleaners in now to do the house and everything needs help.

As with literal reflections and as suggested by the above example, participants exploring metaphoric interpretations sometimes expanded on the personal experiences and issues of concern that they considered their dreams conveyed. Another illustration of a metaphoric interpretation came from a participant who reported that in most of her recent dreams she was surrounded by strangers with whom she had little or no communication. In interpreting these dreams, the participant pointed to the analogy with the sense of loneliness she had experienced since becoming seriously ill: "That's what I'm dealing with, I'm on my own like I have lots of people coming and so forth but it's not happening to them, it's happening only to me."

The same participant advised also having dreamt of a series of people from her earlier life who had passed away and whom she would have loved to communicate with in the dreams as "they're like an information store for me". However, the desired communication had not eventuated in any of her dreams as "there is always some impediment". The participant's interpretation was metaphorical again, complementing the one about the dreams of strangers and adding further depth to her waking sense of isolation: "That's my reality, I'm not quite dying but I'm going to, and I can't go back to the group I was in and I'm not quite ready to join the group where I'm going."

Another participant explored a metaphoric interpretation in relation to a dream where he was "pretty much as sick as I am now but I was still working for my old employer". The participant also recalled thinking in the dream "what's the point of doing this?" and feeling "unhappy that I was still working". With regard to his interpretation of this dream, the participant commented that it may have reflected in a metaphoric way his personal struggles around completing his projects:

> I do wonder a little bit if it's got to do with the fact that I'm still beating myself up about just not doing stuff generally, being very passive in life at the moment mainly because I don't have a lot of choice but I've got a lot of projects which I feel I should work on but I don't really have the motivation or the energy, I'm not sure whether it's more motivation or more energy driven.

Some participants proposed metaphoric interpretations in relation to dreams that had very little content. For instance, a participant who reported several experiences where she'd wake up physically reaching for something she had been dreaming of – in one dream it was a shoe she had dropped – wondered whether the dream metaphorically expressed a current theme in her life of not being able to have what she wanted:

> Why are my hands grasping for things? The only thing I could make of it is that whatever I want I can't have, it's out of my reach, it's candy floss that disappears and I want it to be there and it's not, and I want to help somebody but I can't, and it's now no longer reality, and in my dream I realize that, look, you're not going to get it, I wake up and there's nothing in my hand.

On the other hand, some of the participants attributed literal or no interpretation at all to dreams featuring the most complex, potentially metaphoric, dream narratives. This was the case for instance with the recurrent dream quoted above where a fire started in the participant's house between her room and her son's, she being slow, relying on a walker, and unable to get through to him to make sure he got out safely. The participant interpreted this as

literally reflecting her love and worries for her son as well as her deep resentment for her walker, which she rendered as being "a hassle", "the bane of my life", and "very limiting". The participant also identified a potential use for the dreams, along the same lines of a literal interpretation. Her interpretation also appeared to convey important information relevant to the participant's attitudes towards her illness and the future:

> I don't know why I have it often, maybe it's because I don't have a fire plan in my head for me, I know for my son is easy, he can get out of the house in a fire, but I can't jump out my window, it's probably good that you dream because if forces you to look at what you're troubled with and then act on it, so because I'm troubling I'm dreaming about my walker, I wanna get out there without my walker so maybe it's gonna force me into doing activities even just around the house using my walking stick to build up my confidence.

Medical interpretations

Medical interpretations related to participants adopting the view that the medications they were on had some impact on the content of their dreams. Eight (62%) participants discussed medical interpretations for one or more of their post-illness dreams. For instance, a participant responded to questions as to if and why he thought his dreams had changed post-illness by saying "I don't think due to the diagnosis but definitely some of the drugs I've been taking have had an effect on my dreams." Participants discussed medical interpretations mostly in relation to "strange" or "bizarre" dreams, occurring after a hospital admission or a change in medication, as was the case with this report: "The first night I was in North Shore hospital in an isolated room, they gave me morphine and must have been a good dose because I went off straight away and had this incredible dream..."

Some of the participants discussed medical interpretations of dreams in conjunction with other interpretation types. There were two noteworthy individual exceptions in this category. The first one related to a participant who advised during her first interview that she had several frightening dreams involving death scares – she was unable to recall their specific content - from which she was very pleased to wake up. Asked whether she had made anything of these dreams, the participant commented that she was not afraid of death, thus ruling out a direct, literal interpretation:

> By the time you get to this age, there've been so many other drastic changes that this is just another one, and it's not that drastic because you're at the end of your life anyway, at 80, what can you expect?

On the other hand, the participant wondered whether her dreams may have metaphorically expressed a different kind of concerns present on her mind: "If you were very old and suddenly they decided you're not fit, the doctor says 'we'll put you in the nursing home!' That might be what's on my mind because I don't want to do that." At this stage she did not mention medication as possibly influencing the content of her dreams.

The same participant was interviewed again after keeping a six-week dream journal. One of the dreams she recorded, previously mentioned for the extreme adversity, was about "falling into void space without a parachute". This experience was reportedly so "real" that upon awakening the participant checked several times if she had fallen out of bed. Throughout the interview she kept going back to it, stressing that it was "the worst thing I've ever dreamt". To illustrate the degree of fear involved, she compared the dream with her experiences of the World War Two bombings in London:

> I was in Scotland and I went to London during the bombings, I was a bit scared during the blackouts, walking home, sometimes if you missed the last bus you had to walk home in the black out, you couldn't see what was coming at you, but I'm not easily scared, but now I was scared, there was nothing, I couldn't see where I was gonna be falling…

Although according to the participant her medication regimen had not changed since her first interview, she thought that this particular dream may have been triggered by her medication. Similarly, another participant discussed medical interpretations in relation to a series of dreams he disclosed during his first interview. In these "stupid" dreams, the participant was conversing with various known and unknown people. He blamed the dreams - which he called "hallucinations" although he said they occurred when asleep or dozing off with his eyes closed - on the morphine he was on at the time. Several weeks later, during his second interview he told a dream from the previous night where he was "writing the next Harry Potter book" which, however, "made no sense at all, it was just words". The participant pointed to a literal interpretation advising that he had watched a Harry Potter movie the previous week. On the other hand, he mentioned that writing had never been his hobby and said he could not understand why he would have such a dream. At this stage, he thought that he had stopped taking morphine for some time (soon after his first interview) and intimated that he was worried that this and other "dark, dismal" dreams suggested that maybe he was "going mad". However, the participant's wife intervened advising that he had in fact continued to take morphine and was still on it, only in a different form. The participant

appeared relieved, saying: "I would rather think it was the drug than my brain doing this". These examples suggest that some participants may have favoured medical interpretations to other interpretations in relation to dreams that may have felt more threatening.

Spiritual interpretations

Spiritual interpretations involved the view that dreams may have contained 'messages from beyond', whether these messages were of warning, guidance or reassurance. Five (38%) participants in the present study explored spiritual interpretations in relation to a total of nine (10%) post-illness dreams. None of these participants reported achieving a sense of emotional closure or having what may be called a spiritual 'revelation' following a dream. A good illustration of a 'warning dream' relates to the participant mentioned for reporting several 'Death or Illness' themed dreams. One of these contained the image of "a black ring". In effect, the participant thought that his approaching death would be signalled by a real life encounter with an object of a similar shape and colour. Hence, he said he discussed it with his wife and remained vigilant to such 'signs' for several days after the dream.

Another participant, mentioned above for dreaming of people who "would float over and give me a kiss and then float back again", also thought of a spiritual interpretation for her dreams. Specifically, she wondered if her ancestors were trying to connect with her through these dreams, particularly since one of her 'visitors' looked like a photo of a man she saw in an old family album. Like other spiritual interpretations and many of the metaphoric interpretations too, this spiritual interpretation was an exploration of a potential meaning rather than a firm opinion of the participant. The participant also considered the alternative possibility that her dreams may have been a metaphor for her ongoing concerns and wishes: "Would you think this business with the people coming up could be way back in the back of my head some form of fear? And I'm looking for support from somebody?"

Yet another participant proposed a spiritual interpretation in relation to a recurrent dream where he was "climbing this narrow rocky peninsula to get to the top and at the top was a café full of light and people enjoying themselves[…] and then I made my way back down". The participant noted that his dreams were similar to "out-of–body experiences on the operating table, where they [people] are going towards a big bright light and then someone says no, not yet, and then they go back again". The participant concluded that "the café was a euphemism for heaven".

Summary of findings on participants' dream-related perceptions and interpretations

Most participants in the present study thought their dreams had changed in some way after they became seriously ill (i.e. referred to hospice). The most common comments about post-illness dreams related to an increased intensity or vividness and to their post-illness dreams being particularly bizarre or weird. There were also a series of participants who reported a gradual 'blurring' in the boundary between sleeping and waking states (e.g., spending prolonged periods of time in bed, acting or speaking out dream thoughts), with the effect of sometimes being unable to differentiate dreams from reality. On the other hand, many of the participants' perceptions around the post-illness changes in their dreams were highly individualised and did not fit in the established categories.

With regard to personal interpretations, four thematic categories have been identified. These were not mutually exclusive in that some participants gave more than one interpretation to the same dream. On the other hand, 30% of the post-illness dreams were not given any interpretation by the contributing participants. Literal interpretations of dreams as accurately reflecting aspects in the participants' past, recent or current everyday life were the most common. In comparison, metaphoric interpretations of dreams as expressing 'deeper' realities (i.e. concerns around the future, unresolved conflicts in relationships) were relatively few. Spiritual interpretations of dreams as containing messages of reassurance or warning 'from beyond' were also few and, like metaphoric interpretations, only tentative. Finally, most participants gave medical interpretations to some of their dreams, either to dreams perceived as weird and observed after a recent change in medication or to dreams perceived as highly disturbing or threatening.

The findings of this study with regard to participants' dream-related perceptions and interpretations will be compared with the relevant findings based on the large investigation conducted in Study Two. The theoretical and clinical implications of the combined findings of the two studies will be discussed in the final chapter.

STUDY TWO

CHAPTER 4: The Hall and Van de Castle (1966) Coding System

Overview

This chapter outlines the coding system created by Hall and Van de Castle (HVDC, 1966) and further developed by Domhoff and Schneider (Domhoff, 1996, 2003; Schneider & Domhoff, 1995). It comprises four sections. The first section reviews the creation and development of the system, then talks about the contemporary version developed by Domhoff and Schneider (Domhoff, 1996, 2003; Schneider & Domhoff, 1995). The second section reports the gender trends established by the original study (1966) which have been replicated and used as a normative basis in a multitude of cross-cultural studies with adult dreamers, including aged individuals and terminally-ill people. The third section outlines the content categories used in the Study Two analyses, including relevant subclasses, the content indicators being computed and compared in the analysis, and the calculation formulae. The final section briefly presents the DreamSAT statistical package used for computer-assisted statistical analysis.

The creation and development of the Hall and Van de Castle (1966) system

Coding scales for the quantitative study of dreams were developed out of dissatisfaction with clinical and qualitative methods of dream analysis. Hall and Van de Castle (1966) created their system for scoring and analysing elements in dreams (i.e. activities, characters, interactions, settings) following a two year trial-and-error process. The reported interrater agreement rates were above 90% for most HVDC scales with regard to the overall frequency of the elements in each content category, and ranged between 60% and 90% across various scales with concern to perfect matches between coders. Following a comparative review of a 132 scales developed for dream content analysis, Winget and Kramer (1979) concluded that the Hall and Van de Castle system (1966; HVDC) was the most reliable and best validated. A major problem with the other systems is that they were very rarely used by investigators other than their designers, which limited the possibility to compare and accumulate replicable findings. Furthermore, the more reliable of the other scales (e. g. Beck & Hurvich, 1959; Brenneis, 1975; Sheppard, 1969) were shown to either overlap with categories in the HVDC system or to be able to be duplicated by combining two or more of the HVDC categories (Clark, Trinder, Kramer, Roth, & Day, 1972; Domhoff, 1996).

Domhoff, a student of Hall, revised the HVDC system, and, together with Schneider, developed the DreamSAT software for statistical analysis available online to all researchers once all the HVDC codings are manually completed (Domhoff, 1996, 2003; Schneider & Domhoff, 1995). There are 10 content categories in the contemporary version of the HVDC system which has been used by most ream researchers over the last two decades. These categories are all nominal and empirical, after two of the original theoretical scales (i.e. 'Food and Eating' and 'Elements from the Past') were adapted into empirical categories to improve their reliability (Domhoff, 2003).

The 10 categories in the HVDC system are: Characters; Social Interactions; Activities; Success and Failure (Striving); Misfortunes and Good Fortunes (Fate); Emotions; Physical Surroundings: Settings and Objects; Descriptive Elements; Food and Eating; and Elements from the Past. Each of these categories is subdivided into two or more types and further into subclasses, which will be presented in the next section of this chapter. Clear and detailed coding rules for each category and its subdivisions as well as examples of coded dreams are available to coders for training purposes (Domhoff, 1996; Hall & Van de Castle, 1966).

The numbers into which dream content coded with the HVDC scales is converted for statistical analyses are called 'content indicators'. Important issues when comparing two samples of dreams on a series of content indicators include the need to control for variations in dream length (= number of words) and the need to choose an appropriate unit of analysis. Variations in dream length are very common, including across genders, women generally reporting longer dreams than men (Bursik, 1998; Hall & Van de Castle, 1966). Dream length has a direct effect on categorical means and frequencies in that longer dreams tend to contain more of every element (Hall & Van de Castle, 1966). For instance, longer dreams may contain more characters, and, in effect, more social interactions. Furthermore, even dream reports with a similar number of words often vary markedly with respect to the 'density' of some elements (Domhoff, 1996, 2003).

Variations in the wordiness or 'density' of the dreams are problematic because they can obscure the relationships between the frequency of certain elements in dreams and the intensity of the waking concerns of the dreamers. To give a hypothetical example, a higher than the HVDC norms frequency of 'family' characters in a sample of dreams from terminally-ill people (i.e. calculated by dividing the number of family characters by the total number of dreams) could be linked to a stronger waking focus on family members and

matters at end-of-life. However, if the dreams of the terminally-ill people were, on average, longer or 'denser' than those in the HVDC sample, the result might simply be due to larger frequencies for all types of characters. Similarly, low frequencies of social interactions in a dream sample from terminally-ill individuals could be interpreted as reflecting a social disengagement in this group. However, if the mean length of the reports was smaller than in the HVDC sample or in another control group, this trend could simply be a function of the differences in dream length or density. In order to control for the effects of dream length, Hall and Van de Castle included only reports between 50 and 300 words in their original study where the entire dream report was the unit of analysis. This allowed them to analyse and compare dream samples with respect to raw categorical frequencies (e.g., number of dreams with family characters, number of dreams with aggressions) and means (e.g., number of emotions per dream, number of physical activities per dream) (Hall & Van de Castle, 1966).

A far stronger correction for dream length has been ensured in the contemporary version of the system by using category-specific units of analysis to compute content indicators in the form of ratios and percentages (Domhoff, 1996, 2003). To use the example of family characters above, a 'family percent' is calculated by dividing the total number of characters coded as 'family' (e.g., father, mother, sibling) by the total number of characters of any type across all the dreams in a sample. The length of the dreams has little impact on this type of indicator because longer dreams may be likely to have more family characters but are also likely to contain more characters of other types. Hence, if the percentage score on the 'family percent' was significantly higher in a sample of dreams from terminally-ill people compared to a control group (e.g., healthy elderly, the HVDC gender norms), this finding could not be explained as a function of variations in dream length or density. Thus, significant differences in dream content could be meaningfully linked to varying waking levels of concern with family members without having to control for differences in dream lengths, for instance by eliminating reports judged to be too 'long' or 'dense'.

Another advantage of using percentages is that they can be easily subjected to statistical comparisons from sample to sample. For data expressed in percentages or ratios, a simple test of significance between proportions yields exactly the same result as a chi-square analysis of a 2 x 2 table (Cohen, 1988). Therefore, the percentage difference between two samples can be viewed as a correlation between two dichotomous variables. For instance, if the 'family' percent was 50% in one sample and 40% in a second sample, the percentage difference of 10% would be equal to a Pearson r of .10. This equivalence makes the use of the more

complicated correlational statistics unnecessary (for further details, see the Statistical Appendix in Domhoff, 1996, pp. 311-320). In the HVDC analyses of differences between percentages or ratios, levels of significance of $p < .05$ and sometimes $p < .01$ are used. The h statistic measures the effect size for the differences between percentages. The score for the h statistic was shown to be about twice as large as the Pearson r, except for the extremes of the 0-100 % interval (Domhoff, 1996, 2003).

The categories used in the present study

Dream researchers have been using the HVDC categories selectively, according to their relevance to specific research aims and questions. Eight of the 10 HVDC categories were selected for the present study. Each of these categories will be briefly introduced. The calculation formulae for the content indicators relevant to these categories will be displayed in Table 3 at the end of this section.

Characters

The majority of dreams were found to contain characters, whether human, animal or mythical, the dreamer being the main character in more than 90% of the dreams (Hall & Van de Castle, 1966; Schredl et al., 2003). Table 2 displays the classes and subcategories of characters in the HVDC system along with the corresponding symbols used for coding purposes.

Table 2
Subclasses and Coding Symbols for Characters in the HVDC system (Domhoff, 1996)

Number	Sex	Identity		Age
1 individual	**M** male	**F** father	**I** infant	**A** adult
2 group	**F** female	**M** mother	**Y** family	**T** teenager
3 individual dead	**J** joint	**X** parents	members	**C** child
4 group dead	**I** indefinite	**B** brother	**R** relative	**B** baby
5 individual imaginary		**T** sister	**K** known	
6 group imaginary		**H** husband	**P** prominent	
7 original form		**W** wife	**O** occupational	
8 changed form		**A** son	**E** ethnic	
		D daughter	**S** stranger	
		C child	**U** uncertain	

The content indicators relevant to the Characters category include the Male/Female Percent, the Familiarity Percent, the Friends Percent, the Family Percent, the Dead and Imaginary

Percent, and the Animal Percent. These are calculated by dividing the number of characters of each type by the total number of characters in a sample. Three of the Social Interaction ratios presented below also relate to the Characters category, linking it to the Social Interactions category.

Social Interactions

Three classes of social interactions have been defined in the HVDC system: Aggression, Friendliness, and Sexuality (Hall & Van de Castle, 1966). Each of these has subcategories reflecting degrees of intensity (i.e. aggressions span from hostile remarks and covert anger to destructions of possessions and to acts resulting in the death of another character). With regard to content indicators, percentages of 'dreams with at least one' Aggression, Friendliness and Sexuality are computed in the analyses. Other indicators relevant to this category include the Aggression/Friendliness Percent, the Befriender Percent, the Aggressor Percent and the Physical Aggression Percent. These indicators (see calculation formulae in Table 3 at the end of the section) measure relational aspects in dreams that can be discussed in relation to the dreamer's real-life relationships.

As mentioned, there are also three Social Interaction ratios or 'indexes' linking Social Interactions to the Characters category. The Social Interactions ratios are Aggressions/Characters (A/C), Friendliness/Characters (F/C) and Sexuality/Characters (S/C). These ratios are calculated by dividing the total numbers of each type of interaction by the total number of characters in the sample. Using these ratios allows for controlling for the effect of the varying numbers of characters in dreams on the numbers of social interactions (Domhoff, 1996, 2003). The social interaction indicators are generally calculated for all characters but can also be used for specific types where this may help answer specific questions (i.e. 'was a certain group of characters, for instance unfamiliar ones, mostly friendly or mostly aggressive?').

Elements from the Past

The 'Elements from the Past' category measures aspects of regression in dreams (Domhoff, 1996, 2003; Hall & Van de Castle, 1966). This category accounts for biographic memories revolving around the distant past, such as: the dreamer is in a setting in which they have not been for over a year; dreams of themselves or others at a younger age; dreams of someone

they have not seen or heard from or who has been dead for at least a year; and dreamer is involved in an activity that they used to perform in the past but not anymore.

'Elements from the Past' is the only HVDC category for which normative findings from the original HVDC study are not available. This may be due to regression being uncommon in dreams of college students (Hall & Van de Castle, 1966). On the other hand, in the present study this category was particularly useful in this research because it allowed for coding an unusual type of characters and their interactions. Specifically, deceased loved ones in dreams were unable to be coded as 'dead' characters because they were portrayed as 'alive' and often interactive with the participants' characters. However, these were picked up as 'elements from the past'.

With regard to relevant indicators, percentages of 'dreams with at least one' element from the past in general, and of 'dreams with at least one' deceased loved one were calculated. Furthermore, percentages of Aggression and Friendliness (out of the total number of interactions) involving deceased loved ones in dreams were also computed in order to check the nature of these unusual interactions in the dreams.

Emotions

Dreams may contain references to emotional states of the dreamers and/or of other characters. Only emotions explicitly stated in the body of dream reports are coded with the HVDC system. In effect, emotions are coded in dreams far less frequently compared to the other content categories (Hall & Van de Castle, 1966). For instance, in the HVDC original sample there were almost ten times more activities than emotions for men and six times more activities than emotions for women.

Four 'negative' emotions subtypes have been formulated: Anger, Apprehension, Sadness, and Confusion. Since 'positive' emotions are rare in dreams they have been grouped together under one class: Happiness. The main indicator for the Emotions category is the Negative Emotions Percent. This is calculated by dividing the number of all types of negative emotions by the total number of emotions.

Success/Failure (Strivings) and Misfortunes/Good Fortunes (Fate)

Success and Failure, on the one hand, Good Fortunes and Misfortunes on the other hand, share a similar polarity. The main difference between these categories relates to aspects of

intentionality. A 'Striving' is defined as an explicit attempt by a character towards achieving a desired outcome. This attempt may be successful or not, which gives the type of 'Striving' being coded. On the other hand, Good Fortunes and Misfortunes simply 'happen' to characters outside their intentions as "fate, in a sense, has stepped in" (Domhoff, 1996, p. 246). There are various types of Misfortunes, from minor incidents (e.g., one being lost or missing a bus) to more serious ones. Of particular relevance for this study is that the 'Misfortunes' category includes a subclass of 'Bodily Misfortunes' which accounts for the dreamer's character being portrayed as physically sick or hurting (Hall & Van de Castle, 1966).

Strivings and Fate may co-occur in dreams. For example, a character may be faced with a Misfortune and may also attempt to overcome it. The outcome of that attempt may be described in the dream in which case a Striving would also be coded. With regard to content indicators, percentages of 'dreams with at least one' are calculated for each subclass of these categories (One Good Fortune, One Misfortune, One Success, One Failure, and One Striving). Misfortunes/Good Fortunes and Successes/Failures are also factored into the calculation formulae for two other content indicators relating to the dreamer's character: the Self-Negativity Percent and the Dreamer-Involved Success Percent (Domhoff, 1996).

Activities

Activities in dreams may be performed by the dreamer alone or together with others. The dreamer may also witness others' activities and interactions, whether these are of physical-verbal or cognitive-perceptual nature (Hall & Van de Castle, 1966). Eight subclasses of activities have been defined in the HVDC system. Of these, two are of particular interest for the present study, namely self-propelled muscular movement and vehicle-mediated location changes. These activities are similar to those covered by the 'Journeys' theme established in Study One.

Activities and Social Interactions categories are not mutually exclusive (Hall & Van de Castle, 1966). For example, a physical activity such as punching or kicking would also be coded as an aggression. With regard to content indicators, percentages of 'dreams with at least one' for each type of activity or for clusters of activities (e.g., self-propelled movements and vehicle-assisted travel) can be computed.

Physical Surroundings: Settings

Dreams usually 'happen' in an environment or a setting (Domhoff, 1996; Hall & Van de Castle, 1966). This may be familiar or completely new to the dreamer, remaining the same or changing gradually or suddenly as the narrative progresses. In the HVDC system, settings in dreams are coded as Indoor or Outdoor, Ambiguous, or Unspecified. Another classification of Settings includes the following categories: Familiar, Distorted, Geographical, Unfamiliar or Questionable. The relevant indicators usually calculated for this category are the Indoor Setting Percent and the Familiar Settings Percent. The calculation formulae for most of the content indicators computed in most studies based on content analysis with the HVDC system, including this study, are displayed in Table 3.

Table 3

Categories of the HVDC system and relevant content indicators (Domhoff, 2003)

Categories/Indicators	Calculation Formulae
Characters	
Male/Female Percent	Males ÷ (Males + Females)
Familiarity Percent	Familiar ÷ (Familiar + Unfamiliar)
Friends Percent	Friends ÷ All humans
Family Percent	(Family + Relatives) ÷ All humans
Animal Percent	Animals ÷ All characters
Dead and Imaginary Percent	Dead OR Imaginary ÷All characters
Social Interaction Percents	
Aggression/Friendliness Percent	Dreamer-involved aggression ÷ (D-inv. aggression + D-inv. friendliness)
Befriender Percent	Befriender ÷ (Befriender + Befriended)
Aggressor Percent	Aggressor ÷ (Aggressor + Victim)
Physical Aggression Percent	Physical aggressions ÷ All aggressions
Social Interaction Ratios	
A/C Index	All aggressions ÷ All characters
F/C Index	All friendliness ÷ All characters
S/C Index	All sexuality ÷ All characters
Settings	
Indoor Setting Percent	Indoor ÷ (Indoor + Outdoor)
Familiar Setting Percent	Familiar ÷ (Indoor + Outdoor)
Self-Concept Percents	
Self-Negativity Percent	(D as Vict. + D-inv. Misfortune + D-inv. Failure) ÷ (D as Vict. + D-inv. Misfortune + D-inv. Fail. + D as Befriended + D-inv. GF + D-inv. Success)
Dreamer-Involved Success Percent	D-involved success ÷ (D-inv. success + D-inv. failure)
Bodily Misfortunes Percent	Bodily misfortunes ÷ All misfortunes
Negative Emotions Percent	Negative emotions ÷ All emotions
Percentage of Dreams with at Least One:	
Aggression	Dreams with aggression ÷ Number of dreams
Friendliness	Dreams with friendliness ÷ Number of dreams
Sexuality	Dreams with sexuality ÷ Number of dreams
Misfortune	Dreams with misfortune ÷ Number of dreams
Good Fortune	Dreams with good fortune ÷ Number of dreams
Success	Dreams with success ÷ Number of dreams
Failure	Dreams with failure ÷ Number of dreams
Striving	Dreams with success OR failure ÷ Number of dreams

D = dreamer, inv. = involved, Vict. = victim, GF = good fortune

All the formulae in Table 3 are embedded in DreamSAT, the Microsoft Excel based spread sheet available at www.dreamresearch.net (Schneider & Domhoff, 1995) where the percentage and ratio scores for the 27 content indicators are automatically generated once all the codings are manually entered. Also embedded in DreamSAT are the HVDC normative gender findings (1966) allowing for immediate comparisons with new samples. Cohen's (1988) *h* scores for the effect sizes for the differences from sample to sample and *p* values for statistical significance levels are displayed as part of DreamSAT's statistical output.

The findings of the original study and cross-cultural replications

Upon developing their system, Hall and Van de Castle conducted a large-scale study. This was based on two samples of 500 reports each, consisting of five dream reports from each of 100 European-American college men and five reports from each of 100 European-American college women. The investigation revealed that significant differences between dreams of men and women exist, as shown in Table 4.

