

**Sweat ceremony: Religious coping styles, psychological wellbeing and  
spirituality**

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## **Statement of Authenticity**

This thesis contains no material that has been accepted for the award of any other degree or diploma in any educational institution and, to the best of my knowledge and belief, it contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

Signed:

Date: 24 November, 2011

## **Ethics Approval**

The research for this thesis received the approval of the Monash University Standing Committee for Ethical Research on Humans on 4th November 2010 (Group approval reference: CF10/2697 - 2010001516)

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"when people rediscover their inner connectedness to something greater than themselves, to some ideal which will lift them beyond their everyday struggles, a new motivation flows inside of them, which can carry them through difficulties with unerring purposefulness" Emmy van Duerzen-Smith (1988, p. 97)

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## **List of Abbreviations**

BPSS	Bio-psycho-social-spiritual model of health
SOTEMS	Spirit of the Earth Medicine Society

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## Abstract

There is evidence that sweat practice has psychological, physical, social and spiritual benefit. The literature review outlines sweat practice from a historical and contemporary view and explains current research findings, including its applicability to psychotherapy. A mixed design research method investigated difference in religious coping, psychological wellbeing and spirituality between sweat and non-sweat participants. Sixty-nine sweaters and 25 non-sweaters completed measures of religious coping, psychological wellbeing and spirituality and six interviews explored the phenomenological experience of sweat ceremony. Sweat participants reported more Personal Growth (continuing development, sees self as growing and expanding) than non-sweat participants. Sweat participants reported more Spiritual Connection (experiencing a sense of connectedness with forces that transcend), Religious Direction/Conversion (looking to religion for finding a new direction for living or a radical change in life) and Punishing God Reappraisal (redefining the stressor as a punishment from God for the individual's sins) and less Spiritual Discontent (expressing confusion and dissatisfaction with God's relationship to the individual in the stressful situation) than non-sweaters. Sweat participants reported more External/Ritual Spirituality (spiritual activities/rituals), Internal Fluid Spirituality (evolving beliefs) and Existential/Meditative Spirituality (awareness of the interconnectedness in daily life) than non-sweaters. Within the sweat group, psychological wellbeing measures (personal growth, self acceptance, positive relationships with others and autonomy) related to participation in sweat ritual and the expression and exploration of a spiritual dimension. Ten themes emerged: altered state of consciousness, connection, focus, cleansing, coping, healing, self development, ordeal, transformation and emotional affect. Adverse outcomes (physical, competition and bravado, poor focusing) and missing elements to sweat ceremony (lack of cultural

expression and altered state of consciousness) are discussed along with limitations and implications for future research. Sweat ceremony can be understood within a transpersonal therapeutic framework and bio-psycho-social-spiritual model of health.

*Key words:* Sweat Lodge, Ceremony, Psychological Wellbeing, Spirituality, Coping

## Introduction

In the last 15 years or so there has been growing interest in the study of religion and spirituality by psychologists (Huguelet & Koenig, 2009; Spilka, Hood, Hunsberger & Gorsuch, 2003; Paloutzian & Park, 2005; Simmonds, 2008; Tacey, 2004) because religio-spiritual activities can be viewed as having a psychological element. Spirituality and religiousness conceptually overlap, in that both involve a search for the sacred (Huguelet & Koenig, 2009). Indeed, rather than seeing spirituality as an individual construct and religiosity as an institutional construct, they should be seen as intimately connected (Pargament, 1997).

There has been considerable research interest in the relationship between coping, psychological wellbeing and religio-spiritual practices, and more recently from a perspective of the bio-psycho-social model of health (Hefti, 2009). George L. Engel (1977) first proposed the bio-psycho-social model of health and Hefti (2009) argues that "religion and spirituality constitutes an additional, distinct and independent dimension interacting with biological, psychological and social factors" (p. 247). This becomes a useful framework to understand the religious and spiritual dimension in clinical practice and health research. Viewing an individual within a bio-psycho-social-spiritual (BPSS) framework establishes a whole-person approach to mental health (Hefti, 2009).

Psychological wellbeing is of particular interest to the positive psychology movement because it acknowledges that the individual has the capacity to see the best in life and emphasises an individual's propensity to find meaning in life and to self actualise (Keys, Shmotkin & Ryff, 2002). Another psychological concept is coping which means resolving difficulties that are confronting (Spilka et al., 2003). Religious coping can serve five purposes: spiritual (meaning, purpose, hope), self development,

resolve (self-efficacy), sharing (closeness, connectedness to a community), and restraint (help in keeping emotions and behaviour under control) (Spilka, 1997). Religious coping may be adaptive or not with some studies showing a positive relationship between intrinsic religiosity and wellbeing and a negative relationship between extrinsic religiosity and wellbeing (Koenig, 2009; Pargament, Ano & Wachholtz, 2005).

### **Religious Coping, Psychological Wellbeing and Spirituality**

Overall, the literature supports the contention that religio-spirituality is associated with enhanced wellbeing, on the basis of a variety of measures such as coping, life satisfaction and psychological wellbeing for pagans (Carpenter, 1995), prayer (Cox 2000), faith (Francis, Bangor & Kaldor, 2002), religious involvement (Frazier, Laurie, Mintz & Mobley, 2005), intrinsic faith (Laurencelle, Abell & Schwartz, 2002), meditators (Majeski, 1999), meaning (Steger & Frazier, 2005), sexuality (Valacchi, 2004), motivation and coping (Wong-McDonald & Gorsuch, 2004) and negative life event (Young, Cashwell & Scherbakova 2002; Youngmee & Seidlitz, 2002). Hackney & Sanders (2003) completed a meta analysis investigating religiosity and mental health.

A recent publication by Huguelet and Koenig (2009) provides excellent information investigating the links between religio-spirituality and psychopathology, such as psychosis (Huguelet & Mohr, 2009), delusions and hallucinations (Mohr & Pfeifer, 2009), mood disorders (Braam, 2009), substance abuse disorders (Forechimes & Tonigan, 2009), anxiety disorders (Koenig, 2009), dissociative disorders (Brandt & Borrás, 2009), self identity (Brandt, Fournier & Mohr, 2009) and personality disorders (Piedmont, 2009). Indeed, the World Psychiatry Association has proposed a Statement on Spirituality and Religion in Psychiatry. The statement seeks to find common ground

between nations and religio-spiritual activities and beliefs and recognises its importance for some individuals (Verhagen & Cook, 2010).

Larson (2003) completed a meta-analysis, finding that a large population of patients draw on religio-spiritual resources to cope, whether facing medical illness or mental health problems. The meta-analysis identified that at times religio-spiritual coping methods provide strength to persevere and a greater sense of wellbeing. Religio-spiritual coping may enhance pain management, improve surgical outcomes, protect against depression and reduce the risk of substance abuse and suicide (Larson, 2003). There are many types of religious coping such as to find meaning, to gain mastery and control, to gain comfort and to be closer to God, to gain intimacy with others and to achieve a life transformation (Pargament et. al., 2005).

However, spiritual distress and negative religious coping can lead to poorer health outcomes because religion has a dark, harmful side, although it is largely beneficial (Raiya, Pargament & Magyar-Russell, 2010; Spilka, 2005). Four broad categories describe the harmful side of religion: problematic religious motivation, problematic attachment to God, problematic religious interpretation and problematic ways of religious coping (Raiya et al., 2010). These authors posit that research investigating the impact of negative religious coping on spirituality has been neglected.

Despite negative religiosity, it has been long known that religio-spiritual activities can instil a sense of hope and reduce anxiety, or improve coping with life stressors (Huguelet and Koenig, 2009). Activities such as rituals contribute to religious and spiritual expression, belief and meaning, and are deeply embedded in culture (Spilka et. al., 2003; Spilka, 2005;).

## **Ritual and Coping**

Ritual is a prescribed pattern of behaviour (Spilka, 2005) and according to Achterberg (1994) can also be defined as a series of acts using a set of symbolic objects. The power of symbols lies in shared meaning that a group has invested in an object. Ritual is so integrated into ordinary, everyday life that it often goes unnoticed. Examples are marriage ceremonies and baptisms (King, 1990; Spilka 2005). However, not all rituals are spiritually oriented. Saying “good morning”, going out for a beer after work, watching a particular TV show, attending race meetings or sporting functions and the regular Sunday family lunch may also be viewed as rituals.

Prayer, reading the bible, meditation, psychic self protection (creating a circle of white light around the self), natural therapies (yoga, massage, Reiki) and other activities are meaningfully ritualistic (Watkins, 2008). Ceremonies, or ritual practices, are the chief characteristic feature of religious activity. They enable participants to participate in a religious experience, to foster relationship with spiritual powers, to experience new revelations of the sacred and to experience the sheer joy of connectedness (Brault, 2005).

However, Brault (2005) argues many participants don't join groups for their belief systems but for the social and communal bonds. Ceremonial practice also reduces anxiety and isolation because emotions are acknowledged, expressed and resolved. Ceremonial practice provides a means for tapping into cultural, personal and social resources that aid in healing and growth. When personal experiences are shared, trust and closeness inevitably develop, which enriches an individual's appreciation of their own and others' humanity. The individual establishes connections to others and to

life itself (Forcehimes & Tonigan, 2009). Similarly, the construction of the individual identity is achieved through recognition from others in a group setting (Brandt, Fournier & Mohr, 2009).