Table 4

The Gender Findings on the Main Indicators in the Hall and Van de Castle System and the
Effect Sizes for the Differences between Genders (Domhoff, 2003, p. 73)

	Male Norms	Female Norms	Effect size-*h*
Characters			
Male/Female Percent	67%	48%	+.39*
Familiarity Percent	45%	58%	-.26*
Friends Percent	31%	37%	-.12*
Family Percent	12%	19%	-.21*
Dead & Imaginary Percent	00%	01%	-.12*
Animal Percent	06%	04%	+.08*
Social Interaction Percents			
Aggression/Friendliness Percent	59%	51%	+.15*
Befriender Percent	50%	47%	+.06
Aggressor Percent	40%	33%	+.14
Physical Aggression Percent	50%	34%	+.33*
Social Interaction Ratios			
Aggressions/Characters Index	.34	.24	+.24*
Friendliness/Characters Index	.21	.22	-.01
Sexuality/Characters Index	.06	.01	+.11
Settings			
Indoor Setting Percent	48%	61%	-.26*
Familiar Setting Percent	62%	79%	-.38*
Self-Concept Percents			
Self-Negativity Percent	65%	66%	-.02
Bodily Misfortunes Percent	29%	35%	-.12
Negative Emotions Percent	80%	80%	+.00
Dreamer-Involved Success Percent	51%	42%	+.18
Dreams with at Least One:			
Aggression	47%	44%	+.05
Friendliness	38%	42%	-.08
Sexuality	12%	04%	+.31*
Misfortune	36%	33%	+.06
Good Fortune	06%	06%	+.02
Success	15%	08%	+.24*
Failure	15%	10%	+.17*
Striving	27%	15%	+.31*

* $p < .05$

The original HVDC findings have since been used as a normative baseline and replicated across several other large scale investigations with students of various ethnic backgrounds in the US two or three decades later (e.g., Dudley & Fungaroli, 1987; Kane et al., 1993; Tonay, 1990/1991). Furthermore, studies using some or all of the HVDC scales were conducted with college students or general adults in many other countries, including Canada, South America (Argentina, Mexico, Peru), Europe (Switzerland, Netherlands, Germany), and Asia (India, Japan) (for a review, see Domhoff, 1996, pp. 99-129). These cross-cultural investigations revealed a series of culturally-relevant differences but also substantial similarities. For instance, regardless of the country where they were conducted, investigations consistently found that the dreams of men and women alike contain larger percentages of aggressions, misfortunes, and negative emotions than of friendliness, good fortunes and, respectively, positive emotions (e.g., Blume-Marcovici, 2010; Domhoff, 1996, 2003; Hall, 1984; Krippner & Weinhold, 2002; Schredl et al., 1998). Another such universal trend in dreams relates to the dreamer's character being portrayed more often as a victim than as an aggressor (i.e. the Aggressor Percent is under 50%).

A series of gender differences in the original study have also been consistently replicated across cultures. For instance, almost universally men tend to dream more of male than of female characters, whereas women dream of men and women in relatively equal proportions (Blume-Marcovici, 2010; Schredl et al., 1998). This was the largest gender gap in the Hall and van de Castle study (Domhoff, 2003; Hall & Van de Castle, 1966). Following a systematic investigation of dream samples from different age groups and cultures, including the US, Australia, India, Peru, Guatemala, Zulu and Nigeria, Hall (1984) concluded that the gender gap on the Male/Female percent was nothing less than 'ubiquitous'. This was also one of the most stable indicators in numerous other studies (for reviews, see Blume-Marcovici, 2010; Domhoff & Schneider, 2008b). Another cross-cultural trend in dreams is that almost everywhere men tend to score higher than women on aggression indicators, particularly on physical aggressions (Blume-Marcovici, 2010; Domhoff & Schneider, 2008b; Hall, 1984). The gender differences with regard to aggression in dreams are stronger during childhood (Crugnola, Maggiolini, Caprin, De Martini, & Giudici, 2008), decreasing slightly over time yet persisting into old age (Blume-Marcovici, 2010).

With regard to the relationship between dreams and waking life, the cross-cultural similarities concerning gender differences in dream content have been discussed in connection to universal differences in gender roles and attitudes (Blume-Marcovici, 2010; Gregor, 1981).

For instance, the consistent gender difference on the Male/Female percentage has been attributed to different intensities of waking interest in men and women by men and women in most cultures and times. More specifically, it has been argued that men are generally more concerned with men than with women, while women are equally preoccupied with men and women (Blume-Marcovici, 2010; Domhoff & Schneider, 2008b; Hall, 1984). Similarly, the typical gender differences on aggression in dreams have been linked to higher levels of aggression, both overall and physical, in men's lives compared to women's (Schredl et al., 1998).

The usefulness of the original findings as a normative baseline for cross-cultural studies

Of particular relevance for this project is that a number of researchers from Western European countries including Germany (Schredl et al., 2003), the Netherlands (Waterman, De Jong, & Magdelijns, 1988), Switzerland (Strauch & Meier, 1996) and Anglophone Canada (Lortie-Lussier, Schwab, & De Koninck, 1985; Lortie-Lussier, Simond, Rinfret, & De Koninck, 1992) have found patterns and gender differences in the dreams of adults very similar to HVDC findings. In fact, the only notable differences consistently found by these cross-cultural studies are related to aggression indicators for which the scores in the US sample were generally higher (for comparative reviews, see Domhoff, 1996; Domhoff & Schneider, 2008b). These cross-cultural similarities support the validity of using the HVDC findings as a normative basis for a study conducted in New Zealand, a country with similar Western/English influences where no previous large scale studies of dreams have been conducted.

On the other hand, contemporary New Zealand is a multi-cultural society with a strong presence of Māori, or the *Tangata Whenua* ('the people of the land'), and Pacific Island cultures. These cultures are known to be far more similar than they are different to each other and at the same time they are distinctive from the Western culture of the European colonists (Durie & Hermanson, 1990; Medical Council of New Zealand, 2006, 2010; Oliver, 1989). From this perspective, it is also of particular interest for this study that a series of culturally-meaningful patterns of dream content were detected in previous cross-cultural investigations based on the HVDC system. For instance, in a German study based on college students the normative gender difference with regard to the ratio of male to female characters in dreams was not replicated (Schredl et al., 2003). This notable exception to what had been previously

found across many countries and several generations was interpreted by the authors as reflecting a possible shift in traditional gender roles in contemporary German society.

The ability of the HVDC system to detect cross-cultural differences in dream content was particularly well evidenced in studies with dreamers from cultures markedly different from the US. For instance, in an Indian study (Bose & Pramilia, 1993) based on the content analysis of 175 dream reports, the comparison with the HVDC norms revealed that Indian college students scored higher than their American counterparts on aspects of familiarity, with regard to both characters and settings. This trend was thought by the authors to reflect real-life cultural differences between European-American and Indian people, the latter being said to be more concerned with family matters and less involved in exotic travels than the former. Another difference from the HVDC norms thought to be culturally relevant was that Indian dreamers had a smaller percentage of sexuality compared to American dreamers. As in other cross-cultural studies, a number of similar patterns and gender trends to the HVDC norms were also found in this study, including with regard to emotions, strivings (successes and failures) and faith (misfortunes/good fortunes). These consistent patterns were thought to reflect everyday life aspects that were less variable across the two cultures. In drawing their conclusions, the authors commented that the overall patterns of dream content found by them were "integrated, consistent, and meaningfully related" (Bose & Pramilia, 1993, p. 7).

Even more directly relevant to this project are the distinctive patterns of dream content revealed by investigations with small-scale tribal societies. A good example in this respect is the ethnographic study conducted by Gregor (1981) with the 36 Mehinaku people (18 men, 18 women) living in the Amazon forest in Brazil. Gregor described the Mehinaku people as a preliterate culture with minimal exposure to the modern world who enjoyed recalling their dreams and sharing them with their families. Like most tribal cultures, the Mehinaku held magical beliefs about their dreams in which the spirit was thought to "leave its home in the iris of the eye to wander about through a nocturnal world peopled by spirits, monsters, and the souls of other sleeping villagers" (Gregor, 1981, p. 354). A total of 385 dream reports (109 from women, 276 from men) were collected and coded for characters types (i.e. male/female, human/animal) and for social interactions. With regard to content indicators, scores for types of characters (e.g., male/female) and social interactions (aggressions, the dreamers being portrayed as active/passive or as aggressor/victim, sexuality) were computed. In men's dreams the percentage of male characters was similar to the HVDC norms for males, but the percentage of female characters was triple that in the HVDC norms. This

distinctive pattern was thought by the author to be culturally meaningful as most men had a spouse as well as multiple other female lovers. On the other hand, the dreams of the Mehinaku women were more passive compared to those of men (42% compared to 61%) which the author considered as reflective of the gender differences in everyday life. Furthermore, across genders the aggressors in dreams were mostly men and animals. Again, this trend was seen as consistent with waking life, where men were observed to be more aggressive and people were also faced with the constant threat and sometimes with the experience of being attacked by animals. Similar investigations of dream content in small-scale societies were conducted with the Yir Yoront people in Australia, the Hopi tribe in South-western America, the Zapotecs of Mexico, and the Gusii people of Africa. The findings of these studies were reviewed by Domhoff (1996) who concluded that "the variations in dream content from culture to culture seem to relate to unique cultural patterns" (p. 128).

The cross-cultural consistency of the HVDC findings, combined with their proven usefulness in detecting culturally relevant patterns of dream content, suggest that the HVDC findings provide a good normative basis for this investigation with an ethnically-mixed sample. Furthermore, the usefulness of the HVDC findings derived from European-American college students as a control group in an investigation with aged individuals is supported by the consistency found in dreams of adults over time. More specifically, as has been shown in the literature review, changes in dreams are relatively minor once adulthood is reached, the only notable differences relating to a decline with age in aggression and in negative emotions (Domhoff, 1996; Grenier et al., 2005; Hall & Nordby, 1972; Lortie-Lussier et al., 2000).

CHAPTER 5: Study Two Methods – Dream Content

Overview

This chapter, which comprises five sections, presents the methods of Study Two. The first section reports on the recruitment of eligible participants. The second is about the participants, including demographic data such as gender, age, ethnicity and occupation, and illness-related information such as type of illness, time from diagnosis, and time from referral to hospice. The third section describes the data collection protocols based around the Most Recent Dream approach (Domhoff, 1996, 2003; Hartmann et al., 1991). The fourth section reports on the coding of the dreams using the Hall and Van de Castle (1966) system and on interrater agreement rates. The final section briefly reviews the categories analysed in this study and outlines the comparisons conducted between participants and the HVDC gender norms and between groups of participants, by gender, culture/ethnicity (Māori and Pacific Island versus European) and dream type (recurrent versus one-off).

Recruitment

Ethics approval for this study was obtained from the University of Auckland Human Participants Ethics Committee for a period of three years (UAHPEC – 2010/146). Palliative out-patients from six hospices in the Auckland area (Hibiscus Coast, North Shore, West Auckland, Auckland Central - Mercy, Eastern Bays, and South Auckland) were recruited over a 14 month period through letters and contacts with hospice personnel. To be eligible, patients had to be able to recall a recent, post-illness dream. Patients assessed by hospice professionals who assisted with the recruitment process (physicians, nurses, clinical coordinators) as being too frail, unwell or as suffering from severe cognitive impairments (i.e. disorientation, delirium) were excluded from the research for ethical and methodological reasons (e.g. inability to give informed consent or communicate coherently).

Recruitment consisted of two rounds. In the first round, letters of invitation to participate in the study were sent to outpatients from two hospices. These provided information about the purpose of the study and the inclusion criteria (Appendix 3). Participants were invited to return their responses in a prepaid envelope. Complete anonymity was ensured as no identifying information (i.e. name, address) was collected. A total of 185 letters attracted 14 (7.5%) responses within a ten week period, a low response rate which prompted a review of the recruitment procedure. Hospice nurses advised the researcher of feed-back from some of

the patients in relation to the difficulty of having to write down their responses independently. It was suggested that patients be given the option to respond verbally, either in person or over the phone – with the doctoral student writing down their responses. Some patients had also indicated that they would have felt more reassured had they been approached in person by a familiar face from the hospice, rather than by a stranger through a letter.

Consequently, in the second round of recruitment patients were approached in the first instance by hospice personnel, most commonly during their attendance at social groups. Social groups for palliative patients were being held on a weekly or fortnightly basis at all the participating hospices, each attended by between five and 15 people at a time. The logistics involved in participating in these groups are such that most patients are in a reasonable state of physical health, as well as cognitively able and willing to engage in social interactions. Group coordinators briefly introduced the nature and purposes of the study (i.e. exploratory research looking at common themes in post-illness dreams of hospice patients), gauging interest, eligibility, and the preferred way of participating: in writing, face-to-face or phone interviews with the doctoral student. In addition, a series of patients who did not attend social groups but were considered by hospice personnel to be medically fit and cognitively eligible were approached about participating in this study by the nurses at home visits, the doctoral student's details being passed on. Confidentiality was ensured in this second round of recruitment by removing any details (i.e. name, phone number, address) which could have been used to track data to the contributing participants. Most patients who declined to participate invoked the reason that they were unable to recall any recent dream. There were also a few patients who simply refused to take part and no further explanations were given or asked for.

Participants

A total of 100 participants were included in the present study. Eighty nine of these were recruited using the procedures described above. In addition, 11 (five male, six female) participants from Study One were selected in the present study as they fitted the inclusion criteria and contributed similar data (a recent dream, dream-related perceptions and interpretations). Of the 100 participants ($M = 67.7$ years; range: 38 to 97 years), 67 participants were women ($M = 68.5$ years) and 33 participants were men ($M = 66.4$ years). The majority of participants (89% for men, 86% for women) were aged between 65 and 80

years old, a range considered representative for palliative populations in Auckland and in New Zealand (Palliative Care Council of New Zealand, 2011).

Data on ethnicity was collected and collated according to the classification used in the latest national Census (2006) which has also been adopted for research purposes by the Palliative Care Council of New Zealand (2009, 2011). In line with this classification, ethnicity was prioritised in the following order: Māori, Pacific Island Peoples (includes people who identify as Samoan, Cook Island Māori, Tongan, Niuean, Fijian, Tokelauan and any other Pacific Peoples), Asian (further subdivided into Chinese, Indian and Other), European, and New Zealand European. For example if a participant self-identified with both Pacific Island Peoples and Asian, then they were counted in the Pacific Island Peoples category. Of the 33 male participants in this study, 29 (88%) participants identified as European or New Zealand European. The remaining four male participants (12%) identified with a different ethnicity (one Māori, two Pacific Island Peoples, and one Indian-Asian). Of the 67 female participants, 43 (64%) participants identified as European or New Zealand European. The remaining 24 female participants (36 %) identified with other ethnic groups, including 14 (21%) Māori, seven as Pacific Island Peoples (10.5%), one Indian-Asian (1.5%), one Other Asian (1.5%) and one Chinese (1.5%).

Data on current/previous occupations was also collected and collated according to the Australian and New Zealand standard classification of occupations (ANZSCO V 1.0) which was also utilised by Statistics New Zealand in the 2006 Census (Statistics New Zealand, 2006) and by the Palliative Council of New Zealand in their latest surveys on the palliative population of New Zealand (Palliative Care Council of New Zealand, 2009, 2011). The figures relevant to participants' ethnicity and occupation are displayed in Table 5.

Table 5

Ethnicity and Occupation Reported by the Study Sample in Frequencies (N) and Percentages

Variables		N	Percentage
Ethnicity	New Zealand European or European	72	72%
	Māori	15	15%
	Pacific Island Peoples[1]	9	9%
	Chinese Asian	1	1%
	Indian Asian	3	3%
	Other Asian	1	1%
Occupation	Professionals	27	27%
	Clerical and administrative workers	20	20%
	Community and Personal Service Workers	12	12%
	Technicians and Trade Workers	11	11%
	Sales Workers	10	10%
	Managers	8	8%
	Machinery Operators and Drivers	5	5%
	Labourers	2	2%
	Not Elsewhere Included	7	7%

1: The Pacific Island Peoples' group consisted of two Samoans, three Fijians, two Cook Island Māori, and one Tongan participant

On the basis of the figures shown in Table 5, it could be argued that the distributions of ethnicities and occupations in the study sample were fairly representative of general adults and of palliative populations in Auckland, an area which stands out for having the most diverse ethnic mix compared to the rest of New Zealand (Palliative Care Council of New Zealand, 2011; Statistics New Zealand, 2006).

Type of illness, time from diagnosis and time from referral to hospice

Data about the type of serious illness, the length of time from diagnosis and the length of time from referral to hospice are generally considered indicative of where palliative patients are in terms of their illness trajectory (Prince & Hoffmann, 1991). When people are referred to hospice, their care management typically goes through a shift from 'cure' to 'care', termed as 'palliative care'. The New Zealand palliative care strategy concerning hospice referrals suggests a life expectancy of 12 months or less, although this may vary depending on individuals needs and circumstances (2001). Data on type of illness, time from diagnosis and time from referral to hospice are presented in Table 6.

Table 6
Type of Illness, Time from Diagnosis, and Time from Referral to Hospice in Frequencies (N)

		N
Type of illness[1]	Malignant cancers:	72
	- Metastasis	48
	Advanced pulmonary disease	16
	Cardiac conditions	9
Time from diagnosis[2]	0-12 months	20
	13-36 months	43
	>36 months	32
Time from referral[3]	0-12 months	63
	13-36 months	25
	>36 months	9

[1]: 3 values missing; [2]: 5 values missing; [3]: 3 values missing

The distribution of illness types is largely similar to what has been reported in epidemiology surveys on hospice populations both in New Zealand (Palliative Care Council of New Zealand, 2009, 2011) and overseas (Potter, Hami, Bryan, & Quigley, 2003; Rosenwax, McNamara, Blackmore, & Holman, 2005). The figures for time from diagnosis and time from hospice referral suggest that the study sample was well spread in terms of where participants were situated on the illness trajectory.

Data collection

As has been mention, participants' responses were collected in three ways: self-administered (written down by participants), face-to-face interview and phone interview. In the latter cases, the responses were written down by the doctoral student. Three types of data were collected:

demographic information; most recent dreams - one per participant; and dream-related thoughts and interpretations. To collect these data, two forms taking approximately 15-20 minutes to complete were used with the 89 participants exclusive to the present study. The two forms were the Demographic Information Sheet (Appendix 4) and the MRD form (Appendix 5).

The MRD form asks participants to share their most recent dream whether this was "from last week or from the last month". To emphasize recency, participants were asked to provide the approximate date and the location of the dream. For the 11 Study One participants who were included in this study, the most recent dream was selected on the basis of explicit references to the time of the dream (i.e. last night, last week). Where the time of the dream was not available for any of the dream reports, the participants were not included in the present study. This strategy ensured that the main aim of the MRD approach, the recency of the dreams, was being met. Table 7 below displays the demographic data (collection type, place, time) in relation to all the dream reports included in the present study.

Table 7
Collection Type, Place, and Recency of MRDs Reported by the Study Sample

		Frequencies(=Percentages)
Collection type	Face-to-face	67 (%)
	Letter	20 (%)
	Phone	15 (%)
Dream place	Home	88 (%)
	Other	10 (%)
	Unspecified	2 (%)
Dream recency	Last night	25 (%)
	2 to 7 days old	36 (%)
	8 to 14 days old	8 (%)
	15 days to30 days old	11 (%)
	1 to 6 months old	8 (%)
	Older than 6 months	8 (%)
	Unspecified	5 (%)

$N = 100$

The coding of the dreams

All the dream reports were transcribed and coded using the eight HVDC categories introduced in the previous chapter. Five of these were included because they had been used in most previous studies using the HVDC system (Domhoff, 2003), including with terminally ill people (Groth-Marnat, 1988; Hone, 1983; Prince & Hoffmann, 1991). These categories are 'Characters', 'Social Interactions',' Emotions', 'Misfortunes'/'Good Fortunes', and 'Striving' ('Success'/'Failure'). The other three categories coded and analysed in this study were 'Activities', 'Settings', and 'Elements from the Past'. Activities were included mainly to verify clinical and empirical findings indicating that dreams of terminally-ill people may contain frequent references to movement/travel activities, an idea supported by the 'Journey' theme established in Study One. These activities are addressed by two subclasses in the HVDC system, namely 'Movement' and 'Location Change', which were grouped into one category titled 'Movement/Travel'. The 'Settings' category was included, the familiar/unfamiliar polarity being of particular interest for this study. This was because previous studies had discovered a large number of unfamiliar settings in dreams of terminally-ill people and an 'Unfamiliar Places' subtheme had been identified in Study One.

Finally, the 'Elements from the Past' category was included in order to verify claims that dreams of elderly palliative people may be regressive, predominantly featuring biographic memories from their distant past (Van de Castle, 1994). Furthermore, as has been mentioned, this category was useful because it picked up and differentiated an unusual type of characters. These were characters deceased in real life but who in dreams they were portrayed as alive and often interacting with the participants, which precluded them from being coded as 'dead' under the 'Characters' category.

All the dreams were coded by the doctoral student for each category and relevant subtypes using detailed and explicit coding rules and symbols (Domhoff, 1996; Hall & Van de Castle, 1966). For coding purposes, each report was copied and pasted onto a coding card (Appendix 6). A total of 869 codings were completed in relation to the 100 dreams. Of these, 627 codings were in relation to the 67 dreams provided by the female participants (mean: 9.4 elements per dream) and 242 elements were checked in the 33 dreams contributed by the male participants (mean: 7.3 elements per dream). Across the eight categories analysed, the largest number of codings were related to 'Activities' with a total of 258 codings. Of these, 187 codings involved 60 dreams (90%) from female participants, while the remaining 71

activities were checked in 30 dreams (91%) from male participants. The next most frequently coded category was 'Characters', with 43 codings in 24 dreams (73%) from male participants and 120 codings in 60 dreams (90%) from female participants. The least frequently coded category was 'Striving' ('Success'/'Failure'), with a total of 20 codings (eight from female participants, 12 from male participants) in 20 dream reports.

Intercoder agreements

All 100 dream reports were also coded by an independent researcher who was not given any information about the nature of the study and the participants' background or current life circumstances. The overall agreement with respect to the total number of codings across the eight categories was 93%. On 61 dreams (61%), there was perfect intercoder agreement with regard to the number and types of elements. Of the remaining 39 for which there was some disagreement between coders, for 31 dreams (79%) the disagreements related a single coding.

With regard to the numbers of codings inside each category, the intercoder agreement rates ranged from 89% for 'Activities' to 96% for 'Emotions'. The correlation figures for perfect agreements (i.e. numbers and types of codings) per category ranged between 72% and 91%. For instance, the perfect agreement with regard to 'Activities', the most frequently coded category, was 83% (214 agreements). All the mismatches were resolved through collaborative discussions between the doctoral student and the independent researcher in light of the coding rules and the available guidelines (Domhoff, 1996; Hall & Van de Castle, 1966).

The analysis of the dream reports

Once all the codings were completed, the data was entered into the DreamSAT software for statistical analyses. As previously announced, the formulae for 27 content indicators are embedded in DreamSAT which automatically generates percentage and ratio scores for all these indicators. As previously mentioned, DreamSAT also computes and displays scores for the *h* effect size statistic for the differences from sample to sample and *p* scores for statistical significance (i.e. $p < .05$). Given the normative differences between men and women, the comparisons of the dreams from the participants with the HVDC norms were performed by gender. In order to examine the influence of culture/ethnicity on dreams, two ethnic groups were defined in this study: Māori and Pacific Island Peoples, on the one hand, New Zealand European and European, on the other (generically termed 'European'). It is widely accepted

that Māori and Pacific Peoples are similar to each other in many respects, while their common features are highly distinctive from Western European cultures (Berghan, 2007; Durie & Hermanson, 1990; Medical Council of New Zealand, 2006, 2010; Oliver, 1989). These cultural commonalities and differences will be presented in some detail in Chapter 8 which discusses correspondences between cultural patterns found by the present study in dream content and the cultural differences in everyday life.

Performing analyses by ethnicity/culture in the present study was only possible for female participants because there were only four non-European (12%) male participants. On the other hand, in order to control for the effect of culture/ethnicity when examining gender differences in the study in comparison to the gender differences in the HVDC study, only European male and female participants were used (21 Māori and Pacific Island female participants, 43 European female participants). A direct comparison between recurrent and one-off dreams in the study sample was possible because these were evenly distributed with regard to the gender and culture/ethnicity of the participants.

In conclusion, the following comparisons were conducted using the DreamSAT software:

- Female participants versus HVDC norms for females
- Male participants versus HVDC norms for males
- European male participants versus European female participants
- European female participants versus the HVDC norms for females
- Māori and Pacific Island female participants versus HVDC female norms
- Māori and Pacific Island female participants versus European female participants
- Recurrent dreams versus one-off dreams

There were also a series of analyses performed outside DreamSAT's output. These concerned mainly the categories of 'Activities' and 'Elements from the Past'. For activities, the percentage of 'dreams with at least one' Movement/Travel activity in the study sample was calculated and compared to the relevant figure derived from the HVDC study using a simple test for differences between two independent proportions. The analysis of the 'Elements from the Past' category included calculating percentages of 'dreams with at least one' element from the past and of 'dreams with at least one' deceased loved one. The percentages of friendly and aggressive interactions between deceased loved ones and the participants were also calculated.

CHAPTER 6: Study Two Results – Patterns of Dream Content

Overview

This chapter, made up of five sections, presents the results of Study Two on the content of the dreams. The first section reports the findings of the quantitative comparisons between the participants and the HVDC gender norms, as well as between participants grouped by gender, culture/ethnicity (Māori and Pacific Island versus European) and dream-type (recurrent versus one-off). In the second section, the quantitative results for each of the eight categories are reviewed in conjunction with figures and qualitative findings computed outside the DreamSAT analyses, including examples of coded dreams. The third section summarizes the main patterns of dream content encountered. The fourth section analyses the effect of dream length (i.e. number of words) on the quantitative results of the present study, while the final section compares these results with the qualitative themes established in Study One.

Overall patterns by gender, ethnicity/culture and dream type

The overall patterns of dream content consist of the results of the DreamSAT comparisons by gender (European participants only), ethnicity/culture (female participants only), and dream type (recurrent/one-off). Significant differences were determined at the $p < .05$ level of significance. The h statistic measures the effect size for the differences between percentages or ratios. A greater use of the effect size (or the magnitude) of the differences between two samples in conjunction with significance levels has been argued by critics of p values being overstated in social sciences (Rosenthal, Rosnow, & Rubin, 2000; Thompson, 1999). Essentially, these authors have pointed out that even the smallest differences become significant with large samples. On the other hand, for small samples it is often a matter of a few extra cases for the differences with large effect sizes to reach statistical significance.

Based on the past findings of studies using HVDC comparisons, effect sizes for the differences have been considered null for $h < .20$, small for h between .21 and .40, medium for h between .41 and .70, and large for $h > .71$ (Domhoff, 1996, 2003). It must be noted that h scores above .40 have very rarely been found in large-scale studies and only occasionally in long individual series. As shown in Table 4 (Chapter 4) displaying the gender differences in the HVDC (1966) normative study, the four largest effect sizes related to h scores between .30 and .40. Given that some comparisons in this study were based on small samples, particularly for male and for Māori and Pacific Island participants, differences with h scores

over .40 are considered noteworthy reporting even though not statistically significant. Finally, a lack of differences between samples on certain elements could also be of interest, as they may suggest areas in dreams that are less variable.

Patterns in the dreams of male participants

Table 8 on the next page displays the findings of the analysis of dreams of male participants in the present study in comparison to the HVDC norms for males.

Table 8

Scores on 27 Content Indicators for the Dreams of Male Participants in this Study and the HVDC Norms for Males, and h *Effect Size Statistic Scores for the Differences*

	Male Participants	HVDC Males	Effect size
Characters			
Male/Female Percent	61%	67%	-.13
Familiarity Percent	53%	45%	+.15
Friends Percent	25%	31%	-.14
Family Percent	28%	12%	+.41*
Dead & Imaginary Percent	00%	00%	-.12
Animal Percent	12%	06%	+.20
Social Interaction Percents			
Aggression/Friendliness Percent	32%	59%	-.55*
Befriender Percent	45%	50%	-.10
Aggressor Percent	33%	40%	-.13
Physical Aggression Percent	29%	50%	-.44^
Social Interaction Ratios			
Aggressions/Characters Index	.16	.34	-.42^
Friendliness/Characters Index	.35	.21	+.32
Sexuality/Characters Index	.00	.06	-.15
Settings			
Indoor Setting Percent	47%	48%	-.03
Familiar Setting Percent	36%	62%	-.51*
Self-Concept Percents			
Self-Negativity Percent	71%	65%	+.13
Bodily Misfortunes Percent	18%	29%	-.28
Negative Emotions Percent	76%	80%	-.10
Dreamer-Involved Success Percent	36%	51%	-.30
Dreams with at Least One:			
Aggression	18%	47%	-.63*
Friendliness	24%	38%	-.30
Sexuality	00%	12%	-.70*
Misfortune	48%	36%	+.25
Good Fortune	03%	06%	-.14
Success	12%	15%	-.08
Failure	24%	15%	+.22
Striving	36%	27%	+.20

* *p* < .05
^ *h* > .40

As shown in Table 8, the scores for seven indicators were different for male participants from the HVDC male norms. The participants reported smaller percentages for the following six indicators: Aggression/Friendliness Percent ($p < .05$), Physical Aggression Percent ($h > .40$), Aggressions/Characters Index ($h > .40$), Familiar Setting Percent ($p < .05$), 'dreams with at least one' Aggression ($p < .05$) and 'dreams with at least one' Sexuality ($p < .05$). For the Family Percent, male participants reported a larger percentage compared to the HVDC norms ($p < .05$). In other words, compared to the HVDC male norms, the dreams of male participants contained less aggression, both general and physical. On the other hand, the dreams of male participants contained more appearances of family members than the male norms did. Finally, male participants' dreams contained fewer accounts of sexuality, in fact none, and took place in unfamiliar settings more often than the dreams of the males in the HVDC normative study did.

Patterns in the dreams of female participants

In the comparison of the dreams of female participants with the ones of female norms, ethnic groups were used in order to also investigate similarities and differences in cultural patterns ($N = 21$ for Māori and Pacific Island participants; $N = 43$ for European participants). Table 9 displays the percentage scores on 27 content indicators for the analyses for each ethnic group of female participants, as compared to the HVDC norms for females.

Table 9

Scores on 27 Content Indicators in Dreams of the Māori and Pacific Island Participants, of the European Female Participants and of HVDC Norms for Females

	Māori and Pacific Island Females	European Females	HVDC Females
Characters			
Male/Female Percent	73%*	67%^	48%
Familiarity Percent	85%*	63%	58%
Friends Percent	15%*	23%	37%
Family Percent	70%*	36%*	19%
Dead & Imaginary Percent	00%	00%	01%
Animal Percent	02%	08%	04%
Social Interaction Percents			
Aggression/Friendliness Percent	26%*	46%	51%
Befriender Percent	57%	47%	47%
Aggressor Percent	57%^	47%	33%
Physical Aggression Percent	25%	44%	34%
Social Interaction Ratios			
Aggressions/Characters Index	.25	.25	.24
Friendliness/Characters Index	.50*	.32	.22
Sexuality/Characters Index	.00	.03	.01
Settings			
Indoor Setting Percent	56%	45%	61%
Familiar Setting Percent	74%	32%*	79%
Self-Concept Percents			
Self-Negativity Percent	41%*	68%	66%
Bodily Misfortunes Percent	55%^	24%	35%
Negative Emotions Percent	68%*	66%*	80%
Dreamer-Involved Success Percent	100%^	25%	42%
Dreams with at Least One:			
Aggression	28%^	26%*	44%
Friendliness	56%	29%	42%
Sexuality	00%	02%	04%
Misfortune	40%	52%*	33%
Good Fortune	20%^	14%	06%
Success	04%	02%	08%
Failure	00%*	7%	10%
Striving	04%	10%	15%

* *p* < .05
^ *h* > .40

As shown in Table 9, the dreams of female participants from both ethnic groups were similar in how they compared to the HVDC female norms on the following indicators: the Male/Female Percent ($p < .05$ for Māori and Pacific Island participants, $h > .40$ for European participants), the Family Percent ($p < .05$ for both groups), the Negative Emotions Percent ($p < .05$ for both groups) and the percentage of 'dreams with at least one' Aggression ($h > .40$ for Māori and Pacific Island participants, $p < .05$ for European participants). In other words, regardless of their culture the dreams of female participants contained more male characters than female characters, compared to the HVDC female norms which contained similar numbers of male and female characters. The dreams of female participants contained more appearances of family members than the HVDC female norms did. Finally, in the dreams of female participants across ethnic groups there were fewer negative emotions and fewer instances of aggressions relative to the HVDC norms for females. In conclusion, the general (cross-cultural cross-gender) patterns of content in the dreams of participants in this study related to greater appearances of family members and to a reduced number of aggressions compared to the HVDC norms.

Cultural trends and differences

As suggested by the figures shown in Tables 9, distinctive cultural and gender patterns also existed. The two ethnic groups of female participants behaved differently on a series of indicators relative to the HVDC norms for females. Differences from the HVDC female norms exclusive to Māori and Pacific Island female participants were registered on the following 10 indicators: the Familiarity Percent ($p < .05$), the Friends Percent ($p < .05$), the Aggression/Friendliness Percent ($p < .05$), The Aggressor Percent ($h > .40$), the Friendliness/Characters Percent ($p < .05$), the Self-Negativity Percent ($p < .05$), the Bodily Misfortunes Percent ($h > .40$), the Dreamer-involved Success Percent ($h > .40$), the 'dreams with at least one' Good Fortune Percent ($h > .40$) and the 'dreams with at least one' Failure Percent ($p < .05$). More specifically, with regard to characters, the dreams of Māori and Pacific Island female participants contained fewer friends yet more appearances of familiar people overall (i.e. accounting for family members and friends together). This trend is consistent with the very large percentage of family members in the dreams of Māori and Pacific Island female participants. In terms of social interactions, the dreams of Māori and Pacific Island female participants featured fewer aggressive interactions than friendly interactions, as well as more friendly interactions per character compared to the female norms. On the other hand, in the rare instances where aggressions did occur, Māori and

Pacific Island female participants were more likely to be aggressors rather than victims. Compared to the HVDC female norms, in the dreams of Māori and Pacific island participants there were fewer negative self-references in terms of misfortunes or failures and greater dreamer-involved success as well as good fortune. Finally, the dreams of Māori and Pacific Island female participants contained more references to bodily ailments, but not for overall misfortunes, compared to the HVDC norms for females.

The differences from the HVDC female norms exclusive to European participants were related to two indicators: the Familiar Settings Percent ($p < .05$) and the percentage of 'dreams with at least one' Misfortune ($p < .05$). In other words, the dreams of European participants were more likely to take place in unfamiliar settings and to contain misfortunes of any type, compared to the female norms.

The two ethnic groups of female participants were more different than they were similar in how they compared to the HVDC norms for females. Specifically, the European participants were more similar than Māori and Pacific Island female participants to the HVDC norms for females derived from European-American college students. In order to further investigate inter-cultural differences, the two ethnic groups of female participants were compared against each other. The bar-graph in Figure 1 displays the *h* effect size statistic profile for the differences between the two ethnic groups, with the HVDC norms for females as a baseline.
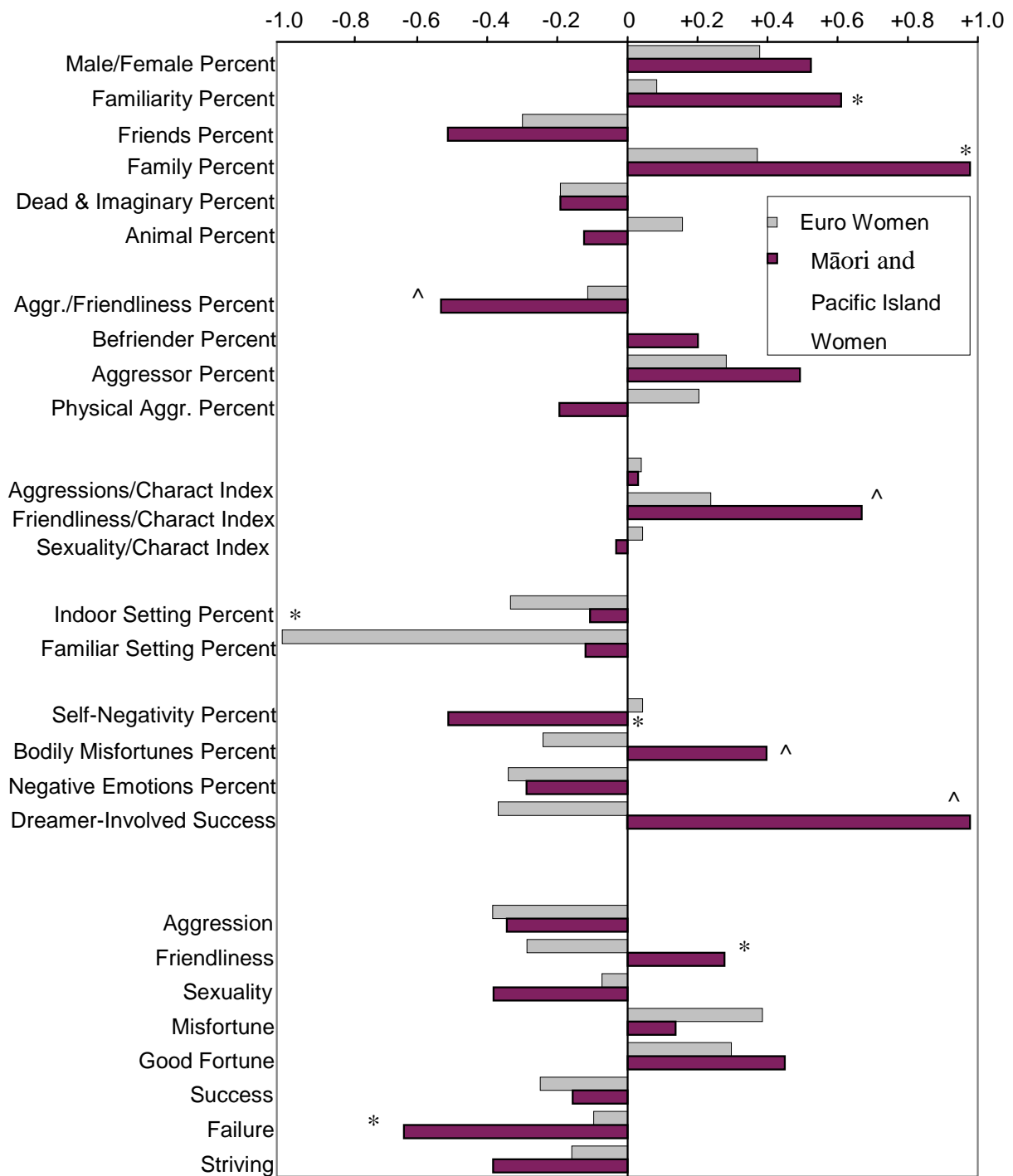
Figure 1: h Profile for Māori Pacific Island Female Participants and for European Female Participants in this Study, with the HVDC Female Norms as a Baseline (= 0)

As shown in Figure 1 and in Table 9, in comparison to European female participants, the dreams of Māori and Pacific Island participants yielded larger values for the following seven indicators: the Family Percent ($p < .05$), the Familiarity Percent ($p < .05$), the Friendliness/Characters Percent ($h > .40$), the Familiar Settings Percent ($p < .05$), the Bodily Misfortunes Percent ($h > .40$), the Dreamer-Involved Success Percent ($h > .40$) and the percentage of 'dreams with at least one' Friendliness ($p < .05$). On the other hand, in comparison to Māori and Pacific Island female participants, the dreams of European female participants contained larger values for three indicators: the Aggression/Friendliness Percent ($h > .40$), the Self-Negativity Percent ($p < .05$) and the percentage of 'dreams with at least one' Failure ($p < .05$).

Similar and different gender patterns

Gender patterns were analysed using only European participants to control for cultural differences ($N = 29$ for males; $N = 43$ for females). The dreams of European male and female participants were similar in some respects in how they compared to the respective HVDC norms. Two general (i.e. cross-gender and cross-cultural) trends were already mentioned above in relation to dreams of participants containing more appearances of family characters and fewer aggressions compared to the respective HVDC gender norms. In addition, European male and female participants in this study resembled each other in how their dreams differed from the HVDC norms on the Familiar Settings Percent ($p < .05$). More specifically, as shown in Table 8 and 9, the dreams of European participants were more likely to occur in unfamiliar settings than the dreams of the men and women in the HVDC study. Another trend in the dreams of European participants appeared to be the larger frequency of dreams with overall misfortunes, albeit this did not reach significance and the effect size was smaller for male participants, possibly due to the lower sample.

As also shown in Tables 8 and 9, male and female (European) participants behaved differently in other respects relative to the gender norms. In order to further investigate gender trends and differences, European male and female participants in the present study were compared against each other and the results were compared with the normative gender differences in the HVDC study. Table 10 displays the gender differences in this study (column 1) and the gender differences in the HVDC study (column 2). The differences from sample to sample in the values of the h statistic measuring the effect sizes of the gender differences are displayed in column 3.

Table 10

Effect Sizes (h) *and Directions[1] for the Gender Differences between European Male and Female Participants, between the HVDC Male and Female norms, and Differences between Gender Differences in the Two Studies on 27 Content Indicators*

	European Males/Females	HVDC Males/Females	*h*-Score Difference
Male/Female Percent	-.12	+.39*	.51^
Familiarity Percent	-.20	-.26*	.04
Friends Percent	+.04	-.12*	.16
Dead and Imaginary Percent	+.06	-.04	.10
Family Percent	-.17	-.26*	.09
Aggression/Friendliness Percent	-.38	+.15*	.53^
Befriender Percent	-.04	+.06	.10
Aggressor Percent	-.28	+.14	.42^
Physical Aggression Percent	-.30	+.33*	.63^
Aggression/Character Index	-.17	+.24*	.41^
Friendliness/Character Index	+.06	-.01	.07
Sexuality/Character Index	-.05	+.11	.16
Indoor Setting Percent	+.04	-.26*	.30
Familiar Setting Percent	+.08	-.38*	.46^
Self-Negativity Percent	+.06	+.02	.04
Bodily Misfortunes Percent	-.12	-.12	0
Negative Emotions Percent	+.20	0	20
Dreamer-Involved Success Percent	+.30	+.18	.12
One Aggression	-.16	+.05	.21
One Friendliness	-.10	-.08	.02
One Sexuality	-.04	+.31*	.35
One Misfortune	-.08	+.06	.14
One Good Fortune	-.22	+.02	.24
One Success	+.20	+.24*	.04
One Failure	+.34	+.17*	.17
One Striving	+.52*	+.21*	.31

[1]: (+) males' score is higher, (-) females' score is higher.
* *p* < .05
^ *h* > .40

As shown in column 1, out of the 27 indicators for the differences between European male and female participants, there were 19 differences with effect sizes of .20 or lower, of which 10 had effect sizes of .10 or lower. The small effect sizes of many gender differences appear to indicate a tendency towards a levelling out of some of the normative gender differences. When compared directly, the European male and female participants in this study differed significantly only on the percentage of 'dreams with at least one' Striving (*p* < .05). Specifically, the dreams of European male participants contained more attempts to control the circumstances compared to European female participants. As shown in column 2, a gender difference in the same direction existed in the HVDC study but this was more accentuated

between European participants in the present study. Strivings account for both failures and successes. The enlargement of the normative difference in this study appears to be due to dreams of the male participants containing more instances of failures compared to female participants, rather than more successes for which there was no variation between samples.

Other shifts in gender patterns from the HVDC sample to participants in this study are noteworthy for being in the opposite direction. Specifically, the gender differences with the four largest effect sizes in the HVDC study shown in column 2 (with $h > .30$) were levelled out or reversed in this study, as shown in column 1. These were the Male/Female Percent, the Physical Aggressions Percent, the Familiar Settings Percent, and the percentage of 'dreams with at least one' Sexuality. The differential values displayed in column 3 reflect the sizes of these shifts from the HVDC sample to the present study. The normative gender differences in the HVDC study were also reversed for three aggression indicators: the Aggression/Friendliness Percent, the Aggressor Percent, and the Aggressions/Characters Index. Finally, the figures in column 3 show a noteworthy variation in gender patterns from the HVDC sample to this study with regard to the familiarity of the settings in dreams. Specifically, relative to the gender difference in the HVDC study, the dreams of female participants in the present study took place less often in familiar settings than the dreams of the male participants.

Recurrent versus one-off dreams

The last set of overall results relates to the comparison of recurrent dreams with one-off dreams. The study sample was evenly distributed in this regard (48% recurrent, 52% one-off dreams; not significantly different). This uniformity was maintained within genders and ethnic groups of female participants, which allowed for a direct comparison between recurrent dreams and one-off dreams. None of the differences between recurrent dreams and one-off dreams were significant at $p < .05$. The only noteworthy differences between recurrent and one-off dreams related to three Social Interaction indicators, as shown in Table 11.

Table 11
Noteworthy Differences between Recurrent and One-off Dreams in this Study

	One-off	Recurrent	*h*
Dreams with Aggression	16%	34%	+.41^
Aggressor Percent	64%	39%	-.51^
Befriender Percent	36%	61%	+.52^

^ *h* > .40

As shown in Table 11, compared to one-off dreams, recurrent dreams were more likely to contain aggressions, portrayals of the participants as victims rather than as aggressors (i.e. Victim Percent = 1 – Aggressor Percent) and also portrayals of the participants as the initiators of friendly interactions rather than as being befriended by others.

Distinctive patterns of dream content and examples by category

This section presents the specific results on each of the eight HVDC categories analysed in this study, including the two categories (Activities and Elements from the Past) for which no statistical output is generated by DreamSAT as part of its regular output. This is a mainly qualitative section, although the general, gender and cultural patterns reported above are briefly reviewed, where relevant. Where a pattern of dream content was significant, as per the quantitative findings reported in the previous section, this will be explicitly stated. For each category, a series of figures and qualitative trends computed outside the DreamSAT analyses as well as examples of coded dreams will also be reported.

Characters

The participant was the main character in all the dreams in the present study except one. In nine out of the 33 reports from male participants (27%), and eight (12%) of the 67 reports from female participants, the dreamer was the sole character. For comparison, in the HVDC normative study, less than 5% of all dreams were without any character aside from the dreamer. As shown in Tables 8 and 9, regardless of gender or ethnic group, the dreams of participants contained significantly more appearances of family characters than the HVDC norms. The following dream is a good example of a report coded for a multitude of family characters:

> My husband, myself, my in-laws and my parents are all together, the children come into the picture as well, we're at our house, we have fun and a lot of care is given to each one, we're making conversation, just general stuff.

On the other hand, the tendency to dream of family members was significantly accentuated for Māori and Pacific Island participants than for European participants. Although the dreams of Māori and Pacific Island female participants contained significantly fewer friends than the HVDC norms for females did, due to their particularly large number of family characters they had significantly more familiar people overall (including family members *and* friends) compared to the HVDC female norms and to European female participants.

As further reported in relation to the 'Elements from the Past' category, an unusual type of characters, deceased loved ones portrayed as alive, were partly responsible for the large percentages of family members in the dreams of the participants. A distinctive gender pattern concerning the 'Characters' category was that the dreams of female participants in both ethnic groups contained significantly more male than female characters compared to the HVDC norms for females.

Social Interactions

As shown in Table 8, the dreams of male participants contained significantly fewer aggressions and sexual interactions, in fact nil, compared to the HVDC male norms. There also appeared to be fewer friendly interactions in the dreams of male participants compared to the male norms. Although this difference was not significant, when combined with the low frequencies for the other social interactions, it suggests that overall there were very few interactions in the dreams of male participants in this study. Furthermore, as shown in Table 9, dreams of female participants contained significantly fewer aggressions than the HVDC norms for females. Similar to male participants, there also appeared to be a trend in this study for European female participants to have fewer dreams with friendly and sexual interactions. The combined trends in the dreams of male and of European female participants suggest that, overall, the dreams of European participants involved little interaction.

As shown in Table 9 and in Figure 1, the dreams of Māori and Pacific Island female participants also had significantly fewer aggressions than the HVDC female norms. Yet, this was not the case with the friendly interactions. In fact, as shown in Figure 1, dreams of Māori and Pacific Island female participants contained a significantly greater number of dreams with friendly interactions as well as a larger number of friendly interactions per character than the dreams of European female participants did.

A lack of social interactions was automatic in dreams in which no characters other than the participant were featured. In addition, there were also some dreams in which little or no interaction occurred although other characters were portrayed, as illustrated in the dream below:

> I was in this very dark place, felt lost, I sat flat on the floor, there were people around me walking, they didn't know me and I didn't know them, I was dispirited and felt a bit invisible and they were just walking about doing their own thing and did not appear to have any consciousness of me, I knew that none of the things that I used in

the past to communicate applied here and this was no joke, it wasn't a passing phase, it wasn't going to go away. I knew I'd usually be able to communicate recognising that I had a need to communicate with these people but there was nothing I could do to break through that.

Another set of results relevant to the 'Social Interactions' category was reported above in relation to the comparison of dream recurrences with one-off dreams (i.e. with effect sizes $h > .40$). As shown in Table 11, recurrent dreams contained more instances of aggression and portrayals of the participants as victims rather than as aggressors compared to one-off dreams. Regarding this apparent overrepresentation of aggressions in recurrent dreams, one participant reported a dream in which "my flatmate's wife came and was trying to harm me, I was so terrified". Another participant recalled a recurrent dream in which the hostility was not directed at her but at her ex-husband:

My ex-husband and I were at my house and he still lives there and tells me 'I want to help you get better!' and lets me know he's there for me but my family is chasing him out, they don't like him - one sister and my father, the rest just follow.

Many other recurrent dreams revolving around conflicts in the participants' relationships, particularly with significant others, will be reported in the next chapter from the perspective of participants' dream-related perception and interpretations. With regard to friendly interactions, the participants were more often the initiators in recurrent dreams while in one-off dreams they were more often befriended by others.

Elements from the Past

There was no statistical output and norms are not available for this category, suggesting that references to the distant past in the dreams of college students may be rare. In this study, 'Elements from the Past' were analysed because they were closely connected with the 'Characters' and the 'Social Interactions' categories, particularly with concern with deceased loved ones featured as alive and their interactions with the participants. Twenty three (34%) of female participants' dreams and 10 (30%) of male participants' dreams contained at least one element from the past. These accounted for characters, settings, activities, or objects from the participant's distant past and included many instances where the dreamer or another character was featured at a younger age. Some of the dreams were exclusively focussed on past memories, as was the case with the following report:

I'd be shopping somewhere and next thing I was in hospital looking at these strange things on the ceilings, this happened in real life and they changed my medication

afterwards, and then next thing I was in my home town as a child and then I went into the navy reliving the atomic bomb test in 1957, it was a mixture of all things, just going through my life experiences.

In another dream filled with biographic memories, the participant "met my first boyfriend for the first time, feeling shy about it". There were also some reports where old memories were mixed with recent or current aspects (i.e. people, activities, concerns) in participants' everyday life, as in the following dream:

> I dreamt about my elderly brother and my parents, all deceased, I can see their whole bodies and faces, there's other people too, most of them I know, all deceased, and they're welcoming me, telling me 'come over!'. They're having a drink, just doing what we're doing down here, I see a lot of clouds around, I'm with a friend who's alive and just telling her 'Don't be scared, it's OK!'

As with many other reports in the present study, the above dream was coded for a particular type of element from the past: participants' loved ones who in real life had passed away while in dreams these were portrayed as alive and interacting with the participants.

Deceased loved ones

Fourteen (21%) dreams from female participants and four (12%) dreams from male participants in this study contained deceased loved ones. Of the 21 dream reports from Māori and Pacific Island female participants, six (29%) contained deceased loved ones. Of the 43 dreams from European female participants, eight (19%) were in this category.

Deceased loved ones accounted for 23% of all the characters in female participants' dreams (27 characters: nine groups, 18 individuals) and for 19% of all the characters in dreams from male participants (eight characters: four groups, four individuals). For instance, the following three dreams were coded for this particular type of element:

> It was about meeting people I'd known we're gathered in a small number, they're telling me that so and so was here, one being my mother, also some of my friends from childhood that I have not seen for years, they're all deceased. We were in clouds sweeping across and people were appearing out of the mist.

> I dreamt that my mother was still around giving me instructions as she did, it's quite vivid that she was there, I was unsure about my dreaming about her, I was wondering why was she there.

> I dreamt I was standing outside, there was a group of people around a picnic table, my auntie and two other people I worked with who were also gone and also others – I didn't know their faces, not sure where I've come from but I arrive there and I was

shocked because my auntie was there and I'm asking her why she's there because she's gone and then we're hugging and both crying, I'm asking her where's the husband and the children - I woke up with tears on my face.

The participants reporting these dreams appeared to be aware *inside the dreams* that the other characters had passed away in real life hence they encountered them with an element of surprise or confusion. However, for most of the dreams in this category it was unclear whether such awareness occurred before, upon or after awakening. In any case, for many participants, the sudden realisation that the people in their dreams had in fact passed away prompted anxious reactions, as illustrated by the following two reports:

> All the family was in a big paddock and my brother and sister were each given a coffin to hold on to, they're both gone but in the dream they were alive and they were lying in the sun, enjoying the sun, and then they put the coffins down beside them and said 'it's your turn now!', I don't know how they got there or what that meant, I woke up with a fright knowing that they're already gone.

> My sister was taking me to a function, not sure what it was. 'Let's go and get dressed, we're going out!' I said. 'Shut up, I'm not going anywhere' she said. I woke up when I realized 'Shit, she's not alive!'

In 16 out of the 18 dreams in this category, the deceased loved ones were former family members of the participants. Of the two exceptions, one related to a close friend of the participant prompting her in a harsh yet caring manner to make preparations for the future:

> I was talking to P, my friend who passed away three years ago, standing beside her and she's dressed immaculately in a blue suit, she says to me: 'you'd better go and get changed because there's no way you're getting in here dressed like that!'

The other exception was about the participant's two beloved dogs which had passed away. The dream encounter appeared very pleasant, unlike the participant's reaction upon awakening:

> I dreamt of my two dogs who both passed away but were alive, they were jumping all over my bed and a friend I know well was there telling me not to let them get up on the bed, I said they can stay up there because they came to visit me. I was very disappointed and felt panic when I woke up and realised they were not there.

Apart from the 18 participants reporting appearances of deceased loved ones in their dreams, four other participants (three female, one male) mentioned post-illness dreams containing deceased loved ones other than their most recent dream.

Participants' encounters with deceased loved ones

A total of 14 (78%) of the 18 dreams with deceased characters also featured interactions involving the participants. Three dreams in this category were contributed by male participants, all of them European. Of the 11 reports with interactions from female participants, six were contributed by European participants and five by Māori or Pacific Island participants (three Māori, two Pacific Island). Almost all the dream interactions between the participants and their deceased loved ones were friendly. For male participants the interactions in all three dreams were friendly. For female participants, seven (64%) of the 11 dreams contained exclusively friendly interactions. Some of these were initiated by the participants and were reciprocated by the deceased loved ones, as illustrated by the following report:

> I'm on the island, I went to see my mum because I just wanted to see her face and I saw her, she was smiling at me, I was so happy and then when I looked back she wasn't there. That's when my tears started, I was crying.

Similarly, another participant dreamt of her mother in a protective, reassuring role:

> In this dream last night I hurt myself and all that I can remember is that I wanted my mother, I was by myself, I don't know how I hurt myself but it was so vivid. I couldn't visualise her, I just kept calling her but I was feeling better as I thought I'm going to join her.

Only two (18 %) dreams out of the 11 from female participants contained exclusively aggressive interactions between the participants and their deceased loved ones. Finally, two (18 %) other reports from female participants contained a combination of friendliness and aggression. These included the following dream in which the conflict seemed to revolve around the participant's attempts to seek answers about "what was wrong" from her grandfather:

> I was walking up the road (familiar to me) when my grandfather (deceased) called out for me to come and join him in his car (Toyota Corona, 1982) and I did. I was very pleased to see him – to be reunited with him. I give him a hug and shake his hand. He was going to the pub after a full day's work. I went with him. I get to the pub and sit with him. I am not going to have a drink. He wanted to talk about what was wrong with me. I did not want to talk as I thought he should be giving me answers as to where the cancer came from. He got angry and threw two bottles of beer. I could feel the liquid.