Religious ritual becomes an avenue of pro-social coping where concern and care for others or the self creates positive social interactions (Hobfoll, 1998). Such coping can be associated with a more active coping style, as effort is taken to foster and maintain such interactions. As a result, participants are participating in cooperative efforts of personal efficacy and control. They are building their resources and may be setting themselves up for more effective coping in the future (Brault, 2005). A particular ritual or practice is 'sweating'.

### **Sweat Practice**

I was first introduced to sweat ceremonies some fifteen years ago and have trained to facilitate the sweat ceremony within the Spirit of the Earth Medicine Society (SOTEMS) metaphorical, contextual and spiritual frameworks. Curiosity about the ceremony led to the development of this research. When developing the research design, interviewing and analysing the data I have undertaken to take an objective view, putting aside my own experiences and value laden perspectives.

### **Historical and Cultural Variations of Sweat Practices**

The practice of pouring water over heated stones to produce a cleansing steam bath is common in many parts of the world. Early records of sweat-baths go back to 425 B.C. when Herodotus wrote of the sweat bath custom of the Scythians. Hot air baths were popular in Ancient Greece and were referred to as *Iaconia* whereas the Romans called them *balneum*. The first giant baths or *Thermae* were built in 25 B.C. by

the Emperor Agrippa and, around 600 A.D., the Arab *hammams* was used. The saunas of Scandinavia, Latvia and Estonia were very similar to the sweat-baths of Russia and were used for recreation, social, ceremonial, hygienic and medicinal benefits (Bruchac, 1993; McGarive, 2009). Sweat-baths are common in Japan and are referred to as *mushi-buro* (steam bath), the *Karra-buro* (empty bath) and the *todan-bur* (shelf bath). African culture also has its own form of sweat-bath referred to as *Sifutu* (Colmant, 2010). In addition there is the *savusauna* or sauna of Finland, the *temezcalli* of Mexico and the *Inipi* of the Sioux (Aaland, 2011; Bruchac, 1993; McGarive, 2009 ).

The similarities between the use of the sweat-bath or sweat-house in different cultures hints at a shared appreciation of the benefits of sweating, individually and communally, be it for recreation, health, religious practice or social connection, or a combination. Cross-culturally, sweat-baths have in common most of these features: very small structures; there is a lack of ventilation during the sweat experience; the use of switches to strike oneself, or to move the steam; the generation of steam by pouring water on heated stones; the use of fragrant herbs; and the mixture of social, therapeutic and ritualistic purposes (Bruchac, 1993; McGarive, 2009). An example of a sweat structure is shown below in Figure 1.



Figure 1 Example of a sweat structure in Melbourne, Australia

## Contemporary Issues for Sweat Practice

There appears to be growing interest in sweat practices from both a research and counselling perspective. When Colmant (2010) completed internet searches in 1999 he found 3659 web pages using the term sweat lodge, in July 2004 there were 55,400 web pages and in January 2010 there were 151,000 web pages using the term sweat lodge. A search, by the this researcher in November 2011 found 190,000 web pages responded to the term sweat lodge. Although the practice of sweating is evident in many countries, its popularity appears to be growing in countries or in population groups where the cultural practice is not embedded in the social milieu such as the *Inipi* by non native Americans. This has in some instances, caused problems.

**Cultural Misappropriation.** Many non native American groups have made use of the native American sweat lodge ceremony. The sweat lodge ceremony is a sacred ritual to native Americans and there are objections by some native Americans to its use by non native Americans (Colmant & Eason, 2007). Article 11 of the United Nations Declaration on the Rights of Indigenous People argues against the misappropriation of Indigenous ceremonies (United Nation Resolution 61/295).

However Colmant and Eason (2007) note that sweat practices are not unique to any one culture, having existed throughout the world for thousands of years and continue to be developed. Further, culture is not static with the integration of cultures occurring constantly due to human interaction. These authors offer two general guidelines to avoid cultural misappropriation; including learning as much as possible about ritualistic practices to be used and considering the differences between common practices versus culturally specific practices. Thus the use of music and incense, close interpersonal proximity, domelike structures and the use of water to create steam to

cleanse are common cultural practices and techniques that can be replicated without offending (Colmant & Eason, 2007).

The challenge is for cultural groups to be transparent when developing the ceremonial practices of other cultures. This means rather than adopting the language, beliefs or cultural practices of ceremonies, participants need to develop contemporary cultural ceremonies with elements that are shared cross-culturally, and which no particular cultural group can claim as specific.

**Cautions and health warnings.** In addition to the criticism regarding the misappropriation of cultural practices in regard to sweat ceremony, there are also apparent dangers. The Australian Department of Health issued a public health warning in 2007 following the death of Rowan Douglas Cooke in South Australia (Schapel, 2007) and in October 2009 near Sedona, Arizona three people died in a sweat lodge ceremony facilitated by self-help guru James Arthur Ray who was subsequently found guilty of negligent homicide (Thornburgh, 2011). However, even in Finland where the frequency of sweat bathing is high, few deaths occur and reducing alcohol intake and not leaving a drunken bather alone in the sauna can minimise these deaths (Kenttamies & Karkola, 2008).

Individuals with significant cardiovascular disease, those taking certain medications that predispose to hyperthermia, who are pregnant, have respiratory infections (colds or flu), kidney problems, diabetes, contagious skin disorders, hepatitis, severe spinal cord injuries, claustrophobia or alcohol or drug addiction should not participate in sweat practices or should seek medical advice before participating (Byard & Riches, 2005; Colmant, 2010; Locke, 2003). Ensuring a safe and healthy sweat experience can be enhanced through appropriate preparation including drinking 2 to 3

litres of water during the day, fasting, restrictive use of alcohol or illicit drugs and appropriate attire, such as light cotton clothing (Colmant, 2010; Locke, 2003; McGarive, 2009).

Despite these health warnings and international acknowledgement regarding the cautions of sweating, of concern is the unregulated use of saunas in health clubs and gymnasiums whereby any member of the public can enter a sauna without receiving any cautions about the possible dangers relevant to the person's medical situation, hydration or intoxication level.

The inquest into the death of Mr. Cooke highlighted that common sense and religio-spiritual practices sometimes don't go together. The lack of medical response and naivety of the group associated with Mr. Cooke's death was contrasted to the practices and responsibilities adopted by Spirit of the Earth Medicine Society (SOTEMS). SOTEMS has been facilitating sweat ceremonies in Australia for some twenty-two years ([www.sotems.com.au](http://www.sotems.com.au)).

### **Sweat Ceremony in Australia: The Australian Dreaming Wheel**

SOTEMS offers sweat ceremony to the public across five states in Australia (New South Wales, Queensland, Victoria, South Australia and Western Australia). The organisation has a focus on creating Australian stories and ceremonies, rather than transporting or borrowing from other cultures (Locke, 2003).

The SOTEMS sweat ceremony is founded on the medicine or dreaming wheel which is a basic map and compass for the spiritual life of SOTEMS members and for sweat ceremony offered to the general public. Diverse spiritual expression is encouraged in the ceremony and participants are encouraged to express prayer in a way

that is meaningful to the individual. Prayers often focus on healing for the individual, family, community or the planet (Locke, 2003).

The ceremony itself consists of four, approximately 15 minute ‘rounds’ with each ‘round’ becoming progressively hotter. Water is placed on hot volcanic rocks to create steam and to heat the lodge, as depicted in figure 1. The level of heat is determined by how much water is placed on the rocks and the heat in the rocks. Overly hot or long sweat ceremonies are discouraged and the ceremony is not about bravado or outlasting one another. Rather it is about an individual and group journey. Ceremonies are facilitated following two standard sweat formats: meditation (quiet contemplation) and chanting (dynamic singing). Sweat ceremony facilitators follow these standard formats, with the freedom to introduce a ‘theme’ that guides and provides a foundation for participants’ focus (Locke, 2003). For example, a theme might be “patience” or “what are my strengths.” Sweat participants are then guided to explore the theme by visiting or “sitting with” four key virtues (vision, strength, healing, and wisdom). A virtue is defined as moral goodness, good quality or inherent power (Webster, 1988). Thus the ceremony becomes a transpersonal journey of self-discovery from a personal, physical, community, spiritual and ecological perspective (Locke, 2003). Table 1 below provides a summary of contextual and metaphorical elements which Ceremonial Leaders integrate into the ceremony providing a framework for participants to explore personal or group themes. Each ceremonial “round” will focus on the contextual/metaphorical element whilst incorporating the theme and a mythical story, making it a very complex process.

Table 1

## Sweat ceremony framework

<b>Cardinal Point</b>	<b>Metaphorical Primary Meaning</b>	<b>Alternative Meaning</b>	<b>Alternative Meaning</b>	<b>Alternative Meaning</b>
	Spiritual	Lifecycle	Psychological	Symbol/Motif
<b>East</b> <b>Virtues: Vision, Purpose and Direction</b>	Sun, sky, arrow, fathers, path, red Eagle (Gwaana) Beginnings, Creative Seed	Birth, infancy	Perception, intelligence, vision	Sun as a burnished mirror which speaks to us  <b>Key question:</b> What is my path of heart and how can I place my feet firmly upon this path?
<b>North</b> <b>Virtues: Strength Courage Determination.</b>	Courage, stillness and dignity, well of the self. Goanna (Bungarra)	Childhood, adolescence	Motivation, energy, focus	Wall through which we must pass.  <b>Key question:</b> What are my strengths and how can I use them to further my journey on my path of heart?
<b>West</b> <b>Virtues: Healing Humility Compassion</b>	Moon, earth, mothers, Endings Snake (Ungar)	Adulthood	Feeling, beauty, balance	Snake which takes us into the earth.  Key question.  How can I heal myself and assist the healing journey of my brothers and sisters
<b>South</b> <b>Virtues: Wisdom Knowledge Intuition</b>	Knowledge, guidance, wisdom, totem. Dingo (Warrigal)	Maturity, old age	Intuition, insight	Doorway which must be opened  Key question:  What do I need to do to realise myself?

<b>Centre</b> <b>We are complete</b> <b>we are one in the</b> <b>Dreaming Wheel</b>	Chaos-order, 3 worlds, Sun and Moon meet	Seed, remembrance	Centred self	Tree (Axis Mundi) Stones and stone people
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Participants are primed by the ceremonial format and through introspection to explore deeply held concerns or desires, often in regard to relationships with self, others, community, the planet or spirituality. As participants draw upon the virtues of the directions to assist them to move into and through the heat and ordeal of the ceremony (lack of oxygen, darkness, close proximity of people, heat, personal problems or concerns) they also learn how these virtues can be applied in everyday situations such as conflicts with work colleagues, daily stresses etc. Therefore sweat ceremony is personal, transpersonal and therapeutic.

The practice of sweat ceremony throughout human history for physical, emotional, spiritual and community benefit or healing is well documented but rarely studied. As a practice, it seems to be gaining popularity and in this section, some aspects of the SOTEMS sweat ceremony have been highlighted.

### **Theoretical Framework of Sweat Ceremony**

Although sweat ceremony has been used cross culturally for centuries, there are few models to explain its efficacy in a psychological sense. One sweat therapy theoretical model however, seeks to explain how sweat rituals enable positive effects to the mind, body and spirit (Colmant, 2010; Eason, Colmant & Winterowd, 2009). This theoretical model is based on five factors that reciprocally interact to produce the positive effects of sweat rituals: cultural priming, exercise, self-regulation, metaphorical and contextual elements, and interpersonal factors (Colmant, 2010; Eason et al., 2009). The model is shown below as Figure 2. The model proposes that participants already have beliefs and expectations about the experience, even before they participate

(cultural priming). This is because sweat rituals have existed for thousands of years throughout the world and people are primed to receive the benefits. It proposes that sweat practices appear to promote self-regulation by helping participants to gain insight through introspection, make a commitment to personal goals, improve frustration tolerance and maintain balance and harmony. The metaphorical contextual element proposes sweat practices are more than just intense exposure to heat. Rather, sweat practices promote physical and mental health, spirituality and socialisation. Contextual elements common to sweat practices include taking breaks, dimmed lighting, wearing sparse or no clothing, drinking large quantities of water, and the symbolism of fire.

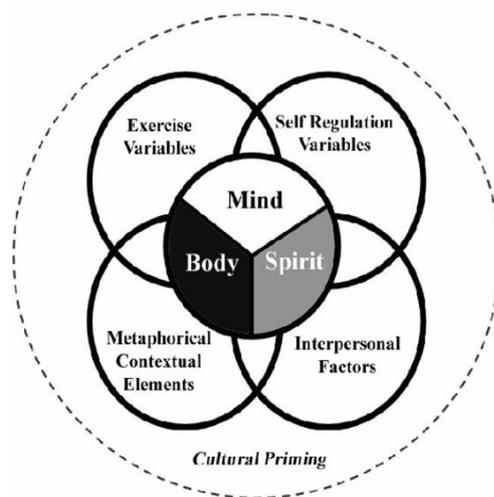


Figure 2 Sweat Therapy Theoretical Model

These contextual elements facilitate body, mind and spirit benefits. The metaphorical meaning common to sweat practices includes the dome-like structure that encourages relaxation and openness versus anxiety and defensiveness, a sense of returning to the primal womb. Participants sit closely together, promoting a safe and open therapeutic atmosphere. The intense physical experience of sweating encourages participants to become more introspective and the physical experience of submitting oneself to the sweating process often transfers to experiencing the release of anger, frustration, hurt or anxiety. In essence, intense heat can represent life's greatest challenges and enduring the heat can represent a symbol of human will and resiliency.

Finally, it is a place where participants can relax, exchange information and share personal stories (Colmant, 2010; Eason, et al., 2009).

Stress is defined as the process of managing external or internal demands that are perceived as taxing or exceeding a person's resources (Colmant, 2010) and can be episodic, positive or negative, a problem or a challenge. The sweat ceremony appears to provide an excellent opportunity for people to learn how to better cope with stress because they are subjected to a physically and psychologically stressful situation. Psychological reactions to unmanageable stress include depression and anxiety (Colmant, 2010). Thus an environment that teaches the participant how to sit mindfully, rather than avoid or deny a stressful situation is psychologically beneficial. Stress can also enable positive growth, can promote personal direction, assist in goal setting, engender passion about an activity and create a sense of purpose (Colmant, 2010). According to Colmant, research results over the past 40 years have consistently stated that sweat rituals are a powerful way to combat stress.

### **Psychological Frameworks and Sweat Practice**

Colmant (2010) conceptualises sweat therapy within a psychodynamic, cognitive behavioural, person centered and group based therapy framework. Psycho-dynamically, sweat practices evoke memories of childhood development and being in a womb like environment. From a cognitive behavioural (CBT) perspective it compliments desensitisation, encourages self-regulation and can reduce minimisation or denial and increase insight. From a humanistic perspective the practice requires the therapist to participate in the experience with the client. The therapist struggles as much as the client. Genuineness on the part of both therapist and client is promoted by a relaxed, intimate setting and responding to

the intense physical experience. The close interpersonal interaction creates optimal conditions for group cohesion and sharing (Brault, 2005; Colmant, 2010).

### **Previous Research and Applicability to Psychotherapy**

In 2004, Stephen Colmant, a registered psychologist from North Carolina in the United States of America, completed a meta-analysis on the psychological effects of sweating. Prior to this Mikkel Aaland had published *Sweat*, in 1988. Colmant found the scientific study of sweating has predominately focused on the Finnish sauna as opposed to other forms such as the Native American sweat lodge, Russian *bania* or Turkish *hammam*. Studies included the physiological effects of sauna bathing, psychomotor performance and mood, brain waves, psychoanalysis of sauna bathing, anorexia nervosa and positive affect (Colmant, 2004). Other studies have examined sweat therapy and personality, suggesting that people with problems of aggression or anxiety who have difficulty remaining calm and/or pro-social when in a physiologically escalated state may especially benefit from sweat therapy (Colmant, 2004). According to the meta-analysis, some authors have described the sweating experience as creating an altered state of consciousness, defined as a transient state characterised by time distortion, disinhibition from social constraints, altered sense of self, or a change in focused attention. Sweat practice can be viewed as a shamanic practice that is used worldwide to promote altered states of consciousness (Colmant, 2004; Hibbard, 2007; Locke, 2003; Polito, Langdon & Brown, 2010). The meta-analysis identified a lack of randomised controlled studies and many of the studies were conducted with a small number of participants and lacked adequate comparison groups. Despite this, the most consistent finding was that sweating promotes relaxation and stress relief.

There appears to be strong precedence to support the use of sweat therapy in inpatient and outpatient medical settings (Colmant, 2010). Indeed the potential application of sweat therapy for a variety of psychological issues are explained by Colmant (2010) covering drug and alcohol rehabilitation, depression and anxiety, anorexia nervosa, chronic fatigue, health coaching and for a variety of group based interventions. Several researchers have focused on the use of traditional practices, such as sweat practices in alcohol and drug rehabilitation (Abbott, 1998; Brady, 1995), finding that traditional practices may be a viable alternative, or at least complementary to mainstream approaches.

Sweat therapy may be ideally suited to treat depression and anxiety by teaching clients how to deal with stress, to meditate, to improve insight and by increasing self disclosure through group based support (Colmant, 2010). Indeed Colmant (2010) argues sweat therapy has similar therapeutic features to Exposure Therapy, Dialectical Behaviour therapy and Eye Movement Desensitisation and Reprocessing.

## **Previous Research**

**Group and adventure based approaches.** With an avid interest in group based therapies, Stephen Colmant and co-authors completed a series of research projects to investigate the efficacy of sweat therapy as a group based intervention.

In 1999, Colmant and Merta were interested in the benefits of sweat therapy for a youth based group, interviewing 15 Navajo youth. This research found nine beneficial therapeutic factors to be: Instillation of Hope, Universality, Imparting of Information, Altruism, Development of Socialising Techniques, Imitative Behaviour, Group Cohesiveness, Catharsis and Existential Factors. Table 2 below provides a descriptive summary of the nine therapeutic factors.