Dreamer character deceased or dead-like

There were also five (8%) dreams reported exclusively by female participants in which they were portrayed as dead or dead-like yet at the same time they acted lively and sometimes interacted with other characters. These unusual instances did not qualify as elements from the past. Yet, they are mentioned here because they shared a death theme similar to the dreams of deceased loved ones. The five dreams in this category were contributed by two European, two Māori and one Pacific Island participants. They are quoted below in full, in no particular order:

> In the dream I could see myself lying in a coffin on the bed, I was alone and I was alive, I wondered what the hell am I doing in here and I panicked. When I woke up I read the Bible.

> I dreamt that everybody in the family had come around to visit the house for someone who died and I was supposed to be the one who died but I was still walking around the house.

> I dreamt that my daughter came in and the cats usually run out to the door to meet her but now she found me dead with three cats lying on top of me. She checked me and then went to get the neighbour.

> I am at a funeral in a chapel. It is my funeral. My sister is saying things about me. I don't like what she is saying and I want to zap her with a lightning bolt. I felt I couldn't do it in the chapel. I waited until she finished talking and came down to the coffin. She put her hand on the coffin and I made sure it was hot so she burnt her hand. My sister is 15 years younger than me. In the dream she was wearing jeans and T-shirt which angered me as I thought she should have dressed up.

> I dreamt that they were burying me at our family cemetery. There were a few places that they were trying to take me to but I did not want to go and I was making my coffin hard to move, but when my son said 'we'll take you to this place!' I didn't play up and the coffin was easy to move. I could hear them talking on the Marae and I can remember thinking 'I'd like to punch that one!' There were others that were laughing because of the stories that were told about me. 'I wish they wouldn't do that'. They were having a good time.

In addition, three other participants (two females, one male) mentioned that they dreamt of their own funerals in dreams other than their most recent one reported for this study.

Misfortunes and Good Fortunes (Fate)

For male participants, 17 Misfortunes were coded in 16 (48%) dreams and a single dream (3%) contained a Good Fortune. In dreams of female participants, 39 misfortunes were coded in 33 (49%) reports and 14 good fortunes were coded in 12 (18%) reports. As shown in Tables 8 and 9, the dreams of European participants contained larger percentages of overall misfortunes compared to the HVDC norms across genders. The following three dream narratives were amongst those featuring difficult circumstances, often beyond control or resolution, coded as 'Misfortunes':

> I am under the water, naked, not far from the beach and land, choppy waters, swell and anchored by a chain on my left foot to a heavy block, like boat mooring. Short of breath - distress.

> I'm in a car, I don't know where I'm going and I am trying to stop, it is difficult, I can't move my feet to press the brake and then I wake up.

> I was in a foreign country having parked a car which I can't find now. I am asking people around but no one's helping me. I can't understand what they say as they speak a foreign language. The car may have been towed. I was then walking up and down the hill in the city, looking for it. Downhill, I can see my car in a garage. I called out, no people were there then I woke up.

There were also dreams in which the participants were portrayed as sick, ailing or suffering from physical pain. These instances were coded as 'Bodily Misfortunes', including in the following two reports:

> Lying in a hospital bed with all the family around the bedside and all the equipment is there. There is no sound, no one is talking to me.

> I saw my wife on a beach, it was coming to a sunset and I was crying because I knew I was sick and I went and hugged my wife and told her how much I loved her and then I asked her to go out for dinner and I woke up.

As shown in Table 9 and in Figure 1, the dreams Māori and Pacific Island female participants contained a significantly larger percentage of this particular type of misfortunes than the HVDC female norms and also than European female participants. The Māori and Pacific Island female participants also had significantly more instances of good fortunes in their dreams compared to the HVDC norms for females. European female participants also had a higher than the norms score on good fortunes in the same direction but the difference was smaller and not significant. The following dream was among those coded for good fortunes:

> I dreamt that I won the lotto and I took my kids to the last two islands - there are 15 islands in Cook Islands and I've seen 13 of them, we flew on the plane to these islands and stayed in a motel called Pacific Resort and had dinner on the beach and in the day we swam and relaxed on the beach, I was drinking margaritas.

Another good fortune was coded in a dream in which the participant's deceased grandfather was "standing in front of me, leaned towards me, got close enough for me to feel the breath and as he was breathing I inhaled that breath and everything turned white light, it was like an aura". In another dream, a good fortune was coded in relation to the participant's 'lucky' escape from an imminent threat:

> I was sleeping in bed. There was a big snake, a very poisonous one very close to me. I thought: 'if I move he's going to bite me!' so I was very petrified, there was nothing that I could do so I flew out of my body and I went into another place, it was like earth but different, it had trees, moon, stars, mountains but it had a fourth dimension to it, they were different and more real. Then I woke up.

Misfortunes and good fortunes are also factored into the Self-Negativity Percent. This indicator combines dreamer-involved aspects relating both to Misfortunes/Good Fortunes (Fate) and to the 'Striving' (Success/Failure) categories. The findings on Strivings, including with regard to negative self-references in dreams, are presented next.

Striving (Success/Failure)

There were 12 'strivings' (four instances of 'success' and eight of 'failure') coded in the same numbers of dreams from male participants. Eight 'strivings' (five 'successes' and three 'failures') were coded in dreams from female participants. As shown in Table 10, male participants strove significantly more in their dreams compared to European female participants, this being due to an increased number of failures rather than of successes.

As shown in Table 9 and in Figure 1, the Māori and Pacific Island female participants were more successful, had significantly fewer 'dreams with at least one' Failure and lesser self-negativity in their dreams compared to European female participants and to the HVDC norms for females. With regard to 'negative' combinations of misfortunes and failures, in some of the dreams the participants were faced with a misfortune and strove to overcome it but this was to no avail, and in effect a 'failure' emerged. Such cumulated negativity is well illustrated in the following two dreams:

> I was on a big ladder with a top that clipped on as I was on my way up, there was nowhere to go and when I came down it was even more horrible. I made three attempts – it was so high up and so far down.

> It was me and a few other guys I knew working on a fishing boat, the fish that was coming out started to turn into big monster fish and we were trying to kill them with a spear but it wasn't working, there was blood spilling everywhere.

In contrast, dreams striving in the face of misfortune occasionally resulted in all ending well. This was the case with the dream below, in which it was somewhat unclear whether the positive outcome was due to the dreamer's efforts or to a strike of good fortune (a 'success' was coded in agreement between coders):

> I was in a drain somewhere and dirt collapsed over me, and I was trying to get out to breath but I was so weak that I couldn't fight, I was by myself, but then I somehow got through it and I could breathe and then woke up.

Emotions

There were relatively few emotions coded in dreams collected for the present study. Specifically, 12 (36%) dreams from male participants and 41 (61%) dreams from female participants coded for at least one 'Emotion'. The remaining dreams (64% for males, 39% for females) did not contain any explicit emotions. The gender difference regarding the frequency of emotions in dreams in the present study appears similar to the HVDC (1966) normative study where women were more emotionally expressive than men by approximately 50%. The distributions of emotion types (Anger, Apprehension, Confusion, Sadness, and Happiness) in dreams from the present study did not vary across genders, again similar to the normative HVDC study.

The only indicator computed for this category is the Negative Emotions Percent. This combines the four classes of 'negative' emotions in the HVDC system: Anger, Apprehension, Confusion, and Sadness. There was little difference on the Negative Emotions Percent between male participants and the HVDC norms for males. As shown in Table 9, dreams of female participants from both ethnic groups contained lower percentages of Negative Emotions compared to the HVDC norms for females. Conversely, the percentages of positive emotions in dreams of female participants in the present study would have been larger in dreams of female participants in this study compared to the HVDC norms for females. These trends appear consistent with the larger numbers of good fortunes in dreams of female participants, particularly Māori and Pacific Island participants. As illustrated by a series of

dreams quoted above, negative emotions were often coded in association with misfortunes faced by the dreamer. These included a dream in which the participant felt "horrible" (apprehension) as she was unable to come off a "ladder with a top that clipped on" and another dream where the participant "was crying because I knew I was sick" (sadness).

On the other hand, some of the dreams featuring potential or imminent threats to the participant were not coded for negative emotions such as apprehension or sadness. This apparent dissociation between the nature of the circumstances in the dreams and the participants' emotions is well illustrated by the following two reports:

> I was sitting in a chair, perhaps at our computer where there are a few desk type calendars, I do not recall my actual thoughts, but the calendar monthly pages turned over and there was November 2010 with either the 13th or 15thy fading away. I got the immediate feeling that this is the date of my death. It was not unpleasant, in fact it gave me a sense of relief.

> There were aliens with round faces and big eyes and they zapped me, put my head under a laser thing, took me up in the air, and then I came down again. I wasn't scared I was disappointed they haven't abducted me.

Such emotional 'inadequacies' in dreams support the idea that emotions can be coded in dreams only when they are explicitly stated, as is the case in the HVDC system, rather than being inferred from the circumstances featured in the dreams.

Settings

Seventy four settings were coded in 60 (90%) dreams from female participants. Thirty seven settings were coded in 32 (97%) reports from male participants. As shown in Tables 8 and 9, the dreams of male and of European female participants 'happened' in unfamiliar locations significantly more often than was the case in the dreams from men and women in the HVDC study. On the other hand, as shown in Table 10, the normative gender difference where women's dreams took place more often in familiar settings than men's dreams was not maintained in this study between male and female participants (European). In contrast, in the dreams of Māori and Pacific Island female participants the percentage of familiar settings was similar to that in the HVDC norms for females and more than double compared to dreams of European female participants.

Examples of dreams with unfamiliar settings have been given throughout this section in relation to other categories. Relevant dreams included the report in which the participant was

"in a foreign country having parked a car which I can't find now" and the dream in which the participant met his deceased loved ones in an environment of "clouds sweeping across". Another dream report coded for unfamiliar settings was this:

> I am in a gold mine. I am dressed in decent clothes. I am wrapping up a large piece of gold in a cloth. Hundreds or people from different cultures are all around doing the same. They are all decently dressed (not poor).

In some dream narratives more than one setting was coded because the settings changed as they progressed, as illustrated by the following dream:

> I was in a half asleep half-awake area and something heavy fell onto my bed and I thought it was my cat but it wasn't so I laid back down again, and then something soft but firm like a grip wrapped around my left wrist and started pulling me off the bed, I can remember saying 'Go away! I don't want you here', next thing my younger son was standing at the foot of my bed looking about 10-11 years old, he's 42 now, and said to me 'What's that out there?' and pointed towards the door and I looked and it was nothing. I laid back down and he said 'It's a fire!' I got out of bed, took his hand and went upstairs but when we got to the top of the stairs, it was not in the house but like a big outside area filled with bright sunshine and quite a few people – none of them known to me, did not see their faces, they were just people. I was thinking 'Where are we now?' and 'What's going on here?' My son one minute was on my side and then he disappeared and then I woke.

Such dynamic dream scenarios where the characters shifted from one type of setting to another were also often coded for the activities performed by the characters, as shown in the result for the 'Activities' category, presented next.

Activities

No DreamSAT statistical output was available for this category. Thirty (91%) dreams from male participants and 64 (96%) dreams from female participants in the present study contained at least one activity. The total number of activities was 71 for men and 187 for women. The mean frequencies were 2.2 activities per dream for male participants and 2.9 activities per MRD for female participants. These scores suggest a low degree of 'activism' compared to the HVDC (1966) study where there were over five activities per dream for both genders.

As previously mentioned, two classes of activities were of particular interest in this study: self-propelled muscular movements and vehicle-assisted location changes. In this study, these were grouped into one category titled 'Movement/Travel' which was similar to the 'Journey' theme established in Study One.

Since no statistical output was available, the percentages of 'Movement/Travel' activities in the study sample were calculated by dividing the numbers of such activities by the total number of activities of any type. The values were 59% for male participants and 56 % for female participants. There was no cultural difference in this respect (57% for European female participants, 55% for Māori and Pacific Island female participants). For comparison, the percentage scores for these activities in the HVDC study were 33% for males and 32% for females (Hall & Van de Castle, 1966; Hurovitz et al., 1999). Simple tests for the differences between two independent proportions were conducted, similar to the type of operations performed by DreamSAT for the comparisons on the other indicators. Compared to the percentages computed for the HVDC study, the dreams of male and female participants in this study contained significantly larger percentages of Movement/Travel' activities ($p < .05$).

'Movement/Travel' activities were often featured in dreams which also contained misfortunes, as was the case with the following report:

> I was travelling on an elevated road over the sea like a long bridge and I was in a large tank like a war tank. In the tank I feel like at home and have peaceful feeling and I am excited to be in the tank but I am also bored because there's not much to look at like trees or scenery, just the sea. There's a group of us in the tank, I don't know who they are, we come to a place where there should be a bridge but only a large gap is there. I'd like to go further on, I don't want to jump in the water and I wake up.

There were three other similar dreams in which the participants faced misfortunes in the form of obstacles or threats while attempting to cross over bridges. In other Movement/Travel themed dreams, the misfortunes related to various other points of transit or access such as corridors, caves, tunnels, doors, paths, stairs, and ladders. The last was featured in the report previously mentioned where the dreamer was going "up a ladder with a top that clipped on". In another dream coded for both Misfortunes and for 'Movement/Travel' activities, the participant was journeying through an unfamiliar environment where she kept getting lost:

> I was in an old building with lots of small rooms and little staircases. There were two large rooms which appeared to serve food. It was a bit like a hotel or a ship. I was with other people (unrelated) and we all seemed to be going somewhere but I don't know where. The people seemed to be 20's or 30's of mixed sex. I kept getting lost and going up or down the wrong staircase. They were very narrow and gloomy. Sometimes there was a door at the top or bottom which would open into a variety of strange places/rooms and I would get frustrated at being lost, even though I didn't know where I was going. At one place the stairs became very dark and I was either in a basement of an old warehouse type building or an old stone building similar to an old castle. The stairways and corridors seemed endless. Often other people were

scrambling along them but I didn't know them. At one stage a passage way came out onto a small beach surrounded by steep rocky cliffs. I looked around and discovered the others had disappeared. I felt very lost and alone and was starting to get upset. I think I came to at that point.

Some of the journey-themed dreams contained both misfortunes and good fortunes, as was the case with the following report:

> I was facing a bridge and wondering whether I would chance going over on it – it was very old and looked unsafe. However, I decided to go across although the water beneath looked menacing as I can't swim. I paused at the centre of the bridge and felt someone hold my hand and felt very relaxed and happy. We continued walking to the end of the bridge and I think Jesus and Sae Baba were waiting for us. They looked at me and I thought they were thinking 'Oh, so you have managed it at last'. I was taken to a high brick wall and I thought how strong it looked. I moved forward and touched the wall and it fell all crumbled to the ground. Behind the wall there was a huge light which was gorgeous and I wanted to touch it. My companions took me into a sort of arena and told me to sit down. Then they left me. I wanted so much to get closer to the light that I began to move forward when I understood that that was not allowed – yet.

The above dream stood out for being the only dream out of the 100 in the sample in which religious figures were portrayed. With the Activities category, the presentation of the findings by category is completed.

Summary of the main findings

The dreams of participants in this study were different from the HVDC norms in some respects and similar in other respects. Regarding overall patterns across genders and cultures, the dreams of the participants contained greater appearances of family members, including deceased loved ones, and of movement/travel themed activities, and fewer instances of aggression, compared to the HVDC gender norms. Across ethnic groups, female participants dreamt more often of male than of female characters, a significant difference from the HVDC female norms. The lack of sexual references in the dreams of male participants was a significant difference from the HVDC norms for males. Across genders, European participants were more similar to the respective HVDC norms than Māori and Pacific Island female participants were in comparison to the HVDC female norms.

Regarding inter-cultural differences, the general trend in the dreams of the participants to contain greater appearances of family members was far stronger for Māori and Pacific Island participants. Despite having significantly fewer friends in dreams, Māori and Pacific Island

female participants still had a significantly greater number of familiar characters (i.e. family + friends) compared to the HVDC female norms and the European female participants. Other trends exclusive to the dreams of Māori and Pacific Island participants included the large numbers of friendly interactions, successes, good fortunes and of references to physical ailments. On the other hand, the dreams of European male and female participants took place in familiar locations far more rarely than the respective HVDC gender norms and also than the dreams of Māori and Pacific Island participants. Finally, across genders the dreams of European participants also contained more overall misfortunes, rather than just the physical type, than the HVDC norms did.

Regarding inter-gender differences, European male and female participants resembled each other to a larger extent than the HVDC men and women did. This increased gender uniformity was associated with many of the inter-gender differences in the HVDC study, including the differences with the four largest effect sizes, being reversed in this study. More specifically, the normative trends for males to dream more of men than of women compared to females, and to have more sexual references and aggressions, both physical and general, in dreams were reversed in this study. The only significant gender difference in this study was that male participants strove more often than female participants did. This trend was in the same direction as in the HVDC study but was more accentuated in this study due to an increased number of failures rather than successes. Other noteworthy variations from the HVDC sample to this study in gender patterns concerned the familiarity of the settings in which the dreams 'took place'. More precisely, the dreams of female participants took place in familiar settings less often than the dreams of the male participants, in comparison to the HVDC study.

The effect of dream length on the results

Fifty five percent of the dream reports analysed in this study contained between 50 and 300 words, 32% contained between 30 and 49 words, and14% were shorter than 30 words. The female participants' dreams had a mean word length of 79.2 words ($SD = 10.4$) while the dreams of male participants contained on average 68.6 words ($SD = 8.7$). This difference was similar to that found by the HVDC normative study where women's dreams were on average 8% longer than men's dream reports.

As has been mentioned, Hall and Van de Castle (1966) corrected for variations in wordiness by including only dreams between 50 and 300 words in the analyses. A far stronger correction is the use of percentages and ratios because that these are far less influenced by dream length than raw frequencies. Domhoff (2003) compared dreams that were either shorter or longer than a selected number (i.e. 175 words, 200 words) across several samples and showed that raw frequencies differed considerably between short and long dreams, while ratios and percentages did not. He noted however that the use of ratios and percentages was less effective in correcting for variations in reports containing fewer than 50 words.

To assess the effect of dream length on the results of the present study, comparisons with the HVDC gender norms using truncated samples of dreams between 50 and 300 words ($N = 43$ for female participants, $N = 19$ for male participants) were conducted. These comparisons yielded very similar results to the full-sampled comparisons, with the exception of two differences for women and one difference for men. For these, significance was lost but the scores for the h statistic measuring effect sizes remained largely unchanged, suggesting that the loss of significance was due to the lower samples, rather than to different trends in dream content. In conclusion, it appears that dream length had little influence on the results of the present study.

Comparison with the relevant findings of Study One

Given that the participants in Study One were all European except for one, only the general patterns and the trends exclusive to European participants in Study Two are relevant when comparing the two sets of findings. The findings on dream content emerging from the two studies in this project converged to a large extent. Table 12 displays the correspondences between the themes and subthemes established in Study One and the relevant categories and content indicators analysed in Study Two.

Table 12

Theme/Subthemes in Study One and Corresponding Categories and Indicators in Study Two

Theme/Subthemes - Study One	Category/Indicators - Study Two
Biographic Links: Family and Friends, The Dead	Characters (Family, Friends, Familiar), Deceased Loved Ones
Biographic Links: Work and Hobbies	Elements from the Past
Adversity: External Challenges, Personal Impairments, Death or Illness	Misfortunes, Bodily Misfortunes, Strivings (Failures)
Adversity: Relational Problems	Social Interactions (Aggressions)
Journeys	Activities (Movement/Travel)
Elements of Unknown: Unfamiliar Places	Settings (Unfamiliar)
Elements of Unknown: Strangers	Characters (Unfamiliar)

A series of themes and subthemes identified in Study One were fully supported by the quantitative results of Study Two. For instance, the Adversity theme is consistent with the large percentages of dreams with misfortunes found in Study Two for European male and female participants. Similarly, the 'Journeys' theme and the 'Unfamiliar Places' subtheme ('Elements of Unknown' theme) identified in Study One as prominent in the post-illness dreams are fully aligned with the large percentages of 'Movement/Travel' activities and with the low scores on Familiar Settings in dreams of European male and female participants in Study Two. Furthermore, the comparatively fewer 'Journey' references in the pre-illness dreams in Study One are consistent with the greater than the norms percentages of 'Movement/Travel' activities in Study Two.

In other respects, the quantitative findings of Study Two were very similar to the Study One themes but at the same time they were more systematic and nuanced. For instance, in Study

Two, the Familiarity percent, which accounted for family members *and* friends characters combined, was relatively large - over 50%, for both European male and female participants. These trends are consistent with the 'Family and Friends' subtheme identified in Study One. However, by virtue of using a large sample and the normative HVDC gender findings as controls, Study Two also revealed that only the percentages of family characters were larger than the HVDC norms.

Similarly, Study Two found that the dreams of European male and female participants in this study were more likely to contain misfortunes compared to the HVDC gender norms. Furthermore, the numbers of misfortunes were almost three times greater than those of good fortunes. These patterns match well the 'Adversity' theme and its respective subthemes in Study One. Importantly however, Study Two found relatively small differences from the HVDC norms with regard to misfortunes, as one third of dreams in the normative sample also contained misfortunes (Hall & Van de Castle, 1966). Without using a normative baseline the large prevalence of adversities or 'misfortunes' in dreams from participants in this project may have been overstated.

Even more importantly, compared to European male participants, the dreams of European female participants in Study Two contained fewer strivings, particularly failures. Since gender trends were not analysed in Study One, this gender difference was not identified. In addition, compared to the HVDC norms for females and to European male participants in Study Two, European female participants scored higher on good fortunes, although not significantly. This score however is noteworthy from the perspective that there were arguably no fewer good fortunes in the dreams of European female participants compared to the HVDC norms for females. This idea could not have been inferred from the prominent 'Adversity' theme established in Study One, where some instances of good luck were noted as occasional occurrences in dreams but not as a possible theme. Furthermore, considering such a theme would have been counter intuitive given that a contrasting 'Adversity' theme far more strongly supported in the data was identified across participants as well as in individual recurrences.

There were also some apparent discrepancies between the two sets of findings. On a closer look however, these appear related to inter-study differences in methodologies and samples rather than to contradicting patterns in dream content. For instance, the significantly smaller than the HVDC norms percentages of aggressions found in Study Two in the dreams of

participants across genders and cultures appear to contradict the idea that a 'Relational Problems' subtheme was prominent in dreams, as suggested in Study One. However, 'Relational Problems' in Study One accounted not only for conflicts between characters which were coded as Aggressions in Study Two, but also for instances where the dreamer was lonely, isolated, or unable to relate with other characters. A distinctively low frequency of interactions in dreams of palliative patients was not picked up in Study Two by the Social Interactions indicators (i.e. aggression, friendliness, sexuality). Yet, the small percentages of 'dreams with at least one' for all three types of interactions for European male and female participants does support the idea that the participants' characters were rarely involved in any type of interaction.

Furthermore, the two sets of findings also converged with regard to the overrepresentation of the 'negative' social interactions in recurrent dreams compared to one-off dreams. Specifically, in Study One the main theme identified in dream recurrences was 'Relational Problems'. This was often coded in connection to unresolved conflicts with the participants' significant others. Similarly, in Study Two, while the overall level of aggressive content in dreams was low compared to the HVDC norms, the percentage of 'dreams with at least one' Aggression was double for recurrent dreams compared to one-off dreams. In addition, the participants' characters were more frequently portrayed as victims rather than as aggressors in recurrent dreams compared to one-off dreams. Hence, in their specific ways, both studies produced findings suggesting that recurrent dreams selectively featured longstanding or unresolved conflicts in participants' relationships with significant others, past or present.

In conclusion, the qualitative themes and subthemes identified in Study One were largely supported by the quantitative patterns of content found in Study Two. By virtue of the multiple methods used for data collection over a period of time, Study One facilitated the analysis of common themes across participants but also of recurring motifs and variations in individual series. On the other hand, Study Two, the first systematic large-scale investigation with palliative people, complemented the Study One themes producing a unique set of findings regarding general, gender and cultural patterns in the dreams of palliative people. These patterns will be further discussed in the last chapter of this thesis (Chapter 8) in light of previous clinical and empirical findings with terminally-ill people and with other relevant groups as well as in terms of their theoretical and clinical implications. But before that, the Study Two analyses and results regarding the participants' dream-related perceptions and interpretations will have to be presented.

CHAPTER 7: Study Two - Dream-Related Perceptions and Interpretations

Overview

This chapter presents the methods and the results of Study Two in relation to participants' dream-related perceptions and interpretations. It comprises four sections. The first section is the 'Methods' section and reports on data collection and data analysis. The second section reports on the results, in two parts: the first about participants' perceptions around post-illness changes in dreams and the second about their personal interpretations of the dreams. The third section briefly summarizes the main findings of this study, while in the last section these are compared with the relevant findings emerging from Study One.

Methods

Data collection

Data concerning participants' dream related thoughts and interpretations were collected at the same time from the same participants and following the same procedures described in Chapter Six in relation to the most recent dreams. The aim of this study was to investigate on a large scale the prevalence of the response categories and of the personal interpretations established in Study One.

Three items addressing participants' dream-related thoughts and personal interpretations were added for the purposes of this study into the MRD form (Appendix 5). The first question was general, asking participants whether they thought their dreams had changed post-illness and, if yes, in what way. The second question asked about participants' personal interpretations in relation to their reported dreams. The final question invited participants to share any other thoughts or observations they may have considered relevant for the purposes of the study. All the responses were transcribed in electronic format and combined with the dream reports from the contributing participants into a Microsoft Word document compiled for the purposes of the analyses.

Data analysis

With regard to participants' responses as to whether they thought their dreams changed since their becoming seriously ill, the frequency of positive and negative responses was collated. Where available, the data concerning the nature and timing of the reported changes were analysed and classified using the categories identified in Study One (i.e. increased intensity

of dreaming and increased bizarreness). Responses that did not match any of the categories identified in Study One were reviewed separately to check for any newly emerging response category.

Similarly, personal interpretations of dreams were analysed deductively using the themes identified in Study One (Literal, Metaphoric, Medical, and Spiritual) in order to investigate their prevalence in the large sample of the present study. The first step in the analysis involved a manual coding of all the relevant data by writing down the interpretation types in relation to each dream. As in Study One, the interpretation categories were not mutually exclusive as more than one personal interpretation type or category was able to be coded in relation to the same dream.

In the second phase of the analysis of participants' dream-related interpretations, the doctoral student's codings were reviewed by the main supervisor against the list of titles and definitions for the four categories. There were disagreements in relation to 14 (12%) of the 112 codings. These were resolved through discussions, which included a broader definition for the spiritual interpretations. This category was originally defined to account for the relatively few such instances in Study One. Specifically, the word 'premonitory' was included in the description of spiritual interpretations. This was done to emphasize the idea that spiritual interpretations involved making connections between one's dream and one's future in a distinctive way. This was different from literal or metaphoric interpretations of dreams in the sense that they expressed directly or indirectly (i.e. through analogies) participants' hopes or concerns around their future.

For each category of interpretation (i.e. Literal, Metaphoric, Medical, Spiritual), numbers/percentages of participants and of relevant dream reports were calculated. The distributions of interpretation types across genders and cultures/ethnic groups were also analysed. With regard to culture/ethnicity, there have been claims that Māori and Pacific Island people are more likely than Europeans to associate spiritual meanings to their dreams, in line with holistic worldviews, usually rich in spiritual elements (Berghan, 2007; Hanson & Hanson, 1983; Medical Council of New Zealand, 2006, 2010). A separate analysis was conducted on the cultural differences with respect to participants' interpretations of dreams featuring deceased loved ones.