Table 2

Descriptive summary of therapeutic factors

<b>Factor</b>	<b>Meaning</b>
<b>Instillation of Hope</b>	The youth felt deceased relatives were available to listen and help during the ceremony
<b>Universality and Catharsis</b>	The youth were able to share their deepest concerns with another human being, with group supportive group responses. Emphasis on acceptance and appreciation
<b>Imparting of information</b>	It is a place for storytelling, with themes stressing the importance of living in a healthy, socially responsible way
<b>Altruism</b>	Youth help each other to set up the ceremony, pray and support each other
<b>Development of Socialising Techniques</b>	Provides a place to practice speaking in an authentic and genuine and socially acceptable manner
<b>Imitative Behaviour</b>	Adult participants also disclose and express concerns for themselves and their families as well as for the participant's improvement. Observing the adults' reverence for the sweat lodge ceremony assists youth to approach the ceremony in a similar manner
<b>Interpersonal Learning</b>	It is a non conflictual environment for disclosing and receiving feedback in a setting where group harmony and cooperative behaviour is encouraged. This increases opportunities for learning and support.
<b>Group Cohesiveness</b>	Youth in this study were males and referred to each other as 'brother' adding to a sense of group belonging. Staff participated in the ceremonies, creating further trust and bonds.
<b>Existential Factors</b>	Teachings occurred in the ceremony often included recognising the importance of living a one's life in a moral way and that there is no escape from some of life's pain and from death. Balance and harmony in life are emphasised.

Limitations included the small sample size, and the sample group (youth aged six to fifteen years who reside at a boarding school in the Navajo Nation), therefore the findings cannot be generalised to the wider population. In addition, pre and post testing could have provided further information about behaviour or attitudinal change in participants.

To overcome some of the limitations of the 1999 research Colmant and Merta (2000) undertook a second study with four male adolescents, aged 13 to 18 years, diagnosed with disruptive behaviour disorders: conduct disorder, oppositional-defiant

disorder, or attention deficit hyperactivity disorder. Participants in this study reported sweat therapy sessions were useful because they allowed them to share personal concerns and receive assistance with problem solving. Three of the four males showed improvement in measures of self esteem. The participants identified experiential group work, catharsis, universality, imitative behaviour and interpersonal learning as being prominent therapeutic factors within the sessions. Increase in frustration tolerance and feelings of accomplishment and stress relief were also reported. Limitations included the lack of a control group and the small sample size.

In 2005, 24 undergraduate students were randomly selected to participate in a study investigating the effects of sweat therapy (in a sauna environment) on group dynamics and affect (Colmant, Eason, Winterowd, Jacobs & Cashel, 2005). The purpose of the group was to facilitate personal and interpersonal growth as well as to help participants become more effective in dealing with daily stressors. Results indicated that participants in the sweat condition reported more therapeutic factors that had an impact on their group counselling experience, rated sessions as more beneficial and interacted with stronger group cohesion than non-sweat participants. Experiencing the heat was frequently identified by sweat group members as exerting beneficial effects, specifically relaxation, stress relief and feelings of accomplishment. There were no significant group differences in affect on immediate post-session measures. The authors agree that the study is small (six participants in each group) and therefore results should be interpreted with caution. In addition the facilitators received minimal training (4 sessions on Yalom's 1995 interpersonal process) and the session structure may lack the ceremonial/ritual richness that is present in accounts throughout cultural and historical records. Participants may not have been tapping into spiritual resources.

In order to overcome some of the concerns regarding small sample sizes and limitations identified in the 2005 Colmant et. al. study a second pilot study was undertaken in 2009 with 85 college student volunteers (Eason, Colmant & Winterowd, 2009). This study sought to research the physiological, psychological and spiritual effects of sweat practices and applied principles of counseling using a randomised design. Participants were informed they would be taking part in a six week group counseling experience to facilitate personal and interpersonal growth and to help participants become more effective in dealing with daily stressors. Six groups of six to eight participants were assigned to either a sweat or non-sweat group. As with the earlier study, doctoral students were trained in Yalom's interpersonal theory of group psychotherapy and reviewed the Sweat Therapy Treatment Manual, developed by Winterowd, Colmant and Eason in 2005. Results indicated, as with the Colmant and Merta (2005) study, that participants in the sweat condition perceived a greater availability of therapeutic factors, especially for group cohesion and interpersonal learning, and had better attendance, less attrition and reported sessions to be more useful. Although one aim of this study was to investigate the spiritual effects of sweat therapy, it does not appear from the journal article to have been reported.

**Psychological wellbeing.** Wagemakers, Schiff and Moore (2006) piloted a study that measured the impact of the sweat practice on the physical, mental, emotional and spiritual domains of 42 participants, using pre and post testing. These authors propose that the transformational component of sweat practice brings people closer together and they feel more connected to each other, irrespective of cultural differences. The study also found participants felt more positive about the world being a safe place after the sweat practice than before. The results of this research are specific to the group surveyed.

In an unpublished dissertation Stewart (2006) completed a qualitative study of ten experienced sweat lodge attendees from Spirit of the Earth Medicine Society (SOTEMS). Five open-ended questions were designed to enable interviewees' latitude to discuss whatever seemed relevant to them in regards to the sweat lodge experience. This dissertation indicated several psychological components could be identified and understood in the context of the overall sweat lodge experience. The eight themes identified were: spirituality, ordeal, social, altered state, usefulness, positive emotional affect, cleansing and importance. Also noted was that spiritual connection and unity added meaning and purpose to the participants' life. Table 3 below describes the eight themes in detail. The most frequently recurring theme in spirituality was one of connection to something greater than oneself, whereas ordeal was frequently said to evoke emotional reactions and altered states of consciousness described as profound stillness, awareness, calm and peace (Stewart, 2006).

Table 3

Description of eight themes of an Australian sweat lodge study

<b>Theme</b>	<b>Description</b>
<b>Spirituality</b>	Spirituality refers to deity, God, spirit beings and higher states of 'self', which is said to be experienced as real. Distinct from mythology or altered states of consciousness, which are not perceived as supra normal or religious.
<b>Ordeal</b>	Ordeal refers to anything that is associated with physical or emotional discomfort.
<b>Social</b>	Social refers to group activity, community or interaction with other people.
<b>Altered Stated</b>	Refers to a state that is still, quiet, expanded, centred, focused or receptive. Can also mean hallucinations, visions, voices, spontaneous answers, symbols or meditative experiences. Not expressed as paranormal, spiritual or religious.
<b>Usefulness</b>	Beneficial in distinct ways such as healing, generating inner strength, offering solutions to problems outside the Lodge, and resources or tools that can be accessed outside the ceremony.
<b>Positive Emotional Affect</b>	Refers to letting go, stress release, pursuing of negative

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	emotions, releasing old traumas or emotional baggage. A calming, cathartic effect may be mentioned.
<b>Cleansing</b>	Refers to the cleansing of the physical body through sweating. This can be termed as detox, cleansing, purging, cleaning, purifying or removing impurities.
<b>Importance</b>	Sincerity or intent; this is not the same as holy or spiritual, though these categories can overlap. Importance relates to prior preparation, value, significance, thinking of the ceremony beforehand and taking the ceremony seriously.

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Stewart (2006) claims the meaning attributed to various aspects of the sweat environment directly affect the experience and possibly the degree derived from the encounter. He claims that the spiritual connection experienced by participants, the perceived importance of the ceremony, and the usefulness in ones life outside the ceremonial context add new information to the body of knowledge about sweat practices.

The importance of a ritual or spiritual framework for sweat practice is highlighted by Stewart (2006). However, this research is limited due to the small sample size. It can't be generalised to a wider population and is criticised for the assumption that only 'experienced' sweaters are able to gain benefits from sweating and are able to describe meaningful experiences. Despite these limitations, the research does provide valuable information for a more extensive mixed design study.

**Jail based treatments.** Gossard, Barton, Foster, Etsitty, Lonetree and Leonard (2003) completed a comprehensive review of sweat practice as a modality for jail-based drug and alcohol treatments. This study found that although there were few areas where data was statistically significant, several drinking measures changed in a positive direction. Similarly, Edwards (2002) believes traditional practices have therapeutic value in drug and alcohol recovery programs. This study sought to

understand the perspective of native Americans in the treatment program, finding twelve different themes. These were: feeling cared for, spiritual experience, insight, making a commitment, empowerment/self esteem, releasing emotional pain, remorse, reconnecting to traditional values, forgiveness, relief, safety and gratitude. Two models of recovery emerged from the research findings: the Trauma-Resolution Model and the Self-Esteem Model. The results suggest that substance abuse treatment that includes a traditional element provides a necessary spiritual foundation to enable some native American clients to heal their soul wound, their childhood traumas and their addiction to drug and alcohol. Similarly, Williams (2009) suggests that counsellors should recognise the positive contribution of traditional healing practices.

In an unpublished dissertation, Brault (2005) applied a qualitative approach to investigate the use of sweat lodge by ten native American men incarcerated at a medium-maximum security prison. She found “participation in sweat lodge ceremony is the central strategy by which these men create and maintain a sense of community and communal belonging within the prison system. It provides these men with avenues for engaging in shared values, practices and ideologies that seem to encourage personal healing, communal healing and identity formation and/or reformation” (Brault, 2005, p.46).

Brault tempers her findings, advising that healing and transformation are not inevitable results of sweat lodge participation. Rather she purports the results are dependent on personal attitudes and dispositions as well as the relative health and wellbeing of the community. Ceremonial participation is part of the process of learning about and experiencing one’s self, one’s world and one’s relationship. “It is the means by which one is integrated into community life, the starting point for establishing the relatedness necessary for belonging and identity in both being and action, the process

whereby self and community merge” (Brault, 2005, p. 110). The research involved a relatively small sample and results cannot be generalised to the wider population or situations. Despite this, the richness and sociological/theological perspective made for interesting reading.