Results

Participants' perceptions around post-illness changes in dreams

Eighty four participants responded to the question "Have your dreams changed since you became seriously ill? If yes, in what way?" Of these, 69 (82%) participants responded "Yes" and 15 (18%) participants responded "No". Forty one (49%) participants commented about the nature and/or timing of the self-reported changes. Of these, eight (20%) participants talked about an increased vividness of their dreams (e.g. more "real", "detailed", "vivid") and seven (17%) participants observed an increased bizarreness of their recent dreams (e.g. more "weird", more "strange"). The analysis of the responses that did not fit into these categories established in Study One identified a new category Specifically, six (15%) participants in the present study made comments to the effect that their recent dreams had been more distressing (e.g. more "negative", "nightmares", "bleak", or "sad").

With regard to the frequency of dreams, seven participants (17%) said that they had fewer dreams since they became ill. With regard to dream recall, five (12%) participants said that they recall fewer dreams On the other hand, 19 (46%) participants made comments about recent changes in dreams that were highly individualised and unable to be included in a category or to be grouped together based on a common feature. Such specific responses included comments such as "first time having a recurrent dream" or about dreams revolving around a certain theme, character, place or activity.

With respect to the timing of the post-illness changes in dreams, 11 (27%) participants said that these had occurred around the time of their diagnosis. Of these, four participants reported that the changes were ameliorated later in the course of their illness. For instance, a male participant recalled that shortly after his diagnosis he had recurrent dreams which continued almost daily for about six months. In these dreams he "was killing myself in every possible way", including jumping in front of a train or a bus, hanging, shooting or cutting himself. The participant recalled waking up "sweating" and having difficulties going back to sleep, the dreams having an intrusive, lingering effect on him. After he went through counselling and a change of medication the dreams became reportedly "tamer", less frequent and their post-awakening impact was easier to handle.

Some participants also reported post-illness changes in dreams in the opposite direction, where distressing dreams had ceased or new pleasant dreams had emerged. For instance, a

female participant advised that for a period of several years leading up to her illness she had a recurrent dream about "being out of control where I was in a car going downhill backwards, the breaks didn't work". These dreams reportedly stopped soon after she learnt of her incurable illness. Another female participant recalled that immediately following her diagnosis she had dreams wherein she was flying; to her regret, these had stopped after some time.

The nature and timing of some of the changes in dreams were connected by participants to aspects unrelated to their illness trajectory such as the time of diagnosis or referral to hospice, a hospital admission or a change of medication. For instance, a 69 year old female participant reported that she had been frequently dreaming about a man whom she had met four months prior and whom she had developed a reciprocated romantic relationship with. The same man was also a character in her most recent dream where "we're driving along on a long road with the sea on one side and the hills on the other, the top was down, the wind was blowing in my hair, it was just beautiful, we were two normal people with no problems".

As has been mentioned, 18% of the participants did not think their dreams changed notably after they became ill. In fact, some of the recent dreams that were recurrent or contained recurrent themes were said by the contributing participants to have started long before their illness. The most consistent example in this category was that of a 67 year old male participant who in his most recent dream was manoeuvring an aircraft through difficult conditions eventually "landing the aircraft beautifully" on a field where "there were three seagulls around". The participant said that he first had this dream at the early age of 14, before he became a pilot in real life, and said that its content had been very consistent over the years: "it never changes in time, place, weather or any detail, even the three seagulls are in the same spot".

Some of the longer term dream recurrences in the present study involved variations in the context of the dream, while the central theme remained the same. For instance, a female participant recalled a recent dream about her ex-husband in which "my family is chasing him out, they don't like him". The participant recalled that she had a series of similar dreams soon following her divorce about 20 years prior but in the more recent dreams she was portrayed as ill and comforted by her ex-husband. Similarly, a female participant reported a recent dream in which she was "in a strange house" and "there were some children there and I was trying to get them ready to go somewhere but they weren't listening, everything was going

wrong". The participant recalled that she first had similar dreams about disobedient children in the 1970's only the setting in those dreams was a house she was living in at the time looking after her son and several foster children. The participant further recalled that the dreams started after a quick succession of traumatic events occurring within a one year period. These included the death of a foster child in her care, a car accident that left her own biological son brain damaged and her admission into hospital due to health problems. In the period that followed these events, the dreams reoccurred on an almost daily basis for a while until they became less regular and eventually ceased altogether. The participant said that she was surprised that such distressing dreams had resurfaced once again and although "it was not as bad as the ones before" she hoped that they would not continue.

Personal interpretations

Relevant data from 86 participants (59 female, 27 male) were coded for 102 personal dream interpretations using the four categories established in Study One (Literal, Metaphoric, Medical, and Spiritual). As in Study One, some of the dreams were coded for more than one interpretation. There were 14 participants, nine female and five male, who did not give any kind of interpretation to their dreams. Literal reflections were the most prominent, followed by spiritual interpretations and metaphoric reflections. Table 13 below displays the frequency for the categories of personal interpretations.

Table 13
Frequency of Personal Interpretations in this Study

	N (%)
Literal	59 (57.8 %)
Metaphoric	15 (14.7 %)
Spiritual	19 (18.6 %)
Medical	9 (8.9 %)
Total	102 (100 %)

These categories were not mutually exclusive in that some dreams were given more than one interpretation. On the other hand, dreams containing similar themes or elements were sometimes given different interpretations by different participants. For instance, the dreams containing deceased loved ones were interpreted by the participants in one of the following ways: literally, as reflecting participants' memories of their deceased loved ones; metaphorically, as expressing in a disguised or dramatized manner the participants' own

concerns and preoccupations around approaching death ; and spiritually, where participants wondered whether such dreams were a form of contact with their ancestors and/or contained meaningful messages of warning, guidance or reassurance about their future. More will be said in the following about this particular type of dreams.

Literal Interpretations

Literal interpretations were coded whenever participants interpreted their dreams as reflecting various aspects of their everyday life in a direct, transparent, straight forward manner. Such aspects included memories of places, people, activities, recent experiences, current wishes and concerns about oneself and significant others, and apprehensions about one's future. For instance, a participant interpreted a dream in which her grandson "was in his cot asleep but it was in my bedroom, and that was unusual because I knew he has his own bedroom". She thought this dream was a reflection of her recent concerns: "in the last days he's been quite clingy and quite still, which he never did before. I just worry about him a lot."

Many participants discussed literal interpretations of dreams in connection to their current health problems and associated disabilities. For instance, a female participant who reported a recurrent dream where she was "trying to open bags of lollies, cans and tinned stuff without being able to", noted that her dream accurately expressed the difficulties around these particular tasks she had been facing in real life. Another health-related literal interpretation was proposed by a participant who noticed that her physical pain was incorporated in her most recent dream. In this dream, she recalled, "I actually felt the pain in my left leg as if someone was sitting on it and I was trying to kick" after which she woke up "with a cramp under my foot". Reflecting back on the experience, the participant commented that "the dream pain was worse than the real cramp pain".

Similarly, a male participant reported a dream in which he was in a car "trying to stop, it is difficult, I can't move my feet to press the break" which he connected to his real-life inability to move his feet independently. Another participant thought that his health problems, namely his heart condition and breathing problems, were reflected in a dream in which he was "under the water, naked, not far from the beach and land, choppy waters, swell and anchored by a chain on my left foot to a heavy block, like boat mooring. Short of breath – distress." Similarly, a female participant who reported a disturbing dream about "falling into a bottomless pit" interpreted it in a literal fashion as reflecting her ongoing fear of falling or tripping as a result of her spine cancer.

Some participants gave literal interpretations in terms of waking wishes or fantasies in relation to pleasant dreams. This was the case of a man who reported a recurrent dream in which he was "on rugged terrain" but, unlike in his real life "I can walk without assistance and very quick". In interpreting his dream, the participant commented that "it could be a wish as there is nothing I'd wish for more than to walk."

Literal interpretations were also given by some participants to dreams that contained elements and narratives which other participants interpreted metaphorically or spiritually. These included dreams featuring deceased loved ones. For instance, a participant reported a dream where his mother was "giving me instructions as she did" and connected this in a literal fashion to "something I did the day before that she would not have been happy about". Similarly, a woman participant who dreamt about her deceased grandmother who "was on my walker, she was just standing there" put it down to the fact that she had been looking into her genealogic tree and said that her father's mother, the grandmother in her dream, "had been on my mind".

In another dream interpreted at the literal level the participant's character "was walking a small dog and there was an old guy unknown to me with a bigger dog and a walking stick and he beckoned me over, said to me 'Come here, come here!'". The participant considered this dream to be a mere reflection of his liking of small dogs, adding that otherwise it was a "random dream". In a journey-themed dream which other participants may have considered metaphoric, the participant was in a "war tank" along with some strangers and "we come to a place where there should be a bridge but only a large gap is there. I'd like to go further on, I don't want to jump in the water". The participant interpreted this dream literally in connection to the fact that "I read a lot about the war and have been putting it together in my sleep". Finally, a woman participant who reported a dream in which she saw "aliens with round faces and big eyes and they zapped me, put my head under a laser thing, took me up in the air, and then I came down again". She explained the dream as a memory residue: "I saw something with lights floating in the sky the night before, wandered what it was".

Metaphoric Interpretations

Ten (15%) female participants and five (15%) male participants explored metaphoric meanings for their recent dreams. Compared to literal interpretations, metaphoric interpretations were more *constructed* as they involved participants' 'reading' analogies between dreams and their waking thoughts, experiences or existential problems. These

aspects were thought by the participants to be suggested or symbolised rather than simply mirrored in their dreams. For example, a female participant attributed a metaphoric interpretation to a dream in which she "was in this very dark place, felt lost, I sat flat on the floor, there were people around me walking, they didn't know me and I didn't know them, I was dispirited and felt a bit invisible". In sharing her thoughts as to why she had this dream, the participant commented: "I had decided that I didn't really want to fight, it was not worth it, this precipitated the dream, I wasn't going to fight for my life because it wasn't going to make a lot of difference what I do. The dream delivered in a nutshell where I was at".

Another metaphoric interpretation was discussed by a female participant in relation to a dream in which "everybody in the family had come around to visit the house for someone who died and I was supposed to be the one who died but I was still walking around the house". In making sense of it, the participant thought that the dream was a metaphor for her ongoing preoccupations with the future "knowing that I have cancer".

Another participant gave a metaphoric interpretation in connection to her illness to a dream in which she was fighting against "humans and some waist-high yellow robots" led by a "bad goddess" by spraying them to death, an action which she then regretted. The participant commented that "the battle may be metaphoric, about my battle with the cancer" and also metaphorically connected her regret about spraying her enemies to the mastectomy she had to undertake:

> When I had my breast removed I also damaged good tissue, the cancer is hard to see as a nasty or evil thing, it's just trying to proliferate but I had to operate it to survive, it was necessary, the cancer is not morally wrong, also good parts are damaged when removing it.

A male participant reported a journey-themed dream in which he was "in a foreign country having parked a car which I can't find now. I am asking people around but no one's helping me. I can't understand what they say as they speak a foreign language". The participant speculated in metaphoric fashion that the loss in the dream may have expressed the loss of his father he experienced as a young boy. He also pointed to a literal reflection of the fact that he had travelled a lot in his life. Another example of a metaphoric interpretation was shared by male participant in relation to a dream in which he "saw this young woman I knew from older times, she looked young, we were smiling and laughing and talking to each other." His interpretation of the dream was metaphoric in the sense that he thought that the dream expressed the opposite of how he had been in real life: "I think she represents women in

general, I'm a shy person, I was the impediment, my problem has been not being able to relate to women". The participant also advised that he had read Jung's books on dream interpretation.

Some participants gave a metaphoric interpretation to dreams about their relationships with significant others. This was the case with a participant who reported a dream in which she was at her own funeral attended by her sister, who she was angry with for "saying things about me" and being under dressed for the occasion. The participant reacted aggressively: "She put her hand on the coffin and I made sure it was hot so she burnt her hand." The participant interpreted this dream as literally reflecting her ongoing frustration with her sister: "my sister could be a bit more caring to me now. I'm angry with her lack of care especially as she lives next door."

A male participant proposed another interpretation in this category which best illustrates the idea that, compared to literal interpretations, metaphoric interpretations were more *constructed* or elaborated by the participants. The participant reported a dream in which he was walking on a "hilly territory" and was attacked by a "monstrous figure like a big ugly red orange furry ape". When asked whether he put this dream down to anything, the participant advised that he did arrive at an interpretation although this did not occur to him until sometime after the dream: "I didn't know at the time but it was like a warning dream, the monster appeared like my wife when she later had a very angry approach to me at Christmas time, I thought she was exactly like the monster in the dream".

There were also participants who explored metaphoric interpretations in relation to dreams about deceased loved ones. For instance, a woman participant who recalled a dream where she was welcomed in a place with "a lot of clouds around" by deceased family and friends interpreted it as a metaphor for her ongoing fears of dying: "I'm scared so I'm trying to convince myself it's OK to go". Similarly, a male participant commented about a dream in which he met many of his loved ones who had passed away. In that dream, he saw "clouds sweeping across and people were appearing out of the mist", an imagery he interpreted as a reflection of his recent attempts "to come to terms with my mortality". As shown next, other such dreams featuring deceased loved ones attracted spiritual interpretations from the contributing participants.

Spiritual Interpretations

Nineteen participants gave spiritual interpretations to their dreams. Eleven (58%) of these were in combination with other types of interpretation. Participants in this category considered that their dreams contained a premonitory message of warning, reassurance or guidance for the future. Deceased loved ones and/or surreal settings were commonly featured in dreams that attracted spiritual interpretations from the participants.

There appeared to be gender and cultural differences in relation to this category. With respect to gender differences, two (7%) male participants gave spiritual interpretations to their dreams, which accounted for 6% of all the interpretations by male participants. Seventeen (11%) female participants proposed spiritual interpretations which accounted for 23% of all the interpretations from female participants. With regard to cultural/ethnic differences, of the 17 spiritual interpretations given by female participants, nine were given by Māori and Pacific Island participants and eight were given by European participants. These accounted for 26% of all the interpretations from the Māori and Pacific Island group and for 11 % of all the dream interpretations from the European female participants. With respect to dreams featuring deceased loved ones, Māori and Pacific Island participants attached spiritual interpretations to five (83%) of their six dreams in this category, whereas European participants attributed spiritual interpretations to three (38%) of the eight dreams in this category.

An illustration of this category relates to a Māori female participant who dreamt that she was at the Marae where she had grown up, wanting to enter the church where many of her deceased ancestors were "lined up" but was refused entry without being told why. In reflecting on the meaning of this dream, the participant said that she had always had "premonition dreams" of family members warning her about imminent dangers to her living family. As a reaction to these apparitions, the participant said she would always warn those alive about the dangers conveyed in her dreams. However, the participant said that her latest dream was different in that "they're not giving me answers as they used to" and thought this may have meant that "maybe it's not my time yet". Another Māori woman shared a dream about her deceased grandfather coming close to her and, as she inhaled his breath "everything turned white light, it was like an aura". The participant said that she woke up before she could exhale and wondered what would have happened had she exhaled. She emphasised that this dream was "real, no other dream like this, I physically felt that breath, I clearly saw the

light". The participant thought that the dream literally reflected the strong connection she had had with her grandfather when he was alive. In addition, she mentioned her belief that ancestors who pass away can "take the disease away" if "asked" by the living, which the participant said she had done prior to this dream on advice from the elderly at her Marae.

A spiritual interpretation was also shared by a Pacific Island female participant who reported dreaming of a group of dead people, including her aunt "sitting around a picnic table". The participant wondered whether this was a warning dream given that three people close to her had passed away within the three weeks since she had it. A European female participant also discussed a spiritual interpretation in relation to a dream containing deceased loved ones. Specifically, she reported a dream about a close friend who had passed away treating her in a harsh yet caring manner, saying to her "you'd better go and get changed, there's no way you're getting in here dressed like that". In attempting to make sense of it, the participant thought that maybe her friend was "reassuring me, it is getting closer and I have to book a church, to make preparations." In addition, she pointed to a literal reflection of the fact that she had been fairly casual about the way she dressed, particularly on the day before the dream.

Another European female participant reported a dream in which she was hurt and was calling her deceased mother for help. She said that her mother had been a character in many of her recent dreams and wondered: "Would I be joining her soon?" The same participant also pointed to a literal reflection of the relationship she had with her mother: "When I was younger before I was married we were very close and I was very dependent on her". To her regret, the memories of past relationships reflected in her dreams were only partial: "Why am I dreaming of her and not my husband? I'd love to also dream about my husband".

Some participants also attached spiritual interpretations to the settings in their dreams. For instance, a participant who reported a dream in which she had to get through "a cave with a tunnel of rocks" eventually arriving "at the most beautiful beach" gave a spiritual interpretation in line with her religious views: "I feel that this dream describes my journey right now. I am looking forward to heaven and am sure I will see the beautiful beach." In contrast, another female participant reported a fairly similar dream in which she "kept getting lost and going up or down the wrong staircase" and the "stairways and corridors seemed endless. Often other people were scrambling along them but I didn't know them." At the end of the dream "a passage way came out onto a small beach surrounded by steep rocky cliffs. I

looked around and discovered the others had disappeared." The participant considered this dream as metaphorically reflecting the sense of solitude that had always been with her: "as a child I felt I didn't belong here, as if I'd become separated from my spiritual family. I've always had dreams whereby I'm alone, and feeling somewhat lost."

Another participant gave a spiritual interpretation to a dream in relation to a surreal setting which "was like earth but different, it had trees, moon, stars, mountains but it had a fourth dimension to it – they were different and more real" where she escaped in her dream after being attacked by a "poisonous snake". The participant thought that her dream contained a spiritual message: "it told me if you leave your body in death you're not going to a bad place, it might be a good place". In the only dream in the study featuring religious figures, a woman participant was met by Jesus and Sae Baba after crossing a bridge and taken to "a sort of arena" filled with light. After her dream companions left, she "wanted so much to get closer to the light that I began to move forward when I understood that that was not allowed-yet." The interpretation the participant gave to this dream was coded as spiritual: "I feel I am not good enough to get closer to God – the bright light".

As with the other themes and as suggested by some of the above examples, spiritual interpretations were highly individualised, some of them being of a religious nature (i.e. about the afterlife, ancestors' spirits) while others were more mundane. A good illustration of the later type came from a Pacific Island female participant who reported a dream in which she was on a piece of land on the island where she grew up and "I saw my two nephews were cleaning the land, I was feeling really good about it." She pointed to a literal reflection in the dream of her upsetting memories about that land which "was originally owned by our family but then was given by law to another tribe". In addition, the participant thought that the dream provided her with spiritual guidance for the future. However, the spiritual interpretation she gave was, contrary to what one might expect from a palliative patient, completely unrelated to any concerns around her illness or the prospect of dying: "My initial plan was to develop the land but didn't have the know-how, but when I had the dream it was like a confirmation that I should go ahead and do it. The dream was telling me we should lease the land from the tribe that owns it now and develop it, I rang my brother in Fiji as soon as I woke up and he agreed we should do something about it."

Such examples suggest that there were substantial individual variations inside the established categories of dream interpretations.

Medical interpretations

Nine participants said that their recent dreams had been influenced by their medication regimens. As mentioned in relation to the participants' perceptions around post-illness changes in dreaming, some of the dreams considered by participants to be unusual or bizarre were interpreted in this manner. With one exception, participants discussed medical interpretations in conjunction with another type of personal interpretation. For instance, a participant reported a dream in which in the first instance she was "underwater like I'm diving and I can see the plants all wishy-washy swooping around" and then moved into a colder environment where she "saw little snowy faces of innocent kids wearing wintery clothes with hoods and they have snowflakes on their clothes and eyelashes, just looking at me". The participant connected this and other of her recent dreams to the morphine which was making her "feel more relaxed" and also pointed to a literal connection: "I'm an artist and have active imagination, images in dreams seem linked to the art that I have been exposed to and certain styles". Furthermore, the same participant reported that she had been using her dreams to enhance her sense of wellbeing: "I let myself go in there, dreams allow me a place where it's all sweet, it kind of gives me control and helps me through. When I die I hope it's like that". Finally, she added: "I wouldn't talk about this with my doctor, they'd think I'm nuts, but I'm lucid."

No interpretation given

Fourteen participants in the present study did not make anything of their dreams, responding "I don't know" or "I have no idea". The lack of interpretation was sometimes related to dreams which contained elements or narratives very similar to those that other participants considered meaningful in one or more ways. On the other hand, it is noted that the lack of interpretation was exclusive to participants' most recent dream and did not necessarily imply that they considered dreams as generally meaningless. For instance, a participant reported that she had had the same dream for about one year on a weekly basis. In the dream, she was in a car with a strange man "secretly fleeing the city in a Jeep type car after being chased by some hostile people" and eventually arrived at a safe cave where "he has readied all sorts of supplies". The participant said that she was completely puzzled as to why she kept having this dream: "for goodness' sake, why the hell am I dreaming that again for? I am not scared, I know very well what's coming and I've accepted it, nurses are amazed at how calm I am about it all!" While the participant did not explore a metaphoric or spiritual interpretation for

this particular dream, her comments nonetheless alluded to the possibility that dreams *could* reflect one's waking problems and predicaments.

Other participants simply stated a lack of personal meaning without commenting further about their dreams. For example, a participant who reported a dream in which she was "in a gold mine, wrapping up a large piece of gold in a cloth. Hundreds or people from different cultures are all around doing the same". She said this about the dream: "A strange dream. Don't know what it means. Just one of those things. It was pleasant enough." Another participant also said she had no explanation for a dream in which she and her adult son, portrayed as a boy, were in their house. When a fire started, they went upstairs arriving at a "big outside area filled with bright sunshine and quite a few people". As previously mentioned, other participants did give interpretations to dreams which were very similar or contained similar elements to the above (e.g. being in a cave, escaping adversities, seeing a bright light etc.).

Summary of the main findings

With regard to changes in dreams, most participants thought their dreams did change in some way. The most common responses noted an increased intensity and an increased bizarreness of dreams, as well as – a new response category emerging from this study - an increase in distressing dreams. With respect to the timing of the changes, some participants reported that these happened around the time of their diagnosis while others said they occurred later on. Finally, a substantial number of comments from participants in relation to post-illness changes in dreams were highly specific, non-categorical.

The majority of participants gave at least one of the four categories of interpretation to their dreams. Literal interpretations of dreams as transparently expressing past or recent aspects of everyday life were the most common. Spiritual interpretations were a distant second most favoured category. With regard to gender differences, a higher percentage of female participants gave spiritual interpretations for their dreams compared to male participants. With regard to cultural trends, a greater number of spiritual interpretations were given by Māori and Pacific Island participants compared to European participants both for dreams in general and for dreams of deceased loved ones featured as alive. These trends, however, were not statistically significant.

There were relatively few metaphoric and medical interpretations. There were also a series of dreams which were attributed more than one interpretation, more often by female participants than by male participants. On the other hand, there was a series of dreams, mostly the one-off type, in relation to which the contributing participants did not give any interpretation. Finally, within each category of interpretations, there was substantial individual variability. Therefore, dreams with very similar content were sometimes given very different interpretations by the contributing participants. Conversely, dreams which greatly differed in content attracted similar interpretations from the contributing participants.

Comparison with the relevant findings of Study One

Perceptions around post-illness changes in dreams

The two sets of findings converged in most respects. Specifically, in both studies most participants thought that their dreams changed in some way after they had become seriously ill. There were also a minority of participants in each study who did not report any notable changes. In both studies, only a small number of participants said that they dreamt less or more or recalled fewer or more dreams since they had become ill, while the majority of the participants did not report notable changes in these respects.

With regard to the nature of the reported changes, similar prevalence for the categories of perceptions identified in Study One was found in the Study Two sample. These response categories included post-illness increases in the hallucinatory intensity of dreams (i.e. 'real', 'vivid', 'convincing') and in dream bizarreness (i.e. 'weird', 'strange', 'bizarre'). There was one category exclusive to Study Two. This related to a post-illness surge in disturbing dreams (i.e. 'negative', 'dark', 'nightmares'), usually in the period immediately following diagnosis. In Study One this was not a common response across participants and may have become more apparent in Study Two due to the larger sample.

In addition, the thematic analysis of the in-depth interviews from Study One revealed two other dreaming-related changing trends common across several participants. The first one related to a self-observed loosening of the inhibitions of verbal-motor functioning during dreaming (i.e. physically acting out dreams, speaking dream thoughts out loud). The second trend related to shifts in everyday life routines thought by participants to affect their dreaming (i.e. spending extended periods of time in bed, dozing off, experiencing reduced physical activity). This trend indicates a blurring of the previous boundaries between sleeping and

waking states. Finally, both investigations uncovered a series of highly personal, specific, non-categorical responses, a pattern which was particularly evident in the large sample of Study Two.

Personal interpretations

The findings of the two investigations with regard to participants' interpretations of dreams also converged to a large extent. Thus, in both studies, participants favoured literal interpretations of dreams as direct, transparent expressions of their memories and current problems, over other categories. The problems thought by the participants to be reflected in their dreams were often around oneself, including the illness and the prospect of death, and significant others, including unresolved conflicts. In each investigation, recurrent dreams were more often given interpretations compared to one-off dreams.

On the other hand, both studies revealed many individual variations in personal interpretations, including inside the established categories. Regardless of individual differences, an overarching trend was that highly intimate memories, experiences and concerns were commonly brought up and expanded upon by the participants, sometimes without any prompting. The memories, experiences and concerns brought up in dream talk related to physical, psychological, social and spiritual dimensions of participants' everyday life, including their existential concerns around their illness and the prospect of impending death. This trend may have important clinical implications, in that asking palliative patients to comment on their dreams appears to provide a window into their physical, psychosocial and spiritual needs. This idea is further developed in next chapter where the clinical implications of the trends emerging from this project are being discussed.

There were also some apparent discrepancies between the two sets of findings. Firstly, spiritual interpretations of dreams were more prominent in Study Two compared to Study One. However, this difference may have been due to the fact that in Study One all the participants except one were Europeans whereas in Study Two 24% of the participants were Māori or Pacific Island Peoples. In Study Two, Māori and Pacific Island participants appeared to be more inclined than European participants to give spiritual interpretations to their dreams, both generally and to dreams about deceased loved ones.

Another apparent discrepancy was related to medical interpretations. In both studies, these were usually given to dreams perceived by participants as 'bizarre' or observed after a change

in their medication. However, this theme was more prevalent and second only to literal interpretations in Study One, whereas in Study Two it was the least favoured interpretation. This discrepancy may have been due to the fact that in Study One, particularly in the first interviews, participants were asked to comment first about post-illness dreams and related interpretations at a general level before discussing interpretations of specific dreams. In contrast, the interpretations in Study Two were related predominantly to the participants' specific most recent dreams reported for the investigation.

Finally, the analysis of the data collected through the in-depth, repeated interviews from Study One revealed that some participants may have favoured medical interpretations when other interpretations may have felt threatening to them. This idea was best illustrated by the case of a participant who was worried about losing his sanity because he continued to have bizarre, distressing dreams despite having been taken off the morphine, or so he thought. When he found out from his wife that in fact he had continued to take morphine, only in a different form, he appeared relieved saying: "I would rather think it was the drugs doing this than my own brain."

CHAPTER 8: Discussion

Overview

This chapter discusses the results of the project and their theoretical and clinical implications. It comprises four sections. The first section discusses the general, gender and cultural/ethnicity patterns of dream content. This is done in light of previous clinical and empirical findings and of the theories presented in Chapter 1, particularly the 'continuity versus compensation' dilemma. The second section discusses the findings concerning participants' dream-related perceptions and interpretations. The third section discusses the potential uses of the results emerging from this investigation for healthcare professionals who work with palliative patients. The final section outlines the limitations of this thesis and also suggests possible avenues for future research.