**Experiential accounts.** Writing about his experience of sweat ceremony in 1976, Andrew Weil suggested a reason why intense heat, as experienced in sweat practices, does not cause pain. He claims there is a psychophysical state in which powerful sensations that would normally be perceived as painful and cause bodily damage do not hurt and instead cause ‘highs’. The greatest obstacle to this experience is fear of the heat. However, the presence of someone who has experienced the state and is not afraid of the heat can facilitate the experience for others. He argues concentration is required and the mind needs to be focused. Finally, the euphoric state begins during the period of intense heat and reaches a maximum after the ceremony ends (Weil, 1976). Another example of the sweat lodge experience was written by Jon Magnuson in 1982

‘I hear gasps for breath. Inside, deep within me, I feel the grip of fear. I want to run. A sudden, desperate urge rises to escape. I steady myself. More steam. Thinking I will faint, my mind cries out, “When will this be over? What excuse can I find for getting out of here?” Familiar habits, techniques for dealing with fear of being trapped, don’t work now. The senses are bombarded with intensity. My nostrils and eyes, my mouth and ears, are filled with steam and heat. I feel the moisture dripping from my body’ (Magnuson, 1982, p. 594).

**Altered states of consciousness (ASC).** Hibbard (2007) interviewed 30 experienced non-native participants of the native American sweat lodge ceremony and

found they interpreted their experiences as trustworthy interactions with a spiritual reality, did not seriously consider alternative explanations for their experiences and neglected to reflect critically on the sweat lodge ceremony per se as a spiritual practice. According to Hibbard (2007) sweat practice is physically damaging and is a potentially powerful spiritual technology that can be used for multiple purposes (not all good) with uncertain outcomes. He also states "there is no doubt that the majority of participants take their sweat lodge practice very seriously and incorporate the worldview of their traditions which, it seems, helps them stabilise spiritual consciousness (whether prerational or transrational), live a spiritual life, and at least influence, if not transform, the world around them accordingly" (Hibbard, 2007, p. 28). Hibbard appears to have a value laden perspective and his premise that lack of critical appraisal by non native American participants may also be applicable to native American participants, which is culturally disrespectful. Of interest is the premise that the number of years sweating does not increase transpersonal experiences. Hibbard posits there is no apparent developmental sequence, which suggests that the sweat lodge practice lacks transpersonal transformative power and hence authenticity.

This research is contrasted to Polito, Langdom and Brown (2010) who took a more objective stance. They investigated the paranormal beliefs and alexithymia (a personality trait) in determining the intensity and quality of an altered state of consciousness experienced in sweat lodge ceremony using the 'APZ' questionnaire, a standardised measure of ASC. Pre and post testing found 55 Australian participants of a sweat lodge ceremony endorsed paranormal beliefs compatible with shamanism with those showing difficulty identifying feelings scoring higher on positive dimensions of ASC experience. Shamanism is a 'chameleon-like phenomenon' (Vitebsky, 1995, p. 154) that seeks to unite areas such as religion, psychology, medicine and theology.

Shamanism is about healing and maintaining community. It is psychological and at the same time sociological (Vitebsky, 1995).

Participants reported greater experiences of "oceanic boundlessness" and "visionary restructualisation", while experiences of "anxious ego dissolution" were relatively uncommon at baseline and remained so after participation. Oceanic boundlessness refers to positive aspects of ego-dissolution (heightened mood, general feelings of wellbeing, ineffability etc). Anxious ego-dissolution refers to negative experiences related to derealisation (thought disorder, loss of self-control, paranoid thoughts, anxiety etc). Lastly, visionary restructualisation accounts for sensory illusions, an altered sense of meaning, synaesthesias and ideas of reference (perceptual distortions, body image change, hallucinations and altered sense of significance of objects and environment). This study found a greater tendency for individuals with prototypical/universal paranormal beliefs to interpret sensory changes as positive experiences of "oceanic boundlessness". These authors found sweat practice encourages a calm, meditative state in which many individuals feel detached from their body or personal identity. They found pre-existing unusual beliefs and affective biases can themselves influence the degree of occurrence and /or the characterisation of anomalous (ASC) experiences.

## **Summary**

There appears to be a growing interest by psychologists in the study of religion. Religion and spirituality are not mutually exclusive, nor does one imply the other. Overall, the literature supports the contention that religio-spirituality is associated with enhanced wellbeing on a variety of measures such as coping, life satisfaction and psychological wellbeing. Spirituality research is complex; therefore a research

approach that acknowledges the benefits of ideographic and nomothetic research is desirable. The richness of individual religious experience and feeling can be valued, coupled with collecting reproducible data. It is proposed that the bio-psycho-social model of health could be expanded to include a distinct spiritual element.

Ceremony and ritual contribute to religious and spiritual life because they enable participants to create conditions for religious experience, to foster perceived relationship with spiritual powers and to experience new revelations of the sacred. They offer perspectives from which life can be understood, processed and dealt with. They provide tools for managing experiences, defining problems and needs, increasing one's sense of control and personal responsibility.

Throughout history and cross culturally, the practice of sweating for physical, emotional, mental, spiritual and community benefit is evident. Limited studies have examined the therapeutic benefits or otherwise of sweat practice (in particular native American sweat lodge or Finnish *Sauna*). Predominantly, the research has focused on drug and alcohol interventions, adventure and group based therapies and sweat therapy for native American inmates. A theoretical model for sweat rituals was proposed by Eason et. al., (2009). Stewart (2006) found themes of spirituality, ordeal, social, altered state, usefulness, positive emotional effect, cleansing and importance in an Australian study. Politico et. al., (2010), again with an Australian study, was more interested in altered states of consciousness, pre-existing beliefs and affective factors, as was Hibbard (2007).

Sweat ceremony is a ritual that can be viewed as a religio-spiritual practice, a social activity or as an individual practice. An explanation of the physical, spiritual, practical and ceremonial aspects of the SOTEMS sweat ceremony has been provided.

Central to this ceremonial practice is the cultivation of virtues (moral qualities) that provide a map and compass both for the sweat ceremony and more broadly for life in general. According to the SOTEMS spiritual belief system, the basic formulae for living are the cultivation of these virtues: purpose and direction, courage and determination, healing and humility and wisdom and guidance. Participants are encouraged to pray for personal and community healing. Although sweat ceremony is culturally viewed as a spiritual ritual, there has been little research that has investigated sweating and spirituality. While there appears to be evidence that the ceremony is an ordeal and encourages the development of coping, there is little research that identifies what type of coping, or if it is of a spiritual nature. In addition, although there appears to be evidence of the psychological benefits of sweating, there is little information to describe what type of psychological wellbeing. Therefore, research that seeks to provide further knowledge and understanding of coping, psychological wellbeing, spirituality and sweat ceremony is required.

### **Research Aims**

This research will explore religious coping, psychological wellbeing and spirituality for sweat participants compared to non-sweat participants. Four key aims guide the study.

- Are there differences in religious coping, psychological well-being and spirituality between sweaters and non-sweaters?
- Do sweaters report ‘sweating’ to be a spiritual activity?
- Are experienced sweaters more spiritual than less experienced sweaters?
- What is the phenomenological experience of sweaters in relation to coping, psychological wellbeing and spirituality?

The current research was of mixed design to gain the benefits of both subjective and objective data. To aid reading, the methods section has been presented in two sections - The Survey and The Interviews.

## **Survey Method**

### **Participants**

SOTEMS has been offering sweat ceremony in Australia for over twenty years. The research sought to recruit sweat participants of SOTEMS sweat ceremony from across Australia. Non-sweat participants were known associates of the researcher who did not sweat, or other members of the public who heard of the survey via known associates of the researcher. In total, 108 participants completed the online survey.

### **Design**

An empirical method was selected because it minimises bias, results are more easily generalised to the wider population and a hypothesis can be tested. Demographic questions sought to determine participant profile and sweat participants' religio-spirituality, frequency and number of years of participation in sweat ceremony (refer to appendix A). A between groups and within groups analysis measured differences in coping, religio-spirituality and psychological wellbeing between sweaters and non-sweaters. Ryff's (1995) Psychological Wellbeing Scale operationalised psychological wellbeing. Hatch, Burg, Naberhaus and Hellmich's (1998) Spiritual Involvement and Beliefs scale operationalised spirituality. Pargament's Religious Coping Scale operationalised religious coping. The above scales operationalised the dependent

variable and participation in sweat ceremony (*yes* or *no*) operationalised the independent variable.

Based on the focus of the study five open ended questions were selected for inclusion in the online survey.

## **Materials**

Three scales operationalised the dependent variables.

### **Religious Coping Scale — rationale, validity, reliability and scale**

**description.** Translating religious coping concepts into operational equivalents has proven difficult (Spilka et al., 2003). However, the Religious Coping scale was chosen because it measures the strength and direction of religion's influence on coping in traumatic or stressful events. The scale is oriented towards Christian faith participants because it uses words such as God, Clergy and Church. Therefore, the following opening statement was inserted into the survey:

*"Where appropriate, please replace God or Church with whichever spiritual or religious tradition or framework that is relevant to you for example, Creator, Spirit, Synagogue, nature, Brahma, Mosque etc."*

Each item in the 17 subscales (105 items total) measures the extent to which the subject endorses that type of religious coping "*how much or how frequently.*" Items are designed for a 4 point Likert scale rating, ranging from 0 "*not at all*" to 3 "*a great deal.*" The scales can measure positive and negative coping. Responses to negatively scored items are reversed in the final scoring procedure. The Religious Coping scale has been validated in both a college sample ( $n=540$ ) and a hospitalized elderly sample ( $n=551$ ). Ten graduate psychology students sorting the items to the appropriate

subscale, with near 100% agreement on each item determined content validity. Internal consistency was reported as moderate to high ( $\alpha = .61-.94$ ) with only two factors below  $\alpha = .80$  (Pargament, 2007).

All seventeen distinct scales describing different types of religious coping together with a typical question are shown in Appendix B. Table 4 below describes two negative and two positive religious coping scales and representative questions.

Table 4

Representative examples of negative and positive religious coping scales

<b>Negative Religious Coping</b>	<b>Definition and representative item</b>
Punishing God Reappraisal	Refining the stressor as a punishment from God for the individual's sins for example <i>'wondered what I did for God to punish me'</i>
Spiritual Discontent	Expressing confusion and dissatisfaction with God's relationship to the individual in the stressful situation for example <i>'wondered if God really cares'</i>
<b>Positive Religious Coping</b>	<b>Definition and representative item</b>
Spiritual Connection	Experiencing a sense of connectedness with forces that transcend for example <i>'thought about how my life is part of a larger spiritual force'</i>
Religious Direction/Conversion	Looking to religion for finding a new direction for living or a radical change in life for example <i>'looking to God for a new direction in life'</i>

#### **Psychological Wellbeing Scale - rationale, validity, reliability and scale**

**description.** The Psychological Well-being scale developed by Ryff (1989) is an 84 item scale of psychological well-being measuring dimensions of Autonomy, Environmental Mastery, Personal Growth, Positive Relations with Others, Purpose in Life, and Self-acceptance. The Psychological Wellbeing scale was chosen because it assesses an individual's level of positive functioning and well-being (van Dierendonck & Mohan, 2006).

Items from the separate scales are mixed by taking one item from each scale successively into one continuous self-report instrument. Responses to negatively scored items are reversed in the final scoring procedure so that high scores indicate high self-ratings on the dimension assessed. Reliability for the 14 item scale (nine item scale was used in the current research) are Autonomy  $\alpha=.83$ , Environmental Masters  $\alpha=.86$ , Personal Growth  $\alpha=.85$ , Positive Relations Others  $\alpha=.88$ , Purpose Life  $\alpha=.88$  and Self-acceptance  $\alpha=.91$ . The nine item scale was used in the current study and is used reliably in the Wisconsin Longitudinal Study (Ryff, 1989).

In the present study Coefficient alphas were satisfactory (Autonomy  $\alpha=.73$ ; Environmental Masters  $\alpha=.82$ ; Personal Growth  $\alpha=.69$ ; Positive Relations Others  $\alpha=.82$ ; Purpose Life  $\alpha=.74$  and Self-acceptance  $\alpha=.85$ ).

Six distinct scales measure different types of psychological wellbeing and representative questions are shown in Appendix C. An example of a scale is Personal Growth. High scorers report feelings of continuing development, sees the self as growing and expanding, is open to new experiences, has a sense of realising his or her potential, sees improvement in self and behaviour over time, is changing in ways that reflect more self knowledge and effectiveness. A low scorer has a sense of personal stagnation, lacks a sense of improvement over time, feels bored and uninterested in life, and feels unable to develop new attitudes or behaviours. A representative question in the negative is *'I don't want to try new ways of doing things - my life is fine the way it is'*.

**Spiritual Involvement and Beliefs Scale - rationale, validity, reliability and scale description.** The Spiritual Involvement and Beliefs scale developed by Hatch et. al., (1998) was designed to be widely applicable across religious traditions to assess

actions as well as beliefs. It was selected because it uses ‘generic’ wording whenever possible to avoid as much cultural and religious bias as possible. The SIBS is able to discriminate between individuals who are strongly spiritual and those who are less so. Participants are asked to indicate how much they agree with each statement (strongly agree, agree, neutral, disagree or strongly disagree). Questions are presented as 26 items in a modified Likert-type format. The scale is reliable ( $\alpha=.92$ ), has good test-retest ( $\alpha=.92$ ) stability and has convergent construct reliability compared to the Spiritual Well-Being Scale ( $\alpha=.80$ ).

In the present research coefficient alphas were satisfactory for External Ritual ( $\alpha =.81$ ) and Internal Fluid ( $\alpha =.71$ ) and unsatisfactory for Existential Meditative ( $\alpha =.32$ ) and Humility Personal Application ( $\alpha = .26$ ). This means the later two scales are not particularly reliable and the results should be interpreted with caution.

Items on this scale measure four variables to capture important aspects of religious experience. The variables assess both behavioural aspects (prayer and attendance) and subjective aspects (religiousness and spirituality) of religion, as well as private expressions of religiousness (prayer and spirituality) and expressions of religiousness associated with specific faith communities (attendance and religiousness). The scale is described in detail in Table 5 below.

Table 5

Spiritual Involvement and Beliefs scale and representative question

<b>Scale</b>	<b>Description</b>	<b>Representative Question</b>
External/Ritual	Address spiritual activities/rituals or were consistent with the belief in an external power	For example ‘A spiritual force influences the events in my life’
Internal/Fluid	Refers to evolving beliefs and many items that focus on internal beliefs and growth	For example ‘My spiritual beliefs continue to evolve’

Existential/Meditative	The awareness of interconnectedness in daily life is measured by the existential/meditative subscale and includes items dealing with meditation and transcendent dimensions.	For example 'I can find meaning in times of hardship'
Humility/Personal Application	The humility/personal application dimension addresses the positive potential in all aspects of life for the application of spiritual principles in daily life.	For example 'When I wrong someone, I make an effort to apologise'

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## Procedure

A one page flyer with an invitation to participate in the survey was sent to subscribers of the SOTEMS public events email list. Paper based flyers were handed out to sweat participants at sweat ceremony sites in Western Australia and Victoria. The one page flyer contained a link to the electronic, on line survey. Participants logged onto the Online survey via a Uniform Resource Location (URL) address supplied by Survey Monkey, read the explanatory and consent statement and then commenced the survey proper. Survey Monkey provided instructions on how to complete the on line survey.

The same one page flyer was sent via electronic mail (email) to known associates of the researcher. Non-sweaters also logged onto the survey using the URL address contained in the electronic flyer and completed the same survey.

**Preliminary analysis.** Data was downloaded from Survey Monkey into SPSS 18 for cleaning and analysis. Preliminary analyses were conducted to survey the suitability of the data for further analyses. From a total pool of 108 cases, 14 were deleted due to a high proportion of missing responses. Subsequent analysis of the data revealed there were no variables with more than 5% of the responses missing to individual questions. Thus, missing items were coded as missing rather than being replaced by the mean (Tabachnick & Fidell, 2007). In the sweat group, there was one

case each in the Psychological Wellbeing and Spiritual Involvement and Beliefs scale that were more than three standard deviations below the mean. When these variables were removed, there was little change to the results. Box Plots are shown in Appendix I and J. Where variables were negatively skewed, Welch's t-test was used in case there was a problem with unequal variances and it was decided not to transform the data given the disadvantages as outlined by Tabachnick and Fidell (2007).

**Statistical analysis.** With 69 sweaters and 25 non-sweaters, there were sufficient cases to conduct descriptive analysis, t-tests, correlation and a simple regression.

## **Interview Method**

### **Participants**

Sweat participants were recruited via SOTEMS public email list and home page using a one page invitation flyer with a link to the online survey. Paper based flyers were handed out to sweat participants at sweat ceremony sites in Western Australia and Victoria. The online survey and one page flyer invited participants to contact the researcher by mobile or email if they wanted to participate in a one hour interview. Six participants contacted the researcher and completed an interview. Experienced (five years or more) and less experienced (one year or less) sweat participants were interviewed. Participants resided in Melbourne, Australia and there was a mix of SOTEMS sweat members and non SOTEMS sweat members. One person from Western Australia contacted the researcher to participate but was excluded due to location.

## **Design**

An Interpretative Phenomenological research design was adopted so that flexible, open-ended enquiry could enable an interpretation of the lived experience of sweat participants (Shaw, 2001). Fourteen open-ended and two closed questions were developed to explore sweat participants subjective experience of sweat ceremony. Response sets were analysed by developing a coding list as recommended by Richards (2009).

## **Materials**

Participants were asked the same demographic questions as online participants and were provided with an explanatory statement and consent form. Interviews were taped with a digital recorder and transcribed.

### **Coping, psychological wellbeing and spirituality question formation.**

Key questions were formulated to address the research aim. From an initial pool of 24 questions, 14 questions were selected (refer to Appendix E for question description and rationale).

## **Procedure**

Interviews were held at a mutually convenient location and time in Melbourne, Australia. Participants were provided with the explanatory statement and consent form, which were signed and returned to the researcher. Participants were reminded they could withdraw consent up to signing and returning the transcript. Interviews were audio taped and an electronic transcript sent to participants for verification and authorisation. Minor changes by two participants were made to the transcript.

**Coding response set.** For ease of analysis, responses to the five on-line questions (55 participants) and 14 face-to-face interview questions (6 interviewees) were combined to make a continuous response set for 61 participants. Significant statements were selected for coding and summing. Notations were made on the response set to identify emerging key words to represent themes. A coding system was then developed whereby key words were coded to themes. A copy of the coding system is attached as Appendix F.