Dream content - Introduction

The prominent and distinctive patterns of dream content will be discussed in terms of their support for Hall's (1972) 'continuity hypothesis' or, on the contrary, for Jung's (1934/1969) view that much dream content is essentially opposite to conscious thought. The 'continuity hypothesis' put forward by cognitive and neuro-cognitive researchers posits that the *frequency* of certain elements in dreams is an indicator of the *intensity* of dreamers' waking concerns (e.g. interests, worries, fantasies) with those elements (Domhoff, 2008b; Hall, 1953a; Hall & Nordby, 1972; Nir & Tononi, 2009; Schredl, 2006). This idea contradicts the Jungian views that much dream content, in general as well as at end of life, is opposite and compensatory to conscious thought, reflecting undeveloped aspects or 'blind spots' (Hone, 1983; Jung, 1934/1969, 1974b; von Franz, 1987; Wharton, 1996). Another point of difference between cognitive and Jungian theorists relates to metaphoric versus symbolic elements as complementing the literal, everyday life aspects, in dreams. Nevertheless, as discussed in the literature review, this is merely a matter of interpretation in that the same pattern of content (e.g. journey theme) can be interpreted either way. Hence, in the discussion that follows, when referring to non-literal relationships between dream content and waking concerns, 'metaphoric' and 'symbolic' will be used interchangeably.

For prominent themes or greater occurrences of certain elements in dreams of palliative people to be considered as supporting the 'continuity hypothesis', they would have to 'make sense' in terms of corresponding to increased waking concerns at end of life (e.g. around

illness, approaching death, significant others). Conversely, distinctively infrequent dream elements should parallel reduced preoccupations among palliative people, when compared to younger healthy individuals, around those particular aspects. Support for the 'continuity hypothesis' at the individual level has already been evidenced across the two studies via multiple examples of dreams and of participants' personal interpretations (i.e. as literally or metaphorically reflecting their waking memories and problems). In this section, tentative relationships between patterns of dream content and the waking concerns of palliative people will be further examined across general, gender, and culture or ethnicity. Both literal and metaphoric/symbolic dreaming-waking continuities will be considered.

On the other hand, themes or elements in the dreams of palliative people found to be little different from the HVDC norms will be discussed in support of the idea that dreams are more consistent over time, across cultures and life circumstances than other human experiences. Finally, gender and cultural differences between palliative people will be discussed in support of an interaction between the 'continuity hypothesis' and the consistency principle (Domhoff, 1996; Hall & Domhoff, 1963; Lortie-Lussier et al., 2000) in shaping dream content at end of life. Distinctively large or infrequent appearances of certain elements in the dreams of palliative people may reflect differences in this group between gender roles and/or cultural worldviews around those elements. On the other hand, it could be argued that this 'continuity' is also 'consistent' as some of the gender and cultural trends reflected in the dreams of palliative people may relate to deeply-settled societal features manifesting in dreams generally, as well as at end-of-life.

Parallels between dream content and waking concerns at the general level

Compared to the HVDC norms, distinctive trends found in this research in the dreams of palliative people at the general level (cross-gender, cross-cultural) involve greater appearances of family members, including deceased loved ones, fewer aggressions, these being overrepresented in recurrent dreams, and larger numbers of journeys or movement/travel references.

Larger numbers of family members

The larger than the norms percentage of family members in the dreams of palliative people constitute a new and noteworthy finding which supports the continuity of dream content to waking concerns. Specifically, the frequent portrayals of family members in dreams appear to

parallel a common tendency in waking life by seriously-ill people to be surrounded mainly by family members and to focus much of their limited energy on family-related matters (Betty, 2006; Byock, 1997; Callanan & Kelley, 1993; Gratton & Seguin, 2010). On the other hand, this pattern of content may be partly due to the presence in the dreams of deceased loved ones, an unusual type of character which will be discussed separately. With regard to living family members, an increased presence in dreams may also be explained in connection to a commonly reported desire in this group to put their affairs in order, which may include reconciling with estranged family members (Fenwick et al., 2009; Millison & Dudley, 1992). While such concerns may be experienced at any time, approaching death may add a sense of urgency making them more salient. This idea is consistent with the findings related to recurrent dreams, as discussed later in this section.

Fewer aggressions

The small amount of aggression in the dreams of palliative people relative to the HVDC norms is consistent with the decline in aggression found by previous studies with aged individuals (Domhoff, 1996, 2003; Salvio et al., 1992). It may also be that the baseline for aggression in dreams in New Zealand is lower compared to the US, similar to what was found about other Western countries, including Canada, Germany, and the Netherlands in comparison to the US (Domhoff, 1996; Schredl et al., 2003). The small percentage of aggressive content in dreams also replicates the findings of previous studies with terminally-ill people (Groth-Marnat, 1988; Hone, 1983; Prince & Hoffmann, 1991). The only exception was an investigation by Coolidge and Fish (1983-1984) where themes of aggression were far more frequent in the dreams of terminally-ill people compared to those from healthy aged individuals. However, this discrepancy may have been related to the age gap, given that the terminally-ill people in the Coolidge and Fish (1983-1984) study were far younger than the aged individuals (mean age: 46.5 years for terminally-ill people compared to 74 years for the healthy elderly). In other studies with palliative people, including the two studies in this project, the vast majority of the participants were elderly (i.e. over 65 years of age).

The variations in aggression between findings of studies with palliative people may also be a function of different illness stages. Some authors have raised the possibility that changes in dreams of palliative people may parallel the waking stages of a terminal illness from denial and anger, through to bargaining and acceptance (Cookson, 1990; Kübler-Ross, 1969). Relevant in this sense is that in the Coolidge and Fish (1983-1984) study where aggressions

were prominent, the participants classed as 'terminally-ill' were clearly in the early stages of their disease, with the mean time from death 36.5 months. In contrast, participants in other studies and in this research may have been more advanced on their illness trajectory. Specifically, in Study One three participants passed away during the research period. In Study Two, more than half of the participants had been registered with the hospice for over 12 months, while the life expectancy associated with a hospice referral in New Zealand is 12 months or less.

More aggression and victimisation in recurrent dreams

While aggressions were found to be generally rare in the dreams, they appeared to be overrepresented in recurrent dreams compared to one-off dreams. Given the frequent appearances of family members in dreams, this raises the possibility that palliative people's concerns around unresolved conflicts with significant others may be selectively featured in their recurrent dreams. This idea is supported by the 'Relational Problems' theme identified in Study One in relation to most individual recurrences. A converging finding of Study Two was that recurrent dreams contained greater numbers of aggressions and the dreamers were more often portrayed as victims than as aggressors compared to one-off dreams. Furthermore, across studies, the participants' interpretations of recurrent dreams often referred or alluded to difficulties in relationships with significant others, past or present.

The idea that waking concerns around 'unfinished business' in relationships with significant others may be overrepresented in recurrent dreams of palliative people is also consistent with the findings of dream studies with divorced individuals (Cartwright, 1979; Cartwright et al., 2006) and with bereaved people (Barrett, 1992; Domhoff, 2008b; Loconto, 1998). As has been shown, people from these groups tend to report recurring dreams about emotionally-salient people at a frequency which appears to reflect their current waking concerns and/or level of unresolved grief. From a theoretical perspective, this interpretation fits Domhoff's (1993, 1996, 2003) claim that a 'repetition dimension' of dreaming exists, with different points of severity (e.g. traumatic nightmares, repetitive themes, highly consistent elements) which parallel different levels of waking wellbeing.

Deceased loved ones

The above discussions concern mainly the living family members, whose dream interactions with the participants were sometimes hostile or aggressive, particularly in recurrent dreams. Also present in dreams of participants in this research was an unusual type of character: deceased loved ones portrayed as alive and interactive, mostly friendly towards the participants. In Study Two these characters appeared in 18% of the dreams and accounted for 19% (for male participants) and, respectively, 23% (for female participants, cultural differences not significant) of all the characters. Hence, it could be argued that these characters were largely responsible for the greater appearances of family members in dreams of palliative people in comparison with the HVDC norms.

These characters constitute another new and noteworthy set of findings of this research as none of the previous studies of dream content reported a similar pattern. On the other hand, several authors in the palliative field have mentioned that 'visitation' dreams may be common in this group (e.g. Bulkeley & Bulkley, 2005; Callanan & Kelley, 1993; Fenwick & Fenwick, 2008; Gratton & Seguin, 2010). Furthermore, encounters with deceased loved ones have been documented in relation to waking deathbed 'visions' or 'apparitions', often interpreted by medical staff and family members as 'hallucinations' (Betty, 2006; Bowater, 1997; Osis, 1982). In a recent survey of spiritual experiences in New Zealand hospices, almost half of the participants reported experiences considered by the author as 'paranormal', including 'visions' of deceased people (Egan, 2010). Similarly, in the UK, Fenwick and his colleagues (2009) interviewed 38 health professionals about end-of-life experiences (ELEs). Of these, 48% recalled instances of patients reporting deathbed visions of deceased significant others and/or of religious figures (Fenwick et al., 2009). Images of deceased relatives and sometimes of religious figures have also been associated with near-death experiences (NDEs) (Betty, 2006; Moody, 1975). While deceased loved ones appeared frequently in dreams from this research, only one report contained religious figures. In any case, the frequent appearances of deceased loved ones in end-of-life fantasies, hallucinations, and NDEs supports the idea that dream content is continuous with relaxed waking thought.

Comparison with dreams of deceased loved ones from bereaved people

Like dreams of flying or falling, dreams of deceased loved ones have been classed as 'typical' because most people experience them at least once during their lifetime (Barrett, 1992; Domhoff, 1996; Funkhouser et al., 1999). However, in terms of their incidence over

the lifespan, such dreams are rare and considered unusual (Barrett, 1992; Domhoff, 1996; Freud, 1900/1953). A notable exception relates to bereaved people, who report them recurrently, particularly in the period immediately following the death of a loved one. As shown in the literature review, Barrett (1992) conducted two large scale studies with bereaved people about dreams of deceased loved ones and identified three thematic categories: 'Back-to-life' dreams, 'Advice' dreams, and 'Leave-taking' dreams. A common feature across these categories was the friendly, reassuring role generally associated with deceased loved ones appearing in dreams. Barrett's findings were replicated by Domhoff (2008b) in a study of a long individual series reported by a widower about his deceased wife. Given that the frequency of dreams about deceased loved ones tends to decrease with time, it has been argued that dreams reflect bereaved individuals' gradually coming to terms with their losses (Barrett, 1992; Domhoff, 2008b; Loconto, 1998).

Similar to bereavement dreams, deceased loved ones in the dreams of participants in this project were mostly friendly or protective towards the participants. Specifically, 14 (78%) out of the 18 dreams portraying deceased loved ones contained an interaction between these characters and the participants. Of the 14 dreams with interactions, 10 (71%) contained exclusively friendly encounters and only two (14%) dreams had exclusively hostile interactions. However, there are differences between bereaved and palliative people with regard to how such characters and their interactions may fit the continuity of dreams with waking thought. Given the advanced age of many palliative people, it could be argued that they have larger numbers of significant others who have died in their waking life and that this trend is literally reflected, via memories, in their dreams. However, this literal continuity does not hold well given what was found with healthy elderly individuals, equally likely to have lost many significant others, who do not dream more of deceased loved ones, neither do they dream, think or daydream more of their distant past compared to younger adults (Domhoff, 1996; Funkhouser et al., 1999; Giambra, 1977).

Unlike bereaved people, participants in this research often dreamt of their deceased loved ones long after these had passed away. On the other hand, the increased appearances of deceased loved ones were not part of a general trend among participants to dream predominantly about their past. Specifically, about one in every three dreams contained an element from the past, which means that the majority of the dreams were either present-minded or future-oriented. It follows that deceased loved ones in dreams of palliative people may be as much 'elements from the past' as they are 'elements from the future', reflecting

waking concerns or simulations around their own future. Indeed, authors from the palliative field have noted that people approaching death may conceive of their ancestors as a source of guidance and reassurance about the future (Bowater, 1997; Bulkeley & Bulkley, 2005; Byock, 1997; Callanan & Kelley, 1993; Danks, 2001; Fenwick & Fenwick, 2008; Gratton & Seguin, 2010). A participant in this research illustrated well this prospective focus in dreams saying that the deceased people appearing in her dreams were "like an information store for me". Another participant considered that dreaming of his ancestors was a reflection of his "coming to terms with my mortality". Many other examples along the same lines were given earlier in relation to spiritual interpretations of the dreams portraying deceased loved ones. Even the rare dreams in which the participants' interactions with deceased loved ones were hostile were also future-oriented, as was the case with the dream in which the participant was prompted by a friend to dress up if she wanted "to get in here". A concern with the future was also evident in the dream reported by another participant in which she was not allowed by her ancestors to enter a church. These participants' interpretations of their dreams also suggest that their concerns around the future, the prospect of dying in particular, were expressed in the dreams. Specifically, the first participant interpreted her dream as a possible sign that she needed to "make preparations" for her funeral, while the second participant interpreted her dream as "telling me that maybe it's not my time yet."

The idea that the dreams of palliative people may reflect waking concerns around their future, dying in particular, is also supported by another type of unusual dreams. These are the dreams in which the participants themselves were portrayed as dead or dead-like, such as witnessing their own funeral or being in a coffin. Such dreams, when reported by palliative people, appear to reflect simulations or fantasies around approaching death in a direct, literal fashion. Finally, the idea that waking concerns of palliative people around their future, dying in particular, may be metaphorically expressed in dreams is supported by other patterns of dream content, including the frequent references to journeys which are discussed next.

The prominent 'Journey' theme

Greater numbers of journey-themed dreams found in this research replicate the findings of previous studies with palliative people (Groth-Marnat, 1977; Hone, 1983). Furthermore, therapists and counsellors working with end-of-life patients, including Jung (1934/1969), noted that journey motifs are common in this group and may be symbolic of or metaphoric for approaching death (Bulkeley & Bulkley, 2005; Callanan & Kelley, 1993; Gratton &

Seguin, 2010; Wheelwright, 1981). The large numbers of journey references in dreams of palliative people raises questions about what waking elements are reflected (e.g. subjective concerns, behaviours, or both) in dreams and also about how these elements are reflected, whether literally, symbolically/metaphorically, or both. Given that palliative people generally have poor physical mobility, dream content appears literally continuous in this respect with the typical concerns or worries around impeded mobility rather than with actual behaviour. In support of this idea, similarly large percentages of 'Locomotion/Travel' themes were found in dreams of blind people, also known to experience ongoing problems around impeded mobility in everyday life (Hurovitz, 1997; Hurovitz et al., 1999).

In addition, prominent journey themes may also literally reflect palliative people's fantasies of travel. Anthropologists examining narratives of elderly ailing individuals noted that the more physically restrained they are, the more they appear to engage in 'geographical fantasies' about journeys to locations either familiar or exotic (Rowles, 1978). Similarly, a recent ethnographic investigation in the South Island of New Zealand with eight palliative patients suffering from a terminal illness revealed that references to travel and subjectively meaningful places were common in their communications (Hughes, 2010). Similarly, many participants in this research said that the journeys in their dreams related either to memories of past trips or to fantasies of travel to new places. For instance, a participant reporting a dream in which she was in a foreign country connected this back to a decision she had made the previous week to "visit a different country every year". Another participant reported a dream in which she visited "the last two islands", by these referring to the two Pacific islands she had not yet seen but hoped to visit someday.

These considerations support the idea that dreams of palliative people may be continuous at a literal level with waking concerns around impeded mobility, on the one hand, and with memories and fantasies of travel, on the other hand. The 'Journey' or 'Movement/Travel' references could also be interpreted in support of the idea that dreams of palliative people draw on symbolic or metaphoric representations for death as a journey (Bulkeley & Bulkley, 2005; Hone, 1983; Jung, 1934/1969). As has been mentioned, Jung (1934/1969) believed that journeys motifs are frequent in pre-death dreams and symbolize a 'rebirth' although people may be unaware or unaccepting at a conscious level that death is near. Instead of the innate archetypes residing in the collective unconscious, some cognitive psychologists (Domhoff, 2008b; Hartmann, 1998a, 2002, 2008; Lackoff, 1997; Lakoff & Turner, 1989) have argued that dreams may draw on cross-cultural metaphors. The widespread nature of the conceptual

metaphor 'death is a journey' has been documented in various cultures and religions throughout the world, including Polynesian cultures in general and the Māori culture in particular (K. P. Kramer, 1993; Lackoff, 1997; Lakoff & Turner, 1989; Medical Council of New Zealand, 2006). While such metaphors are thought to be learnt through linguistic socialisation from an early age (Domhoff, 2003; Lackoff, 1997; Lakoff & Turner, 1989), it could be argued that they may be particularly salient at end-of-life in waking thought and dreams alike.

A series of other patterns and qualitative trends in the dreams of the participants in this research support this metaphoric or symbolic interpretation of the journey-themed dreams. Specifically, the common references in such dreams to various points of access or transit, including "door", "gate", "bridge", "corridor", "tunnel", "cave", "stairs" or "ladder" are clearly suggestive of a transition through a passage. Such imagery is highly typical of how death's journey is represented in different cultures (Bulkeley & Bulkley, 2005; Lakoff & Turner, 1989). Furthermore, the 'surreal' nature of the settings in dreams of some of the participants (e.g. "golden cave", "café at the top of a mountain", "light-filled area on top of the house", "beautiful beach", "in the clouds", "under water", "on another planet") supports the idea of a metaphoric representation for death in dreams in terms of a journey to 'another location'. As further discussed with regard to cultural differences in dream content, the dreams of European participants contained more such unfamiliar locations compared to Māori and Pacific Island participants, which suggests that the cultural specifications of the universal 'death is a journey' metaphor may have also been reflected in the dreams.

Finally, the findings in relation to deceased loved ones, including their friendly nature and the prospective focus of the dreams, also fit the idea that dreams of palliative people contain metaphoric or symbolic references to death in journey terms. Specifically, deceased loved ones may be integrated in dreams as 'guides' or 'companions' on palliative people's anticipated journeys (Bulkeley & Bulkley, 2005; Lakoff & Turner, 1989). In conclusion, the prominent journey themes could be interpreted to suggest that dreams at end of life reflect relaxed waking thought both literally and metaphorically or symbolically. At a literal level, journey-themed dreams may reflect worries around impeded mobility and palliative people's memories or fantasies of travel. At a metaphorical or symbolic level, concerns or simulations around death may be expressed in journey-themed dreams where deceased loved ones may be 'guides' or 'companions'. Furthermore, it could be argued that a simultaneous relationship, both literal *and* metaphoric or symbolic, exists between the frequent journey-themed dreams

and the waking concerns of palliative people, whether worries, memories, fantasies or conceptual metaphors. This multi-levelled interpretation fits well with Hartmann's connectionist model (1998b, 2002) which proposes that memories of old experiences provide a metaphoric context in dreams for the expression of new experiences, in this case the terminal illness and the prospect of dying.

Gender trends and differences

Consistent gender trends

As shown in Tables 8 and 9 and in Figure 1, male and female participants (European) in this study were more similar than they were different from the HVDC norms derived over 50 years ago from European-American college students. As shown in Table 8, for male participants, the patterns of content for which no significant differences from the HVDC norms were found included the percentages for all the characters in dreams except for family members, the instances where the participants befriended or aggressed others relative to instances when they were befriended or aggressed by others, the percentage of indoor settings in dreams and the negative references to themselves (e.g. dreamer-involved misfortunes, failures). Table 9, on the other hand, shows a lack of difference from the HVDC norms for European female participants on characters indicators other than the family members and the male to female ratio, on most indicators for social interactions and on negative self-references in dreams.

The small number of significant differences in dream content from sample to sample is noteworthy given that the dreams came from participants from different countries, of different ages, and facing different life circumstances. However, a lack of significant differences between the participants in this research and the HVDC norms does not imply that differences did not exist; it may simply be that they were not detected for various reasons, including the small samples, particularly for men. On the other hand, while *p* values are decreased in small samples, the values for *h*, the statistic measuring the effect sizes of the differences, are likely to be larger when using smaller samples. Therefore, minimal variations in *h* values for gender differences between two samples cannot be attributed to small sample sizes as is the case with *p* values. As shown in Table 10, many of the gender differences in this study were similar or little different to the ones in the HVDC normative study with respect to *h* values. Specifically, out of the 27 indicators for gender differences in the HVDC study and in Study Two, only for six differences between studies the *h* values larger than .40.

This relatively small overall variation between studies in gender differences, in terms of effect sizes, raises the possibility that a number of gender patterns in dreams are maintained at end of life. This interpretation is in line with cross-cultural investigations of dream content (e.g. Domhoff & Schneider, 2008b; Gregor, 1981; O'Nell & O'Nell, 1977) which found a series of stable gender patterns which led the researchers to conclude that dreams may be more consistent across cultures than other human experiences.

Different gender trends

A series of distinctive gender patterns were found in this research, both in terms of differences from the HVDC norms and in terms of differences between the participants. As shown in Table 9 and in Figure 1, female participants across ethnic groups dreamt significantly more often of male than of female characters compared to the HVDC female norms. As shown in Table 8, the lack of sexual references in the dreams of male participants was significant compared to the HVDC norms for males.

As shown in Table 10, European male and female participants resembled each other to a larger extent than the HVDC men and women did. This increased gender uniformity was associated in this study with some of the inter-gender differences in the HVDC study, including those with the four largest effect sizes, being reversed. Specifically, the normative trends for males to dream more of men than of women compared to females and to have more sexual references and aggressions, both physical and general, in their dreams were reversed in this study. Other variations in gender patterns from the HVDC sample to this study concerned the percentage of familiar settings. Specifically, the dreams of female participants took place in familiar settings less often than the dreams of the male participants, a noteworthy difference from the HVDC study.

The only significant gender difference between European participants in this study related to male participants' dreams containing more strivings or attempts to control the circumstances compared to the dreams of female participants. This gender difference was in the same direction as in the HVDC study but was accentuated in this study due to the increased number of failed rather than of successful attempts by the characters in the dreams to control the circumstances being faced. On the other hand, it could be that other gender differences between palliative people may exist and would have been significant had the samples been larger, which is a limitation of this research.

Greater numbers of males than of females in the dreams of palliative women

This is a highly unusual finding. Previous cross-cultural investigations have consistently found that men tend to dream more of male characters than of female characters, whereas women usually dream of males and females in relatively equal proportions (Blume-Marcovici, 2010; Schredl et al., 1998). This 'ubiquitous' gender pattern has been explained in relation to different intensities of waking concern with men and women by men and women. More specifically, men have been thought to be more focussed on men than on women, while women are believed to be equally preoccupied with men and women (Blume-Marcovici, 2010; Domhoff & Schneider, 2008b; Hall, 1984). A notable exception to this rule was a recent German study with college students (Schredl et al., 2003) where this gender difference was not found which was interpreted by the authors as suggesting a possible shift in gender roles in contemporary German society.

Similarly, it could be argued that gender roles in contemporary New Zealand are different from those in the US half a century ago. On the other hand, most participants in this project would have been close to college age at the time of the HVDC study, hence probably as traditionally-oriented with regard to gender roles at that time in their life. Another possibility is that gender differences in New Zealand are similar to the US and other Western countries but may become less important towards end of life as people gradually withdraw from social roles and activities (Callanan & Kelley, 1993; Karnes, 2008; Kübler-Ross, 1969; von Franz, 1987).

A Jungian interpretation could also be proposed for this unusual trend in the dreams of palliative women. Specifically, Jung (1964, 1974a) considered that each individual's psyche contains a male (*animus*) and a female (*anima*) component. These complementary sides may be either integrated ensuring internal equilibrium or may be rejected though identification with the ego. Hence, a large number of same sex characters in one's dreams could be interpreted as a lack of individuation or integration of the personality (Blume-Marcovici, 2010; Singer, 1994). Hence, from a Jungian perspective, the greater appearances of male characters than of female characters in the dreams of palliative women could suggest that the female participants were more 'individuated' than the male participants in this study were.

Minimal aggression in the dreams of palliative men

Another atypical gender difference found in this research relates to aggressive content in dreams, as indexed by various percentages computed in the analyses (e.g. Aggression/Friendliness Percent, Aggressor Percent, Physical Aggression Percent, Aggressions/Characters Index and 'dreams with at least one' Aggression Percent). As shown in Table 8 and in Table 9, the numbers of dreams of participants in this study containing aggressions (i.e. the percentage of 'dreams with at least one') were fewer compared to the HVDC norms across genders. On the other hand, male participants also scored distinctively lower compared to the male norms on all the other indicators for aggression whereas female participants didn't. In effect, as shown in Table 10, the normative gender differences on dream aggression, both general and physical, were reversed.

As has been mentioned, the HVDC (1966) study and subsequent cross-cultural investigations of dream content (Blume-Marcovici, 2010; Domhoff & Schneider, 2008b; Hall, 1984) have consistently found that men scored higher than women on aggression indicators, particularly on physical aggressions. Gender differences with regard to aggression in dreams are generally stronger during childhood (Crugnola et al., 2008) decreasing slightly over time yet persisting into old age (Blume-Marcovici, 2010). These patterns have been linked to higher levels of aggression, both overall and physical, in men's waking lives compared to women's (Lortie-Lussier et al., 2000; Schredl et al., 1998).

As with other unusual gender patterns in this study, the small amount of aggression in the dreams of palliative men could be interpreted in terms of gender roles in New Zealand being either different from the US or becoming less important towards end of life. Alternatively, it may be that the dreams of male participants in this study were generally 'blander' compared to the dreams of female participants. This possibility would also explain the complete lack of sexual interactions in the dreams of male participants.

More strivings/failures in the dreams of palliative men compared to palliative women

Another distinctive gender trend emerging from this research relates to the greater number of strivings, failures in particular, in the dreams of European male participants compared to the dreams of European female participants. A significant gender difference in the same direction existed in the HVDC sample but this was accentuated in the present study. This amplification could be interpreted in relation to differences between palliative men and women with regard

to illness attitudes. Specifically, it has been argued that illness experiences are markedly shaped by gender roles and attitudes (Broom, 1998) and clinical surveys have found that women are more prepared to disclose symptoms and accept that they have an illness than men are (Doyal, 2000). On the other hand, men are more prone to deny a serious illness and to strive to maintain control as they find coping with dependency more difficult than women do (Broom, 1998; Doyal, 2000; Temple-Smith, Gifford, & Stoove, 2004). From this perspective, it is interesting to note that both male and female participants in this study had larger than the norms instances of misfortune in their dreams, yet the men strove more and failed more than women. The gender differences on strivings/failures found by this study in dream content appear to fit the continuity hypothesis, in that differences in waking illness attitudes or concerns may be reflected in the dreams of palliative people.

Cultural/ethnicity trends and differences

The dreams of Māori and Pacific Island participants (female) in this project were more distinctive than they were similar to the HVDC norms and to the dreams of European female participants. As shown in Table 9 and in Figure 1, the general trend in the dreams of the participants to contain greater appearances of family members was stronger for Māori and Pacific Island female participants than for European female participants. Despite having significantly fewer friends in dreams, Māori and Pacific Island female participants still had a greater number of familiar characters, accounting for friends and family together, compared to the HVDC female norms and to the European female participants. Other trends exclusive to Māori and Pacific Island participants included the large numbers of friendly interactions, successes, good fortunes and of references to physical ailments in their dreams. On the other hand, the dreams of European male and female participants took place in familiar locations significantly more rarely than the respective HVDC gender norms and also than the dreams of Māori and Pacific Island participants. Finally, across genders the dreams of European participants contained more overall misfortunes than the HVDC norms did.

The nature and directionality of the differences between ethnic groups in this study appear culturally meaningful in several ways. Specifically, these cultural patterns in the dreams appear to reflect well-established cultural differences in the New Zealand society with regard to self-concepts, the role of family and friends, including ancestors, and to cultural worldviews about the land, the physical body and the issue of human death.

Patterns in the dreams of Māori and Pacific Island palliative women

Generally speaking, Māori and Pacific Island people are known to hold a holistic worldview rich in spiritual elements and beliefs (Durie & Hermanson, 1990; Medical Council of New Zealand, 2006, 2010). Specifically, the Māori worldview is primarily centred around the *whanau* (the immediate and the wider family) and *whanaungatanga* (the extended family) (Cram et al., 2003). Regardless of blood lines, Māori people tend to refer to most people in their social circle as *whanau*, unlike Europeans (Durie & Hermanson, 1990). As Berghan (2007) points out, a key feature in the Māori culture is the emphasis on the collective identity, considered to be more important than the individual identity. Again, this view is fundamentally different from the liberal concepts of autonomy and self-determination kept in high regard in Western cultures.