Themes with responses of ten responses or less were excluded, making ten themes (altered state of consciousness, connection, focus, cleansing, coping, healing, self development, ordeal, emotional affect and transformation) in total. Refer to Appendix G for key words for each theme. The themes were summed to determine frequency of response. Participants were coded as P (interviewee) or S (online participant).

A second coding of the response record resulted in 27 theme item deletions and 111 additional theme items added to the total number of responses. The themes were further analysed to determine the spread of theme responses across different participants and are shown in Appendix G. An example of how responses were coded is shown in Appendix H.

The unique experience of sweat participants was important to the present study therefore quotations have been used whenever possible. Quotations were de-identified and coded. For example S3510 would indicate on line survey participant (S) number (35) response (10).

## **Ethical Aspects**

Permission to undertake this research was provided by Monash University Ethics Committee. Permission to contact SOTEMS sweat ceremony participants was provided by the Chairperson of SOTEMS. Interviewed participants were provided with ethics and confidentiality forms, and were asked to read and sign the forms. The on-line survey included an explanatory statement and consent was assumed by completion of the survey. The Chairperson of SOTEMS provided permission to use quotes from the SOTEMS Training Manual.

## Results

### Sweat and Non-Sweat Participants

In total, 108 participants completed the online survey. Of these, 14 cases were removed because they were incomplete leaving 94 completed responses to the online survey. Participants ranged in age from 22 years to 75 years ( $M=46.69$ ). Twenty-nine males (30.9%) and 65 females (69.1%) completed the survey. Participants self selected into a sweat or non-sweat group. A description of their demographic data is shown in Table 6 below. A high proportion of participants were very educated (60.6%), employed full or part time (71.3%), in some form of relationship (55.3%) and were born in Australia (77%).

Table 6  
Demographic profile of participants

<b>Relationship Status</b>	<b>%</b>	<b>Education Attainment</b>	<b>%</b>	<b>Employment Status</b>	<b>%</b>
Single	34	Post Graduate	23.4	Full time	40.4
Married	33	Tertiary	37.2	Part time	30.9
De facto	22.3	TAFE	17	Studying	4.3
Widowed	3.2	Secondary	14.9	Unemployed	6.4
Other	7.4	Primary	1.1	Not seeking employment or other	18.1

Participants were asked about religio-spiritual beliefs and practices with responses shown in Table 7 on the following page.

Table 7

Percentage of responses to religious identification and strength of religiosity/spirituality

<b>Religious Identification</b>	<b>%</b>	<b>Strength of Religiosity/spirituality</b>	<b>%</b>
No religious group	38.9	Very deeply	26.6
Christian	21.1	Strongly	27.7
Buddhist/Confucian	4.4	Moderately	31.9
Pagan/Earth based	17.8	Somewhat	11.7
Atheist	5.6	Not at all	2.1
Other	12.2		

A high proportion of participants reported they were very deeply or strongly religious or spiritual 54.3% and just fewer than forty percent reported they did not identify with a religious group.

Sixty-nine (73.4%) participants reported they had participated in a sweat ceremony. The remaining 25 participants (26.6%) reported no experience of sweat practice.

**Survey sweat participants.** Participants were asked if they have previously or currently participate in sweat ceremony with Spirit of the Earth Medicine Society (SOTEMS). Sixty-two (89.9%) of participants responded ‘yes’ and seven (10.1%) participants responded ‘no’. Of the 10.1% of participants who indicated ‘no’, all had participated in a type of sweat lodge ceremony (for example, traditional, women’s, or with another sweat ceremony group) rather than a sauna or some other kind of sweat bath.

Sweat participants reported they had been participating in sweat ceremonies from one year or less to a maximum of 20 years ( $M=7$  years). A third of participants reported sweating provides a sense of belonging to a spiritual or religious organisation

or group. Table 8 shows 'sense of belonging' across a range of variables by participants.

Table 8

Sense of belonging reported by sweat participants

<b>Sense of Belonging</b>	<b>%</b>
Belonging to a spiritual/religious organisation or group	30.4
Belonging to a community group, not necessarily of a spiritual/religious nature	14.5
Accessing a community service, with no real sense of group belonging	5.8
Other please describe	18.8
Belonging to a spiritual/religious organisation or group and a community group	15.9
Combinations of spiritual/religious organisation or group, community group and accessing a community service	14.5

How often participants sweat was reported as weekly (17.4%), fortnightly (17.4%) or monthly (21.7%), once every two to three months (8.7%), once every six months (8.7%) or once a year (7.2%). Thirteen percent of participants had participated in one sweat only.

**Interview sweat participants.** The age range of the six sweat interviewees was 33 to 64 years, with a mean age of 45.5 years (SD =11.46). Four females and two males were interviewed with three reporting they were married and three as single; four were members of SOTEMS; two had sweated for 5 years or more, three for 3 to 5 years and one for 1 year or less.

## **The Survey**

### **Differences in religious coping between sweaters and non-sweaters.**

Standard t-tests were calculated to determine if there were any differences in religious coping between sweaters and non-sweaters. Significant differences for negative religious coping between sweaters and non-sweaters were found for Punishing God

Reappraisal ( $F= 4.66$  (92)  $p=.05$ ) and Spiritual Discontent ( $F= 5.61$  (90)  $p= .04$ ). On average sweaters tended to report more punishment from God for the individual's sins in the stressful situation, than non-sweaters. On average, sweaters reported less spiritual discontent, or less confusion or dissatisfaction with God's relationship to the individual in the stressful situation, than non-sweaters.

Significant differences for positive religious coping between sweaters and non-sweaters were found for Religious Direction/Conversion ( $F=.30$  (90)  $p= .01$ ) and Spiritual Connection ( $F= .02$  (90)  $p= .00$ ). On average, sweaters reported more connectedness with forces that transcend and tended to look to religion for finding a new direction for living or for a radical change in life, than non-sweaters.

No significant differences were found in the remaining thirteen different types of religious coping between sweaters and non-sweaters. Sweaters and non-sweaters, on average, reported similar levels for these different types of religious coping. Means and standard deviations are shown in Table 9 below.

Table 9

Religious coping means and standard deviations for sweaters and non-sweaters

	Sweat Group		Non-Sweat Group		p
	M	SD	M	SD	
Benevolent Religious Reappraisal/Spiritual Support	13.98	6.47	11.00	7.02	.06
Punishing God Reappraisal	1.20	2.71	.44	1.04	.05
Demonic Reappraisal	.19	.79	.20	.50	.95
Reappraisal of God's Power	3.00	2.87	3.80	2.85	.24
Collaborative/Low Self Direction Religious Coping	11.01	4.18	10.40	5.32	.60
Active Religious Surrender	7.40	4.25	6.64	5.07	.47
Passive Religious Deferral	1.13	1.98	.76	1.69	.41
Pleading for direct intercession	2.50	2.72	2.88	2.42	.53
Religious Focus	3.12	2.74	3.00	2.85	.81
Religious Purification/Forgiveness	8.94	6.06	8.52	8.0	.81
Spiritual Connection	5.85	2.37	3.64	2.41	.00
Spiritual Discontent	1.52	2.99	.64	1.25	.04
Marking Religious Boundaries	3.51	2.59	4.40	2.48	.14
Seeking Support from Clergy/Members	3.03	3.19	2.96	4.52	.94
Religious Helping	9.34	4.87	7.6	4.05	.11
Interpersonal Religious Discontent	1.94	3.36	1.12	1.74	.13
Religious Direction/conversion	12.03	8.03	7.20	7.49	.01

#### Differences in psychological wellbeing between sweaters and non-

**sweaters.** Standard t-tests were calculated to determine differences in psychological wellbeing between sweaters and non-sweaters. Significant differences in psychological wellbeing between sweaters and non-sweaters were found for Personal Growth ( $F=.988$  (83)  $p=.028$ ) and Purpose in Life ( $F=.736$  (83)  $p=.037$ ). On average, sweaters tended to report more Personal Growth (has a feeling of continuing development, sees self as growing and expanding) and less Purpose in Life (feels there is meaning to present and past life, has aims and objectives for living) than non-sweaters. There was no significant difference between sweaters and non-sweaters for Autonomy, Environmental Mastery,

Positive Relations with Others or Self Acceptance. Sweaters and non-sweaters, on average, reported similar levels of these different types of psychological wellbeing. Means and standard deviations are shown in Table 10 below.

Table 10

Psychological Wellbeing means and standard deviations for sweaters and non-sweaters

	Sweat Group		Non-Sweat Group		p
	M	SD	M	SD	
Autonomy	42.28	5.97	40.27	7.47	.22
Environmental Mastery	38.28	7.93	42.14	8.76	.06
Personal Growth	47.44	5.32	44.36	6.25	.03
Positive Relations with Others	41.65	7.42	44.45	9.81	.17
Purpose in Life	40.16	6.71	43.91	8.29	.04
Self Acceptance	40.06	8.32	41.27	10.22	.58

**Differences in spiritual involvement and beliefs between sweaters and**

**non-sweaters.** Standard t-tests were calculated to determine if there were any differences in spiritual involvement and beliefs between sweaters and non-sweaters.