In the Māori culture the collective identity is based on genealogical, land, history, and spiritual connections (Berghan, 2007). Regarding genealogical connections, the collective identity naturally extends beyond the living, as a special importance is given to *tūpuna* (ancestors) and to *whakapapa* (genealogical connections over many generations) throughout the life (Medical Council of New Zealand, 2006, p. 10). Similarly, in Pacific communities, individuals define themselves chiefly through their roles within the family, both nuclear and extended, and within the wider community (Medical Council of New Zealand, 2010; Oliver, 1989). Another custom common across Māori and Pacific Island cultures relates to an increased family involvement in times of serious illness when members travel from everywhere to stay with the patients (Medical Council of New Zealand, 2010).

These cultural features in everyday life appear consistent with the cultural trends and differences found by this research in dream content. Although the appearances of family members, including deceased loved ones, were greater than the HVDC norms in dreams from all participants, these appearances were significantly more frequent in the dreams of Māori and Pacific Island female participants compared to European female participants. Also noteworthy in light of the large numbers of people culturally referred to as *whanau*/family is that although the dreams of Māori and Pacific Island female participants contained fewer friends, the numbers of family members in their dreams were so large that the overall percentage of familiar characters was above the norms.

With regard to social interactions, the dreams of Māori and Pacific Island female participants contained a larger amount of friendliness compared to the HVDC norms for females and to

the European female participants. Specifically, compared to the HVDC female norms and to European female participants, the dreams from Māori and Pacific Island female participants contained more friendly interactions per character, more friendly interactions relative to aggressions, and more dreams with friendly interactions. These interconnected trends in the dreams of Māori and Pacific Island participants appear consistent with a worldview built primarily around collective identity where social interactions are paramount.

Furthermore, Māori and Pacific Island female participants in this research were more positive about themselves in their dreams compared to European female participants in the study. Specifically, as shown in Figure 1, the dreams of Māori and Pacific Island participants contained significantly fewer negative references to oneself, more dreamer-involved successes and fewer failures compared to the dreams of European female participants. The dreams of Māori and Pacific Island female participants also contained significantly more good fortunes compared to the HVDC female norms. The European female participants also scored higher than the HVDC norms in this regard but not significantly.

There was also one 'negative' result in the dreams of Māori and Pacific Island female participants. As shown in Figure 1, the dreams from this group contained more 'bodily misfortunes' (i.e. instances where the participants were portrayed as ill and/or in physical pain) compared to the dreams of European female participants. This distinctive trend in the dreams appears consistent with an increased focus by Māori and Pacific Island participants on their physical body and its ailments, in general as well as at end of life (Medical Council of New Zealand, 2006, 2010). On the other hand, intensified concerns around the physical ailments at end of life is usually considered more adaptive than a psychological disconnectedness from the body (Bosnak, 1989; Charon, 2009; Goelitz, 2001, 2007; Kübler-Ross, 1969). The implications of this difference will be discussed later, after presenting the patterns specific to the dreams of European participants.

Distinctive trends in the dreams of European palliative men and women

The significant trends exclusive to European male and female participants in comparison to HVDC norms were far fewer than for Māori and Pacific Island female participants. Specifically, compared to the HVDC norms, the dreams of European participants across genders were significantly less likely to 'happen' in a familiar location and were more likely to contain overall misfortunes (i.e. physical + psychological). Another trend exclusive to European participants is that their dreams may have contained fewer social interactions of all

types rather than just of aggressions, as was the case with Māori and Pacific Island female participants. As shown in Tables 8 and 9, European male and female participants scored lower than the HVDC norms on the percentages of 'dreams with at least one' for all three types of social interactions. Although some of the differences were not significant when compared to the norms (for female participants only the difference on aggression was significant, for male participants the differences on aggression and sexuality were significant), they suggest that an overall decline in social interactions may have existed in the dreams of European participants across genders.

The trends in the dreams of European participants identified in Study Two are consistent with the themes established in the first study of this project where all participants except one were European. These themes included 'Adversity' and 'Elements of Unknown' (people and places). Furthermore, similar patterns of content, in terms of diminished social interactions and greater misfortunes (or 'negative' themes) and unfamiliarity of the settings were reported in previous investigations with palliative people (Groth-Marnat, 1988; Hone, 1983; Prince & Hoffmann, 1991). These findings about dream content were interpreted by the authors as indicating a withdrawal by people approaching end-of-life from the outer world and from social relationships. Given the cultural differences emerging from this study in these respects, it could be argued that the predominantly 'negative' and 'unfamiliar' patterns of content established by the previous studies with terminally-ill people may have been a function of the European culture of the participants.

Cultural difference concerning the familiarity of the settings in dreams

While 'Movement/Travel' or 'Journey' references were distinctively frequent in dreams from all the participants, the degree of familiarity of the settings differed significantly across ethnic groups. Specifically, the dreams of European male and female participants were significantly less likely to take place in a familiar setting compared to the HVDC norms. Furthermore, the dreams of European female participants contained less than half the percentage of familiar settings than the dreams of Māori and Pacific Island female participants did. This difference in dream content appears meaningful in light of societal differences with concern to the cultural importance placed on the land and the environment. Specifically, while European colonists have a relatively short history in New Zealand, Māori people have strong connections with *Te Whenua* (the land), particularly their home locality from which they draw a sense of belonging, and with *Tea A Turoa* (the environment) (Cram et al., 2003).

Therefore, it could be argued that the cultural differences in everyday life were literally reflected in the dreams of the participants in this research.

On the other hand, strong connections to the land are incorporated in the Māori and Pacific Island peoples' metaphoric representations of death as a journey. A common motif in Polynesian cultures, which is distinctive from Western cultures and religions, is that the journey the 'soul' or the spirit' is thought to embark on at death is geographically grounded. As has been shown in the literature review, for the Māori people of New Zealand the point from where the souls of the dead are thought to dive off into the land of the hereafter is Cape Reinga, a rocky promontory washed by never-ending surfs. Pomare and Cowan (1930/2012) argued that this belief is based on the widespread knowledge that the Māori have originally migrated from the west and the north-west. In effect, they pointed that the north-west migration of the spirits' flight is geographically correct in the sense that the soul is thought to return to the land from which it originally arrived. For other Pacific Cultures, including Tahiti, Samoa and the Cook Islands, the knowledge that migration originated from the West resulted in the extreme western points being chosen as the leaping-off places for the souls of the departed. In Samoa for example, this is the Falealupo, the westernmost point of Savaii Island (Pomare & Cowan, 1930/2012). In light of these considerations, it could be argued that the cultural differences concerning the familiarity of the settings in dreams of the participants in this research simultaneously reflected the cultural connections to the land at a literal level and the differences in the 'familiarity' associated with cultural representations of death as a journey, at a metaphoric or a symbolic level.

Cultural differences concerning types of misfortunes in dreams

As has been mentioned, the dreams of European male and female participants in this research were significantly more likely than the HVDC norms to contain overall misfortunes. On the other hand, the dreams of Māori and Pacific Island female participants did not have larger overall misfortunes containing only greater appearances of bodily misfortunes compared to European participants. The cultural differences regarding types of misfortunes in dreams are consistent with the 'continuity hypothesis' in that Māori and Pacific Island people are generally known to place greater importance on the human body than European people (Cram et al., 2003). It is also possible that these differences reflect a well-known tendency amongst people from Māori and Pacific Island cultures to have high rates of physical illness with earlier onset compared to Europeans (Medical Council of New Zealand, 2006, 2010;

Palliative Care Council of New Zealand, 2011). On the other hand, these patterns also seem to fit a Jungian model of dreaming at end-of-life.

A Jungian interpretation of the cultural differences

Jung (1934/1969, 1974b) thought that modern Western man 'has lost his ways', regarding death as a defeat and something to be denied even as one reaches old age. This idea was supported by Aries (1981), a social historian who investigated the evolution of western attitudes towards dying, concluding that the current view of a "wild death" contrasts that of a "tamed death" held by most people for millennia before the end of the Middle Ages. Aries argued that a shift had occurred from the notion that death was natural and a part of a collective destiny to the notion that the individual and his personal possessions were more important:

> At the end of the Middle Ages awareness of the self and its biography became associated with the love of life. Death was not only an end to being but a separation from having: one must leave behind houses and orchards and gardens. (p. 138)

On the basis of such considerations, Jung (1934/1969, 1954, 1963) and his sympathizers (e.g. Bosnak, 1989; Goelitz, 2007; Hone, 1983; von Franz, 1987) argued that the predominantly negative views around death may predispose westerners towards a psychological disconnectedness from the body during a serious illness. Hence, from a Jungian perspective, it could be argued that the greater number of overall misfortunes in the dreams of European participants suggests a compensatory trend. Specifically, the frequent overall misfortunes could be interpreted as the means of the collective unconscious to correct for the waking denial of the body and its ailments in this group. Along the same line of thought, the participants from the much younger Māori and Pacific Island cultures hold a cyclical view of life and death and a stronger collective focus (Cram et al., 2003; Durie & Hermanson, 1990; Medical Council of New Zealand, 2006). In effect, it could be argued that these participants were more closely aligned with the collective unconscious and thus more 'individuated', remaining strongly connected to their physical body despite their illness. If this were true, there would be no need for compensation in the dreams of Māori and Pacific island participants in the form of increased overall misfortunes to assist them to relinquish their mundane ego and become more accepting of death. This explanation would suggest that the greater bodily misfortunes in the dreams from Māori and Pacific Island participants were a 'positive' result reflecting an adaptive acceptance of the illness. This interpretation appears to

'make sense' within the general context of the distinctively 'positive' (friendliness, good fortunes, dreamer-involved success, no failure) and 'familiar' (characters, settings) trends in the dreams from this group.

Implications for the 'compensation versus continuity' dilemma

Although the frequent overall misfortunes in the dreams of European participants fit the Jungian (1934/1969, 1974b) idea of a compensatory trend in dreams, this interpretation can only hold as an exception to the general dreaming-waking continuity. For instance, the large percentage of bodily misfortunes in the dreams of Māori and Pacific Island participants could only be considered, even within a Jungian model, as continuous with the increased awareness of the body in this group. Similarly, many other aspects of waking thought would have to be continuous with dream content if the frequent misfortunes in the dreams of European participants were to be compensatory. For instance, a collective mentality and an increased focus on family members by Māori and Pacific Island participants, supposedly assisting them to transgress their personal 'ego' and to be more 'individuated', is paralleled in dreams by a large frequency of such characters and not by a smaller number. Similarly, the dreams of European participants' containing less 'familiar' (characters, settings) and 'positive' (self-negativity, failures) features compared to the Māori and Pacific Island participants must be considered continuous with waking thought, if a Jungian model was to account for the results in an integrated manner.

These paradoxical considerations suggest that a compensatory trend in end-of-life dreams may exist as Jung (1934/1969, 1974b) had claimed, but only as an exception to the general continuity rather than as a governing principle. In terms of broader theoretical implications, it is suggested that Jungian and cognitive/neurocognitive interpretations of dreams are not mutually exclusive. Specifically, although on the basis of the findings emerging from this study the 'continuity hypothesis' is clearly the dominant trend, compensation may also occur (Domhoff, 1996; Hall & Nordby, 1972; King & DeCicco, 2007, 2009). However, detecting such compensatory trends remains problematic because of their similarity to metaphoric reflections of waking concerns in dreams which are continuous but may seem compensatory. For instance, with regard to the above-mentioned cultural differences on types of misfortunes, instead of talking about a compensatory trend in the dreams of Europeans, it could be argued that waking concerns around the physical illness were literally reflected in the dreams of Māori and Pacific Island participants and metaphorically reflected in the dreams of European

participants. Thus, a cognitive model centred around continuity, whether literal or metaphoric, could in fact stand alone in accounting for all the results of dream content in an integrated manner, whereas a Jungian model could not.

Conclusions regarding the patterns of dream content

The patterns of content established in this research support the idea that end-of-life dreams are psychologically meaningful phenomena, largely continuous with the waking concerns and worldviews of people from this group. More specifically, the findings suggest that dreams of palliative people are partly different and partly similar to those of younger healthy adults. With regard to distinctive trends, elements particularly frequent or infrequent in dreams of palliative people appear to parallel intensified or diminished waking concerns around those particular elements. Some of the distinctive trends in dreams may relate to stable, deeply-settled individual, gender, or cultural features likely to shape dreams generally, as well as at end of life. Other prominent or infrequent themes may relate to waking concerns more closely related to the end-of-life experience. Current waking concerns reflected in the dreams of palliative people are mainly around one self and relationships with significant others and may include the following: worries around the illness, past memories and current fantasies, including of travels, an intensified focus on family members and matters, including unresolved conflicts, and, above all, a strong prospective preoccupation around impending death. It could be argued that these aspects are reflected in the dreams of palliative people either literally or metaphorically/symbolically. Possibly, dreams of palliative people are simultaneously continuous with all of the above as literal memories of the past may be employed in dreams as metaphoric expressions for the complete mystery lying ahead of them.

This interpretation of the findings is consistent with the 'continuity hypothesis' put forward by cognitive theorists (Domhoff, 1996; Foulkes, 1985; Hall & Nordby, 1972; King & DeCicco, 2009). Furthermore, the results presented above resonate with recent claims by some neuro-cognitive theorists (Domhoff, 2011; Ioannides et al., 2009; Nir & Tononi, 2009; Pace-Schott, 2007) around important overlaps existing between the neural substrate for dreams and the default network responsible for relaxed waking thought, particularly for simulations of scenarios relevant to current issues of concern (Schacter et al., 2008). These ideas are also consistent with Hartman's (1998a, 2002) connectionist model which poses that dreams may draw on old memories to provide a metaphoric context for new experiences to be integrated, in this case the terminal illness and the prospect of dying. On the other hand, the

findings are inconclusive with regard to the idea that dreams at end-of-life facilitate the emotional regulation of palliative people's waking concerns. While there is some evidence supporting this possibility, namely the deceased loved ones being portrayed as friendly or protective, the overall results are neutral in this regard. Finally, a compensatory trend fitting the view of Jungian analysts (Bosnak, 1989; Goelitz, 2007; Hone, 1983; Jung, 1934/1969, 1954; von Franz, 1987) regarding end-of-life dreams was supported by some of the results but only as exceptions within the general context of the dreaming-waking continuity.

Palliative people's perceptions around post-illness changes in dreams

The trends established in this research in relation to participants' perceptions around post-illness changes in dreams are qualitative and inconclusive with respect to whether such changes had actually occurred. Given that most participants reported that their dreams did change in some way since they became seriously-ill, the idea that dreams of palliative people are distinctive reflecting changes in waking life is partially supported. On the other hand, in both studies a series of participants reported recurrent dreams which had started long before their illness as continuing post-illness. Furthermore, about one in six participants in Study Two did not think that their dreams changed notably since they became terminally-ill. While some participants observed changes in dreams occurring around the time of their diagnosis, others talked about changes taking place long after their diagnosis, whether these appeared illness-related (e.g., admission into hospital, change of medication) or not (e.g., watching a programme on TV, falling in love). Finally, many participants' perceptions around changes in dreams were highly individualised and did not fit into a category, a trend particularly evident in the large sample of Study Two.

Three categories of responses common across a number of participants were identified. These referred mainly to changes in the quality of dreaming experiences rather than in the content of the dreams. The two most common categories of self-reported changes included an increased vividness and an increased bizarreness of the post-illness dreams compared to historic dreaming. A third category of post-illness changes was identified in Study Two: a greater number of 'negative' or 'distressing' dreams, particularly around the time of their diagnosis. In addition, some of the participants in the Study One interviews described changes in their daily routines (e.g., spending prolonged periods of time in bed, dozing off, constant tiredness) which they thought may have influenced their dreams and/or dream recall. Essentially, these participants indicated that sleeping and waking states had become so

intertwined that at times they were unable to retrospectively distinguish their dreams from their daydreams. Finally, some of these participants also reported a disinhibiting of the motor/verbal functions during dreaming, saying that they had been frequently acting or speaking out their dream thoughts.

Increased vividness

An increase in the hallucinatory intensity of dreaming is consistent with previous observations by palliative clinicians to the effect that dreams may become 'emotionally real' towards end of life (Bulkeley & Bulkley, 2005; Byock, 1997; Callanan & Kelley, 1993). Such increased vividness of dreaming has been said to occur within the context of a gradual withdrawal from the outer world, including social relationships and goal-oriented activities. The idea that a sense of detachment from immediate, tangible reality may manifest at end of life is also supported by the equally intense waking 'hallucinations' (e.g. 'visions', 'visitations', 'apparitions') commonly reported by seriously-ill people (Betty, 2006; Bowater, 1997; Fenwick et al., 2009). The diminished investment in the outer world was said to be paralleled by a 'turning inwards' by end of life patients who experience an overwhelming need to sleep growing stronger as their illness progresses (Karnes, 2008; Rainville, 1988). After interviewing hundreds of terminally-ill patients, Kubler-Ross (1969) concluded that a common tendency of the final stages was a "need to doze off, to sleep often and in brief intervals […] It is a gradually increasing need to extend the hours of sleep very similar to that of a new born but in a reverse order" (p. 122). A number of other authors (Bulkeley & Bulkley, 2005; Callanan & Kelley, 1993; Kearney, 2000) have argued that this gradual blurring of the sleeping-waking boundary manifests naturally at end of life and should not be deemed symptomatic of depression or of cognitive deterioration. It has also been proposed that the increased permeability of the boundary between sleeping and wakefulness "may be a regular characteristic of intense, highly memorable types of dreams such as visitation dreams." (Bulkeley & Bulkley, 2005, p. 75) This claim is consistent with some of the participants' perceptions around dreams featuring their deceased loved ones being particularly "vivid", "real" or "convincing". The discussion of the brain mechanisms possibly underpinning the increased hallucinatory intensity of dreaming towards end of life is beyond the scope of this thesis.

Increased bizarreness

A greater degree of dream bizarreness echoes previous claims that the multitude of medicines administered to palliative patients, particularly opiates, may influence the quality and/or the content of dreams in this population (Fountain, 2002; Prince & Hoffmann, 1991). This idea is consistent with some of the participants' medical interpretations of dreams which occurred after their medication had been changed. On the other hand, as has been shown, medical interpretations were sometimes given to dreams that may have been perceived as threatening. Given that medication regimens have not been measured in this research, no further inferences about their influence on the quality or the content of the dreams can be made, this being one of the limitations of the present project.

Greater frequency of disturbing dreams

Some participants reported an increase in 'negative' or distressing dreams (i.e. containing aggressions and/or misfortunes), particularly around the time of their diagnosis. A greater number of disturbing dreams is consistent with the findings of clinical surveys with oncology patients and with the general opinion held by healthcare professionals in the field (for a recent review of clinical findings and views, see Wellisch & Cohen, 2011). It has also been argued that highly disturbing dreams may be underreported to avoid further upset (Beaulieu-Prevost et al., 2009). Indeed, some participants in this study indicated that this may have been the case for them. Finally, reports by some participants that disturbing dreams occurred immediately after learning about their diagnosis is consistent with the idea that dreams of palliative people may parallel the different stages of an illness, from denial and anger through to bargaining and acceptance (Cookson, 1990; Kübler-Ross, 1969). However, there were also some participants in this research who reported post-diagnosis changes in the opposite direction where dreams became more 'pleasant'. Furthermore, as has been mentioned there were also a minority of participants who did not perceive any changes whatsoever in their post-illness dreams.

Palliative people's dream-related interpretations

As with dream-related perceptions, the findings of this research on participants' interpretations are qualitative as no statistical analyses were performed. The four categories of common interpretations were: literal, metaphoric, spiritual, and medical. There was substantial individual variability inside and outside these categories. There were also

participants who did not give an interpretation to their dreams, although this did not necessarily mean that they considered dreams as generally meaningless. As was found in Study Two, female participants gave interpretations to their dreams more often than male participants. This trend is consistent with studies with adults in the general population showing that women tend to have better dream recall, greater interest in dreams, and are more likely to interpret and share their dreams with others compared to men (Blume-Marcovici, 2010; Robbins & Tanck, 1988; Schredl & Piel, 2008). No cultural differences were established in this research with regard to overall numbers of dream-related interpretations.

Literal interpretations

Literal interpretations of dreams as direct, transparent reflections of memories, old or recent, and of current problems, often around the future, were the most common. More specifically, participants spoke of their worries around their ailments and disabilities, the prospect of dying, or unresolved conflicts in relationships, but also their pleasant memories of better times and their current 'bucket list' wishes or fantasies as coming through in dreams. The prominent tendency towards literal interpretations is in line with findings of previous investigations of dream-related attitudes and beliefs. For instance, about 70% of the respondents in a German study by Schredl and his colleagues (Schredl, Kleinferchner, & Gell, 1996) thought that everyday problems were reflected in dreams. A more recent study of dream-related beliefs of university students (King & DeCicco, 2009) found that 81 % of the subjects thought their dreams incorporated some information relevant to either their past or their current waking life, particularly around relationships, decisions, and moods. In another large-scale investigation of attitudes towards dreams (Beaulieu-Prevost et al., 2009) a central dimension identified in relation to people's representation of dreaming experiences was 'dream continuity'. Hence, the continuity of dream content to waking life is not only scientifically valid, as per the 'continuity hypothesis' (Domhoff, 1996; Freud, 1900/1953; Hall & Nordby, 1972), but also makes intuitive sense to lay people, at least with regard to literal, immediately apparent elements in dreams.

Metaphoric interpretations

Metaphoric interpretations were fewer compared to literal interpretations. In fact, a number of participants in both studies gave non- metaphoric interpretations to dreams that were very similar or contained similar themes (e.g. journeys, surreal settings, impossible situations) to dreams other participants considered metaphoric. This suggests the possibility that some of

the participants were unaware that their dreams may have contained metaphoric expressions of their current problems or predicaments even when they did. One aspect on which Jungian (Jung, 1963, 1974b; von Franz, 1987) and cognitive (Domhoff, 2003; Hartmann, 2002; Lackoff, 1997; Lakoff & Turner, 1989) theorists agree is the largely unconscious nature of the metaphoric/symbolic elements in dreams and waking thought alike. Some authors have suggested that dreams may draw on old memories to provide a metaphoric context for the adaptive integration of new concerns, with a possible emotional regulation effect (Hartmann, 1998a; Nielsen & Stenstrom, 2005). Given that multiple emotional concerns may be expressed in dreams simultaneously, distinguishing between them can be very difficult for naïve subjects. Even when an emotional concern is dominant and may be reflected in dreams repeatedly, its recognition by lay people may still be obscured by the metaphoric disguise (e.g. concerns around impeding death may be expressed through a journey over a bridge) (Pesant & Zadra, 2004). This possible interpretive discrepancy with regard to metaphoric elements in dreams suggests that healthcare professionals may be able to assist palliative patients to explore the emotional concerns metaphorically expressed in their dreams and in the process connect with them at a deeper, more intimate level. This possibility is discussed further under 'clinical implications'.

Spiritual interpretations

Like metaphoric interpretations, spiritual interpretations of dreams were relatively few and explorative rather than based on entrenched beliefs about the nature or functions of dreams. There was however, a notable cultural trend with regard to spiritual interpretations. Specifically, Māori and Pacific Island participants gave more spiritual interpretations to their dreams, both generally and to dreams featuring deceased loved ones, compared to European participants. This pattern is not surprising given that dreams have been invested with spiritual powers in Polynesian cultures, including by the Māori people whose belief that the dead can be visited through dreams has been documented as follows:

> The Māori is profoundly affected by dreams in which he sees the form of kinsfolk and friends. In these visions the souls of the living and departed are supposed to meet in the Reinga. The living, too, who have visited the actual scene of the Rerenga Wairua have fancied that they could hear the spirits of their dead ones calling them. (Pomare & Cowan, 1930/2012, p. 49)

Spiritual beliefs about the power of dreams were also reported in other Polynesian cultures (K. P. Kramer, 1993; Oliver, 1989). On the other hand, as mentioned above (Beaulieu-

Prevost et al., 2009; King & DeCicco, 2009; Schredl et al., 1996) most people in the modern Western world tend to interpret their dreams as literal reflections of waking life. Hence, it appears that the types and frequencies of interpretations participants in this research gave to their dreams were influenced by their cultural beliefs.

Conclusion about dream-related perceptions and interpretations

The findings on participants' dream-related perceptions and interpretations support the idea that dreams at end of life are distinctive, reflecting the particular problems which also occupy waking thought at this stage. The waking concerns though to be reflected in dreams include concerns around the illness and associated disabilities, unresolved conflicts in relationships with significant others, and impending death. Although common categories of dream-related perceptions and interpretations were established, there were substantial individual variations inside and outside these categories. For interpretations, these variations were such that very similar dreams were given different interpretations. Conversely, different contributing participants gave similar interpretations to very different dreams. Complicating things further, some participants explored more than one interpretation for a dream. In any case, as a general observation, when asked to comment on their dreams most participants in this project appeared to engage very quickly in discussion about highly intimate problems and concerns with a person they had just met. This personal information included past and recent memories, interests, experiences and relationships, current struggles in adjusting to the illness, worries and hopes for the future. In conclusion, it appears that important information about palliative people's current problems and concerns may be conveyed when dream talking to them one way (through dream content) or the other (through interpretations). Thus, even when ongoing issues in need of addressing or support are not literally reflected in dreams, palliative patients may still bring them up through interpretations should they wish to. This idea has important clinical implications, as discussed in the next section.

Clinical implications

Clinical surveys have shown that end-of-life patients consistently express the need to be listened to and for their aspirations and sufferings to be attended by their carers (Charon, 2009; Kearney, 2000; Rollins, 1977). Hence, it has become increasingly accepted that health professionals have the responsibility to take a holistic patient-centred approach by fully acknowledging the importance of psychological, social, cultural, and spiritual dimensions of living with a terminal illness (Lloyd-Williams, 2008; Puchalski, 2002). Clinicians often

develop a level of knowledge about their patients' bodily functions and ailments far greater than that of the patients themselves. Yet, this expertise does little to lower psychological barriers and to alleviate a sense of isolation frequent amongst patients (Charon, 2009).

A series of authors have argued that talking about dreams with seriously-ill people may provide a 'safe' context for sharing personal thoughts, emotions and experiences which are difficult to tackle in a more direct manner (Funkhouser et al., 1999; Goelitz, 2001, 2007; Provost, 1999). Indeed, the combined findings of the two studies in this project support the idea that dream talking with palliative people may provide listeners with insight into their psychosocial and spiritual needs. More specifically, the findings of this project suggest that concerns about oneself and significant others (e.g., around the illness, approaching death, unresolved conflicts) tend to be reflected in dreams of palliative people across individual, gender, cultural and general levels. Furthermore, most participants in this project gave meaningful, culturally–relevant interpretations of dreams, whether these were literal, metaphoric, spiritual or medical. Hence, identifying the waking concerns reflected and/or thought by palliative people to be reflected in their dreams may have important consequences in terms of providing them with appropriate support.

Dream interpretations in clinical settings have usually been derived from psychoanalytical ideas (Montangero, 2009). However, the findings of this research suggest that asking palliative people for their personal interpretations of dreams may be a valuable source of information allowing them to explore multiple tentative interpretations. The highly personal information shared by many participants in response to basic questions suggests that discussing dreams and personal meanings with palliative people does not need to be highly sophisticated to be a useful needs-assessment tool. This idea echoes previous claims by authors in the palliative field that simple steps such as merely listening (Bulkeley & Bulkley, 2005), asking open questions about any observed connections with waking life (Kearney, 2000), or encouraging palliative people to re-live the emotions and bodily sensations from dreams (Goelitz, 2001, 2007) are often enough to prompt meaningful discussions.

On the other hand, some participants in this project gave literal, medical or no meaning at all to their dreams. Such dreams included 'journey'-themed scenarios (e.g., "crossing a bridge", "meeting deceased family members", being "in a golden cave", or arriving in a "light-filled area") interpreted by Jungian and cognitive psychologists as possibly symbolic, respectively, metaphoric for approaching death (Bulkeley & Bulkley, 2005). Hence, healthcare

professionals can expect that many palliative patients will not be aware or accepting that their dreams may metaphorically express their emotional concerns. This raises the possibility that palliative people's dream-related interpretations may provide carers with clues about where they are at in terms of illness attitudes, including death acceptance. Several examples illustrating this possibility have been given earlier in this thesis. On the other hand, from a clinical perspective it is less important whether dreams contain metaphoric elements or are interpreted as such by palliative people than it is that many end-of-life dreams arguably *resemble* universal metaphors of death in journey terms. This resemblance alone is enough to make dream talk into a potentially useful tool for healthcare professionals seeking to engage palliative people in deeper discussions about their existential concerns. The therapeutic efficiency of using metaphors when communicating with palliative people has been evidenced in a recent study (Casarett et al., 2010). Ninety four advanced cancer patients and 52 physicians participated in an investigation where conversations between patients and physicians were audio-recorded and coded for the presence of metaphors and analogies. All the patients also completed a 6-item scale of their doctor's estimated level of effective communication. The physicians using metaphoric references frequently were rated by their patients significantly higher on their ability to communicate effectively.

Discussing dreams and personal interpretations with palliative people also fits well with the newly developed clinical approach called 'narrative medicine' (Charon, 2006, 2009). Narrative medicine acknowledges the giving and receiving accounts of oneself as central aspects of care and allows carer-patient communications to move beyond medical issues towards a profoundly humane level. The method aims to reduce feelings of isolation amongst patients and requires health practitioners to invite patients to share 'personal narratives' about their past and current life. Seriously-ill patients may adapt their personal narratives to maintain or reconstruct a sense of coherence and continuity disturbed by the illness (Bury, 2001). In effect, personal narratives may be useful to understanding changes and losses registered in various areas of palliative people's lives (e.g., work, relationships, plans for the future) (Stephens, 2011).

The findings of this project suggest that dream talk may be a particularly useful type of personal narrative when working with palliative people. This is firstly because, as evidenced, dreams appear to reflect highly intimate memories, relationships, and personal concerns. Secondly, independent of the content of dreams, personal interpretations facilitate further discussions and contextualisations of the concerns thought by participants to be relevant to

their dreams. Furthermore, discussing dreams and personal interpretations with palliative patients may be a therapy in its own right because it allows for ongoing problems to be expressed or 'aired out'. This idea is supported by clinical studies showing that psychotherapy clients rate sessions where they are asked to discuss dreams and dream interpretations higher than sessions that do not involve any dream work (Hill, 1994; Hill & Rochlen, 2004).

These findings suggest that dream-based assessments of psychosocial and spiritual needs could potentially be employed by all clinical professionals working with palliative people. On the other hand, therapists and counsellors who may consider developing targeted interventions with palliative patients may benefit from training in dream work and from working with their own dreams (Kearney, 2000). In a German survey with 131 psychotherapists (Schredl, Bohusch, Kahl, Mader, & Somesan, 2000) the frequency of therapists' working with their own dreams correlated with the amount of dream work with patients as well as with the estimated benefits of the dream work with patients. On the other hand, the therapists' dream recall was not related with the amount of dream work they conducted with patients or with the estimated benefits of this work (Schredl et al., 2000).

The findings of this project suggest that when discussing dreams and personal interpretations with palliative people, special attention may be warranted by recurrent dreams and themes. These have been consistently connected with intensified waking distress (Cartwright, 1996; Goelitz, 2007). In this project, aggressive interactions and portrayals of the dreamer as a victim were more frequent in recurrent dreams, suggesting that ongoing or unresolved conflicts in need of addressing may have been overrepresented. Although reconciling with estranged loved ones may be an important desiderate for all people, the need to attain a sense of closure around such issues may be more salient at end of life. Where therapeutic interventions with palliative people have been implemented, changes in the content and frequency of their recurrent dreams may be used as a measure of treatment success (Pesant & Zadra, 2004; Zadra, 1996).

Palliative patients may also report disturbing nightmares, although the findings of this research suggest that these are not frequent. Recurrent nightmares are usually treated in mainstream palliative care symptomatically, by means of changing the medication regimen (Kearney, 2000). A successful non-medical intervention is imagery rehearsal therapy (Krakow, 2004). This method requires patients to practice waking visualisations of

alternative, positive endings for their dreams. Image rehearsal therapy was found to reduce the frequency and intensity of nightmares in about 90% of the patients and to be paralleled by a decrease in waking anxiety levels.

On the other hand, a number of dreams analysed in this research were highly 'positive'. Such pleasant experiences included dreams in which the participants were featured as younger, physically healthy and active, journeying through familiar or exotic surroundings, having friendly encounters with deceased loved ones or being struck by good fortunes. Discussing such 'positive' elements in dreams with palliative people may allow therapists to reinforce their internal psychological resources and to facilitate a re-construction of the negative self-narratives based on physical dysfunctions (Bury, 2001; Montangero, 2009). Healthcare professionals may also find that advising patients about the general, gender, cultural or individual patterns of dream content evidenced by this research may enhance a sense of belonging and reassurance and thus reduce feelings of isolation.

There are a series of limitations to the usefulness of dream talking with palliative people. As with adult dreamers in general, many patients will not recall their dreams or may not feel comfortable sharing them. Unfortunately, the idea that dreams are meaningless is reinforced by palliative clinicians who rarely enquire about dreams with palliative patients (Gratton & Seguin, 2010; Kearney, 2000). This is understandable given that most clinicians operate from a medical perspective focussed on symptom and pain control and may consider dream talk to be inadequate, if not plain 'awkward'. However, the openness with which most participants in this project talked about their dreams and explored personal meanings suggest that palliative people do not automatically regard dream talk as inadequate or intrusive. Given that end-of-life patients tend to gradually withdraw from the task-oriented lifestyle of healthy people, it may even be more appropriate on occasions to converse with them about their sleep or dreams than about current social, economic, or political events.

In conclusion, it is argued that palliative carers' opening up to or even initiating dream talk with their patients may assist them to better understand, communicate with and support their patients. Mentioning the potential benefits of dream talk during nursing assessments and identifying patients who may be interested could be a starting point. The next step could be to encourage patients to keep journals to help them recall their dreams. These, along with palliative people's personal interpretations, may turn out to be a good platform for profound

discussions, allowing patient and practitioner to connect at a deeply humane level - *as intimate as the patient wishes or allows for*.

Limitations and suggestions for future research

Each of the two studies in this project had limitations typical of qualitative and quantitative methods. To an extent, these limitations were offset by the use of a mixed-methods design, combining qualitative and quantitative analyses. For instance, a limitation of Study One was the small sample which made the generalizability of the findings problematic. Another limitation related to the lack of a control group, which precluded the assessment as to how distinctive the identified themes may have been. Regarding the thematic analysis of the dreams and the classification of participants' dream-related perceptions and interpretations, it could be argued that another researcher may have identified one or more different themes or categories. These limitations of Study One were offset in Study Two by the use of a large sample, of standardised methods of data collection and analysis, and of the HVDC findings derived from college students as a normative baseline. Furthermore, the influence of gender and culture/ethnicity on dream content was also analysed in the large sample of Study Two. On the other hand, a limitation of Study Two was its failure to account for individual patterns in dreams, particularly around recurring motifs, whereas in Study One these were examined in some depth, individual participants being given a stronger 'voice'. Even more advantageous in Study One were the qualitative methods of data collection and data analysis with regard to participants' dream-related perceptions and interpretations, arguably a qualitative type of data given the large individual variations inside the common categories being identified.

Limitations

There were also a number of overall limitations of this project, particularly from a quantitative perspective, that were not offset by the use of a mixed-methods design, such as follows:

1). The main limitation of this project relates to the interpretations of the findings being speculative rather than conclusive. Thematic and content analysis using the HVDC system yield empirical findings regarding prominent and/or distinctive themes or patterns of dream content. However, neither of these methods leads to automatic interpretations as would be the case with an investigation testing specific theory-derived hypotheses. The thematic analysis

in Study One was purely inductive. On the other hand, the HVDC system used in Study Two has one underlying assumption, namely, the 'continuity hypothesis' (Hall and Nordby, 1972). This hypothesis poses that distinctively large or infrequent elements in dreams reflect high or low intensities of the dreamers' waking concerns around those particular elements. Given that no actual measures of waking thought or emotion (e.g. personality tests, anxiety or depression scales) were administered, this research did not test the 'continuity hypothesis' as such. On the other hand, the patterns of dream content were able to be discussed in light of the existing clinical and empirical literature about typical waking concerns at end of life. Furthermore, gender and cultural patterns were also connected to everyday life differences in contemporary New Zealand with regard to gender roles and cultural worldviews in everyday life as at end of life. Finally, the general and distinctive patterns of dream content found by this research were able to be discussed in light of the findings on participants' dream-related perceptions and interpretations, which also supported the 'continuity hypothesis'.

2). The small numbers of participants, including in Study Two, particularly for men and for Māori and Pacific Island participants, may have reduced the statistical power of the analyses to detect significant differences. In effect, differences between the participants and the norms or between groups of participants may have gone unnoticed. To address this limitation, non-significant differences with effect sizes of $h > .40$ were reported as noteworthy, given that such effect sizes are extremely rare in group comparisons (e.g., in the HVDC study the largest effect size for the gender differences were $h < .40$). Yet, had the samples of participants in Study Two been larger, it could be argued that other differences, with smaller effect sizes, may have been significant. This limitation is particularly problematic in HVDC studies where a lack of or small differences tend to be interpreted in relation to elements in dreams thought to be consistent from sample to sample.

3). Given that the HVDC norms were derived from dreams of college students in the US 50 years ago, concerns may be justifiably raised around their being used as a baseline for a sample of dreams from palliative people in contemporary New Zealand. This potential criticism has been addressed earlier by showing that the HVDC findings proved useful in a multitude of cross-cultural studies with adults from different age groups and were also used by the few dream studies based on content analyses with terminally-ill people.

4). Another possible limitation of this research stems from the fact that written and verbal reports were combined for the analyses, particularly in Study One but also to a lesser extent

in Study Two. It has been shown that compared to verbal descriptions, in written reports there is a loss of hallucinatory information, dreamers leaving out implicit self-related aspects (Casagrande & Cortini, 2008; Schredl & Erlacher, 2003; Shanon & Eiferman, 1984). On the other hand, self-references and those to everyday life are more likely to be included in verbal reports which also tend to be longer, more descriptive and to include repetitions (Casagrande & Cortini, 2008; Shanon & Eiferman, 1984; R. C. Smith, 1986). Of particular relevance for this research is the finding that partialling out for length eliminates most differences between verbal and written reports on many aspects of dream content, including bizarreness (Casagrande & Cortini, 2008). Given that dream length was corrected for in Study Two through the use of percentages and ratios rather than of raw frequencies or means, the effect of combining verbal and written dream reports may have been contained.

5). The participants in this research formed a particular 'cohort'. More specifically, apart from living in Auckland, New Zealand, they lived in their owns homes and were registered with a hospice, receiving ongoing supervision and assistance with regard to their medical as well as their psychosocial and spiritual needs. Hence, the findings of this research cannot be generalised to terminally-ill people who do not receive similar assistance or may receive a different kind of institutional support, such as being placed in a rest home or a hospital.

6). Other potentially confounding variables whose influence was not controlled for in the analyses include the participants' age and medication regimens. Data about the participant's medications was collected at first but it soon became obvious that many patients were unaware of their medications and that these were subject to constant changes which made the task of monitoring them extremely difficult. With regard to the impact of age on dream content, previous studies have found little age-related variation in dream content. On the other hand, age may have played a more important role in relation to participants' dream-related perceptions and interpretations. For instance, it could be that younger palliative people are more unaccepting of their serious illness and the prospect of death and in effect may interpret their dreams in a manner that reflects this position. Many other factors may have impacted the results of this research, including marital status (e.g. single, married, widowed), sleeping arrangements (sleeping alone versus with someone else, light on versus light off), and type of phase of illness.

6). Had they not been prompted to do so, some participants may have not paid attention to their dreams, reflected upon them or explored any interpretations. Hence, it could be argued

that the findings of this research may not necessarily provide an accurate indication of palliative people's 'spontaneous' phenomenological experiences around dreams and related perceptions or interpretations. On the other hand, given that the explicit purpose of this research, made clear to all the participants, was for assessment rather than therapeutic purposes, these findings may be as close to palliative people's 'spontaneous' experiences in this regard as an empirical researcher can get.

7). Highly disturbing dreams and related perceptions or interpretations may have been underreported in this research, as indicated by two participants who reported that they preferred to avoid thinking or talking about such dreams. Insisting on discussing these would have been unethical. Furthermore, given that some participants received help with writing down their dreams from their spouses, it is possible that dreams and interpretations considered potentially offensive to their significant others were also underreported. Similarly, where the participants provided their responses at interviews with the doctoral researcher, they may have avoided reporting aspects perceived to be 'embarrassing'. To the same end, some participants may have perceived a social pressure to contribute a response and in effect may have 'made up' dreams or reported memorable dreams rather than recent, post-illness dreams where they could not recall one. Finally, it could be argued that some participants may have perceived the invitation to participate in this research as a message that dreams of palliative people may be important, distinctive, or must have a meaning. The doctoral researcher attempted to reduce the 'social desirability' bias by reassuring participants that there were no right or wrong answers.

8). The reported physiological changes in sleep patterns such as the blurring of the waking-sleeping boundary raise questions about what is actually being assessed when enquiring about dreams of palliative patients. Further doubt along the same line of thought is cast by the possible deterioration of cognitive functioning in wakefulness - the state from which dreams are recalled and reported. While patients diagnosed with neurological co-morbidities were screened out with the assistance of medical staff at each hospice from where participants were recruited, a number of participants across the two studies reported recent experiences suggestive of waking disorientation and/or hallucinations.

Directions for future research

On the basis of the findings emerging from this research, future studies could formulate specific hypotheses about the relationships between dream content and waking thought in this group. Where possible, quantitative measures of waking thought and/or emotion are recommended as they would allow for examining statistically significant correlations with patterns of dream content. Emotionally-salient waking thought could be measured through scales or questionnaires (e.g., depression or anxiety scales, personality tests) or through content analyses of waking narratives. Illustrative in this sense is a recent study which used the standard MRD approach for dream collection (Maggiolini et al., 2010) in conjunction with a version of the MRD form adapted for collecting waking narratives about a recent real-life episode from the same participants.

Concerns regarding the use of the HVDC findings as a normative basis for future cross-cultural studies would be best addressed by developing local norms based on recent, representative samples of college students or general adults. For New Zealand-based researchers, a large sample of Māori and Pacific Island subjects in the general population would allow for the examination of the overall patterns in dreams from these groups, including gender differences, of differences from Europeans, as well as of the more subtle differences which may exist between the Māori and the other Pacific Island cultures. Such findings, if available, could be used a baseline for future studies with palliative care patients.

Another avenue of systematically investigating consistent and/or changing patterns of content in dreams of palliative people in the future would be through longitudinal case studies. Ideally, palliative people who had kept a dream journal prior to their illness for personal reasons, an unobtrusive measure, would be identified and invited to record their post-illness dreams. Testimonials of their pre-illness life and of their illness experiences and concerns could also be obtained to allow for examining dreaming-waking relationships.

The use of the pre-illness dreams as a baseline for post-illness dreams in longitudinal studies has the unique advantage that it automatically corrects for the effect of stable personality characteristics on dream content. Furthermore, such studies would allow for investigating claims by some authors (e.g. Cookson, 1990; Funkhouser et al., 1999; Greenberg & Blank, 1970) that the changes in dream content may parallel the various stages of a serious illness, from denial and anger, though to bargaining and acceptance (Kübler-Ross, 1969). The main difficulties with case studies would be identifying eligible subjects and obtaining long dream

series which can be subjected to HVDC analysis. Specifically, at least 35 reports in each set (pre-/post illness) would be required for the main individual trends to become statistically significant (Domhoff, 1996).

Provided that long post-illness dream series were obtained, the 'continuity hypothesis' could be tested by asking researchers blinded with regard to the dreamers' background and/or current life circumstances to content analyse the dreams and to make inferences about the dreamers' waking concerns. The accuracy of such blind inferences in light of the available information about the subjects' waking concerns could be interpreted in support for the 'continuity hypothesis' A more basic method in which blind analysis could be useful in future investigations would be to present lay people with a mixed sample of dreams from palliative people and from healthy elderly individuals and to ask them to separate them out. If judges were successful above chance levels, it could be inferred that palliative people's dreams are indeed distinctive.

APPENDICES

Appendix 1

Department of Psychology
Tamaki Campus
(09) 3737599
Ext: 81878
The University of Auckland
Private Bag 92019

Auckland, New Zealand

Invitation to participate in research – Study One

Dear

Thank you for your time and attention.

My name is Andu Iordache. I am a PhD student in psychology at the University of Auckland.

I would like to invite you to consider taking part in a research on dreaming experiences of hospice patients. The main goal of this project is to explore whether being diagnosed with a life threatening illness has any impact on people's sleeping dreams.

Your participation is purely voluntary and starts with an interview taking about half an hour. Having said that, you can withdraw from the interview at any time you may wish.

Upon completion of the interview, you will be invited to take part in a follow up phase which implies keeping daily records of your dreams by writing them down as soon as possible after wake up for a period of six weeks.

Participation in this follow up phase is also purely optional and can be interrupted at your discretion at any time. Finally, at the end of the period, I will collect your dream records and will ask if you have any personal thoughts you might like to share in relation to the dreams you recorded. Anonymity and confidentiality of information collected throughout this research will be guaranteed.

I encourage you to consider taking part only if you are feeling well enough.

If you would like to participate or find out more details about this project before making up your mind, simply inform a hospice nurse at the next visit or call the Hibiscus Coast Hospice reception on 094219180, ask to speak with either the secretary or any of the nurses, and leave a message with them for Andu. I will contact you to set a time to meet soon after.

Here are the main questions that I will be asking during the interview:

- *Could you tell me a little bit about your dreams, starting from when you were a child up to the time when you were admitted into hospice care?*

- *Could you please tell me a little bit about your dreams since the time when you were admitted into hospice care?*

- *Is there anything else about your dreams that you would like to share?*

If you do not wish to participate or are not feeling well enough at the moment, this is perfectly understandable. If I do not hear from you within the next month, I will assume that you are not interested or able to participate. No explanations needed.

Wishing you all the best,

Andu Iordache

PhD candidate

University of Auckland

Appendix 2

THE UNIVERSITY OF AUCKLAND
NEW ZEALAND

Department of Psychology
Tamaki Campus
(09) 3737599
Ext: 81878
The University of Auckland
Private Bag 92019
Auckland, New Zealand

Participant Information Sheet – Study One

Project title: Sleep dreams of hospice patients

Researchers: Mr Andu Iordache – PhD student (University of Auckland)
Dr Glynn Owens – Professor of Psychology (University of Auckland)
Dr Rod MacLeod – Honorary Clinical Professor (University of Auckland) &
Medical Director (Hibiscus Coast Hospice)

Hello, my name is Andu. I am a PhD student with the University of Auckland, working under the supervision of Dr Glynn Owens (Professor of Psychology) and Dr Rod MacLeod (Honorary Clinical Professor & Medical Director with the Hibiscus Coast Hospice). I would like to invite you to participate in a research about your sleep dreams. My aim is to explore whether being diagnosed with a life threatening disease has any impact on people's dreaming. Your participation is voluntary and I encourage you to accept only if you are feeling well enough at the moment.

The first phase of this research consists of an interview which should take approximately 30 minutes. There is also an optional follow up phase which involves you keeping a dream journal for a period of six weeks followed by another short interview; I will tell you more about that once we're finished with today's interview.

Please take as much time as you need before answering. You can decline to answer any questions and you can withdraw from the interview at any time. We can take as many breaks as you feel are necessary should you wish to rest before continuing the interview. We can also stop the interview and continue another day.

Your identity will remain anonymous as the information you offer will only be used for statistical purposes. I have signed a confidentiality agreement with the hospice which

precludes me from talking to other people (including your family) about you unless you specifically ask me to. If you find talking about some of your dreams as being distressing, I can refer you, with your permission, for assistance to the hospice counsellor, social worker and/or chaplain.

Also with your permission, I would like to audio record our conversation so I can later refer back to it. I will also take notes while we are talking, if that is OK with you. The audio record of our conversation will be transcribed by a person authorised by the University of Auckland. The transcriber will not be provided with any information about your identity and will also be asked to sign a confidentiality agreement.

In order to save your time, I would like to ask your permission to access the following information from hospice records: your age, ethnicity, past/current occupation, time and nature of diagnosis, and time of admission into hospice care. I am collecting this data to check if such factors relate to dreaming in any way.

All records of our discussion will be preserved for six years in a safe place at the University of Auckland, after which they will be destroyed. If you wish, I can provide you with a copy of the audio records of our conversation. You are also entitled to see and edit your answers once they are transcribed. If any data from this research is published or reported, it will be done in a way that ensures no participants are identifiable.

If after our interview you wish to withdraw all research data that is traceable back to you, you can do so within three months from today (or from the day when the interview is finished), by simply calling me at 093737599/81878 or 0210739731 or emailing me at s.iordache@auckland.ac.nz. No explanations needed.

Other people that you can contact at the University of Auckland about any aspect of this project are my supervisors, Professor Glynn Owens (g.owens@auckland.ac.nz, 093737599/86845) and Professor Rod MacLeod, whom you might have met through the hospice (094219180, rd.macleod@auckland.ac.nz), as well as the Head of the Psychology Department at the University of Auckland, Dr Fred Seymour (3737599/88414, f.seymour@auckland.ac.nz).

For any queries regarding ethical concerns you may also contact the Chair of The University of Auckland Human Participants Ethics Committee, The University of Auckland, Office of the Vice Chancellor, Private Bag 92019 Auckland 1142. Telephone: 09 3737599/83711.

I would like to emphasize again that your participation in this research is purely voluntary and that if you do not wish to participate please be ensured that this will not have any bearing whatsoever on the quality of care that you receive through the hospice.

I will leave a copy of the information I have just provided to you. All names and contact details of people involved in this research are mentioned, should you wish to contact them.

(To be read after the first interview is completed)

As I have mentioned before, there is an optional follow-up phase of this study which involves keeping a dream journal for a period of six weeks followed by a brief interview about the dreams you will record and your interpretations in relation to these. Before you decide whether you wish to participate in this phase, let me tell you what it involves:

- You will be asked to write down your dreams on a daily basis, whenever you recall a dream you had while asleep either at night or during the day;
- Research shows that people have much higher chances of remembering their dreams immediately after wake than five or ten minutes later!
- You are encouraged to describe your dreams in as much detail as possible, including any thoughts and feelings the dreams might have triggered;
- At no stage, participation in this research should take priority over your wellbeing; please record your dreams only when possible!
- Like with today's interview, the interview about what you make of the dreams you record during the six week period will also be audio-recorded, with your permission;
- The information provided through your dream records will be processed in exactly the same manner as the information you provide at the interview; data will be stored safely and confidentiality and anonymity will be guaranteed;
- You can discontinue your dream recording at any time without providing any explanation!
- If you discontinue the recordings, you can choose whether you wish to provide the existing records for research purposes or not;
- As with the information provided during the interview, you can also withdraw all data that is traceable back to you within three months of the dream recordings being completed.

Thank you,
Andu Iordache
PHD candidate

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS
ETHICS COMMITTEE ON 3 August 2009 for 3 years, Reference Number 277/2009

Appendix 3

Department of Psychology
Tamaki Campus
(09) 3737599
Ext: 81878
The University of Auckland
Private Bag 92019

Auckland, New Zealand

Participant Information Sheet – Study Two

Study Title: *The most recent dreams of people in hospice care*

Researchers: Mr Andu Iordache – PhD student (University of Auckland)

Dr Glynn Owens – Professor of Psychology (University of Auckland)

Dr Rod MacLeod – Honorary Clinical Professor (University of Auckland) &

Medical Director (North Shore Hospice)

Hello, my name is Andu. I am a PhD student with the University of Auckland and I would like to invite you to participate in an exciting research project about sleep dreams of people in hospice care. The hospice supports this research project and has provided me with your contact details. However, I would like to emphasize that your participation is purely voluntary and completely anonymous – you are not required to give out your name and I will not know who responded to this invitation and who didn't. Your input consists of filling out the attached Most Recent Dream form which should take about 15 to 20 minutes. Information is asked of you about ***one dream only – the most recent dream*** you can remember since being in hospice care.

You are also asked to provide some demographic information (age, gender, ethnicity, current/previous occupation, time and type of illness). By returning your answers in the attached pre-paid envelope you consent to participate in this research. Please note that your responses are not traceable back to your identity which means that you will not be able to withdraw the data you provided at a later time. All data collected during this research will be

preserved for six years in a safe place at the University of Auckland, after which it will be destroyed.

If you happen to find that writing down about a dream is distressing for any reason, please ask for support from a doctor, nurse, counsellor, chaplain, or social worker through the organisation providing your health care. If you wish to participate but find it difficult to write down your responses please feel free to contact me (see contact details in the next paragraph). I would be very happy to write down your answers for you. Alternatively, you may wish to ask for help from a relative, friend or medical staff – a person you feel comfortable sharing your response with.

Please try to return your response within two months from the date when you received this letter. Later responses are still welcome but their inclusion in the analysis is not guaranteed. If you would like more information about this research before deciding whether you'd like to participate you are welcome to call me at 093737599/81878 or 0210739731 or email me at s.iordache@auckland.ac.nz.

Other people that you can contact at the University of Auckland about any aspect of this project are my supervisors, Professor Glynn Owens (g.owens@auckland.ac.nz, 093737599/86845) and Professor Rod MacLeod, whom you might have met through the hospice (094219180, rd.macleod@auckland.ac.nz), as well as the Head of the Psychology Department at the University of Auckland, Dr Fred Seymour (3737599/88414, f.seymour@auckland.ac.nz).

For any queries regarding ethical concerns you may also contact the Chair of The University of Auckland Human Participants Ethics Committee, The University of Auckland, Office of the Vice Chancellor, Private Bag 92019 Auckland 1142. Telephone: 09 3737599/83711.

Yours sincerely,

Andu Iordache
PhD Candidate
University of Auckland
Health Psychology Department

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON 3 May 2010 for 3 years, Reference Number 2010/146

Appendix 4

Demographic Information - Study Two

Age _____

Gender _____

Ethnicity _____

Current/Previous Occupation _____

Primary diagnosis_____

When were you diagnosed (month/ year)? _____/_____

Secondary diagnosis (if applicable) _____

When were you diagnosed _____/_____

Time of referral to hospice (month/ year) _____/_____

Appendix 5

MOST RECENT DREAM* - Study Two

Date Today _____

We would like you to write down the last dream you remember having, whether it was last night, last month, or last year. But first please tell us the date this dream occurred: _____. Then tell us what time of day you think you recalled it: _____. Then tell us where you were when you recalled it: _____.

Please describe the dream exactly and as fully as you remember it. Your report should contain, whenever possible: a description of the setting of the dream, whether it was familiar to you or not; a description of the people, their age, sex, and relationship to you; and any animals that appeared in the dream. If possible, describe your feelings during the dream and whether it was pleasant or unpleasant. Be sure to tell exactly what happened to you and the other characters during the dream. Continue your report on additional sheets if necessary.

After writing down your dream please answer questions on the other side

Do you think your dreams have changed recently, since you became seriously-ill?

Yes **No**

Was the dream you reported a one-off dream or a recurrent dream or theme in your dreams?

One-off **Recurrent dream/theme**

What is your interpretation of this dream, if any?

Is there anything else you would like to add about what this dream means to you?

Appendix 6

Blank coding card – Study Two

Series:		Dream #:				Words:	
Char.	Aggression	Friendliness	Sexuality			Settings	Modifiers
						Objects	
	Activities						
Success	Failure	Misfortune	Good Fortune	Emotions			

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