Significant differences in spiritual involvement and beliefs between sweaters and non-sweaters were found for Internal/fluid ( $F=2.758$  (80)  $p=.00$ ), External/ritual ( $F=2.376$  (82)  $p=.00$ ) and Existential/meditative ( $F=.252$  (80)  $p=.00$ ). On average, sweaters tended to report more External Ritual (spiritual activities, or were consistent with the belief in an external power), Internal Fluid (has evolving beliefs and focus on internal beliefs and growth) and Existential Meditative (awareness of the interconnectedness in daily life) than non-sweaters. There was no significant difference in Humility/Personal Application between sweaters and non-sweaters. Sweaters and non-sweaters reported a similar level of Humility/Personal Application. Means and standard deviations are shown in Table 11 below.

Table 11

Spiritual Involvement and Beliefs means and standard deviations for sweaters and non-sweaters

	Sweat Group		Non-Sweat Group		p
	M	SD	M	SD	
External Ritual	48.92	6.45	41.86	8.49	.00
Internal Fluid	45.48	4.83	39.45	6.74	.00
Existential Meditative	23.77	2.79	20.81	3.00	.00
Humility/Personal Application	16.13	2.20	15.73	2.51	.48

### Relationship between spirituality and psychological wellbeing for

**sweaters.** To examine the relationship between spirituality and psychological wellbeing a within group (sweat participant) correlation analysis was conducted and the results are shown in Table 12 below. Whilst correlations across a range of spirituality and psychological wellbeing scales were found, analysis of results focused on relationships between spirituality and psychological wellbeing, where there were group differences (External/Ritual, Internal/Fluid, Existential/Meditative) between sweaters and non-sweaters.

Table 12

Correlation between spirituality and psychological wellbeing for sweaters

	Autonomy	Environmental Mastery	Personal Growth	Positive Relations with Others	Purpose in Life	Self Acceptance
External Ritual	.101	-.071	.430**	.274*	-.005	.110
Internal Fluid	.070	-.014	.445**	.220	.039	.134
Existential Meditative	.293*	-.010	.413**	.296*	.103	.248*
Humility/Personal Application	.183	.214	.393**	.400**	.217	.338**

N=61

\*Correlation is significant at the .05 level (2-tailed)

\*\* Correlation is significant at the .01 level (2-tailed)

There was a positive, moderate strength relationship for External Ritual with Personal Growth and Positive Relations with Others. There was a positive, moderate strength relationship for Internal Fluid with Personal Growth. There was a positive moderate strength relationship for Existential Meditative with Autonomy, Personal Growth and Positive Relations with Others and a positive, weak strength relationship for Existential Meditative with Self Acceptance.

### **Influence of Years on Sweat Experience**

A simple linear regression was calculated to determine if sweaters who were more experienced reported more spirituality than less experienced sweaters. The only religious coping measure where a significant difference was found was for Spiritual Discontent. The more years sweating, the more Spiritual Discontent reported by sweaters ( $\beta = .274, p=.04, R^2 =.07$ ). However, the size of the effect and direction suggests the number of years of sweating contributes marginally to an increase in Spiritual Discontent, rather it was largely due to other unknown influences, for example age, circumstances.

The only spiritual measure where a significant difference was found was for Personal Application/Humility. The more years sweating, the less Personal Application/Humility reported by sweaters ( $\beta = -.307, p=.03, R^2 =.09$ ). However, the size of the effect and direction suggests the number of years of sweating contributes marginally to a decrease in Personal Application/Humility; rather it was due largely to other unknown influences for example age, circumstances.

## The Interviews and On-line Question Responses

**Sweaters experience of sweat ceremony: religious coping, psychological wellbeing and spirituality.** To investigate the subjective experience of sweaters the responses from the on-line responses (55 participants) and interviews (six participants) were combined to make one response set (n=61), which was analysed for themes. Ten themes emerged from the subjective reports (shown in Table 13 below) which fit within a bio-psycho-social-spiritual (BPSS) model of health. More participants reported themes of Emotional affect and Connection (82% and 84% respectively) than any other theme.

Table 13

Number and percentage of responses by participants to a theme

	<i>n</i>	%
Altered State Consciousness	26	43
Connection	50	82
Focus	13	21
Cleansing	16	26
Coping	43	70
Healing	15	25
Self Development	37	61
Ordeal	37	61
Emotional affect	51	84
Transformation	21	34

*N*= 61

**Sweat ceremony themes.** The ten themes were analysed for identification within a BPSS model of health. Some themes overlap in the BPSS model, and along with their definitions, are shown in Table 14 below.

Table 14

Definition of ten themes within a BPSS model of health

<b>Theme</b>	<b>Definition and BPSS model</b>	<b>Sub themes</b>
Connection	BPSS – Social/Psychological/Spiritual Refers to relationship with the self, others or the planet.	Intimacy, Accessing Wisdom
Cleansing	BPSS - Biological Refers to sweating out toxins, feeling clean	
Transformation	BPSS - Spiritual Refers to a sense of spiritual change	
Ordeal	BPSS - Biological/Psychological Refers to the stressful environment both psychologically and physically	Psychological Physical
Coping	BPSS - Psychological/Social Refers to skills or attributes that assist the self to deal with challenges, can refer to social support	Identifying strengths How to deal with problems Looking at problems differently Safe place to explore problems
Healing	BPSS – Psychological/Social Refers to restoring the self to wellness.	
Focus	BPSS - Psychological Refers to concentrating on an issue, problem or theme in the ceremony	Breath Mindfulness Self development Problem Solving
Emotional affect	BPSS - Psychological Refers to the expression of emotions, mental health	Release or express emotions Mental health
Self Development	BPSS - Psychological Refers to knowing the self and developing skills, attributes.	
Altered State Consciousness	BPSS - Spiritual Refers to spiritual or transpersonal experiences	Ecstatic states Extrasensory perception Energetic states

Representative quotes to describe the ten themes are provided below.

**Connection.** Sweat participants identified that sweat ceremony is about connection to self, community, spirit and ecology. It is a place to express this connection as evidenced by: “It really felt like it was aspects of self coming into union: the cognitive or intellectual aspects of myself merging more and more with emotional and ‘spiritual’ aspects of myself” (P0510) and “a connection with everyone who was in that lodge with me and the sense of being....and supporting each other through that process” (P0212).

A sense of *ecological connection* is highlighted by “It reminds me of my relationship to the earth...the connectedness to all things, not just people, all things...there was that sense of that deep connection to the earth mother” (P0410). *Spiritual connection* is expressed as “it keeps me connected to Spirit and connected to my own soul” (P0409).

**Cleansing.** Others reported the theme of detoxification and cleansing for example, “it’s like a detox” (P0106) and “cleansed and invigorated” (S5403) or “cleansing ritual for body, mind and soul” (S4102).

**Transformation.** For others there was a sense of transformation and change such as “I am able to transform myself, learn and develop even under great physical, emotional and psychological stress” (S2204) and “it... allows the psyche to work with symbols for transformation and healing” (S4502).

**Ordeal.** Two subthemes of ordeal emerged — psychological and physical ordeal.

*Psychological:* “psychologically draining and can be distressing” (S0103) and “it is a ceremony designed to facilitate a range of insights using careful manipulation of the ordeal (heat) upon the physical body” (S5402).

*Physical ordeal:* “I experience physical stress/distress, cramping, body heating, low oxygen, difficulty breathing, profuse sweating” (S5204).

**Coping.** Sweat ceremony participants identified the activity is about coping, for example “a ceremony where you experience an internal journey to discover new aspects of yourself and how to experience new ways of coping” (S0802). Four subthemes of coping emerged: identifying strengths, how to deal with problems, looking at problems differently and a safe place to explore problems.

*Identifying strengths:* “it definitely helps me to cope. I first attended the sweat lodge after my latest psychosis and when I was in the throes of depression. Attending the lodge provided rare moments in my week when I felt sane. In my wellness plan I have included attending the sweat lodge as a key to remaining balanced. Meeting people there has also been invaluable as I have made close connections that has brought spirituality into my life more” (S2001) and “I guess that sitting in the fire, I’m reminded the words come, to be still and dignified, at times where there is a crisis, when there is a crisis around... bringing that into the everyday world...” (P0419).

*How to deal with problems:* “I was shown what I needed to do to attend to (problems) in my everyday life... the depression would get better, and so my whole interest in life would improve” (P0637)

*Looking at problems differently:* “sometimes in my busy life I reach an automatic frenzy, and sweat lodge is one technology that gets me out of the mundane, shakes me and helps me regain perspective about what I truly value. More than helping me cope; sweat lodge actually removes my need to 'cope'. It invites me to flourish” (S0601).

*Safe place to explore problems:* “It also becomes a place where I can find sanctuary. A place where I can learn to cope with things in my life” (S0901) and “I can take anything to sweat and work through it” (S5001).

**Healing.** Healing emerged as a theme, as exemplified by “it is an ordeal which 'triggers' a range of responses resulting in a healing outcome” (S4502) and “I felt that I was being healed, I was connected to others, connected to life and that I was sort of really in the flow of what my life was about” (P0635).

“Emotions always come close to the surface as this is a safe place for them to be heard and healed” (S1702) and “opportunity to begin again, healing hurt or gain clarification” (S5003).

**Focus.** Four subthemes of Focus emerged including breath, mindfulness, self development and problem solving.

*Breath:* “in order to survive, I have to focus on every breath, and so every breath felt like a full universe” (P0511) and “I become very aware of my breath... becoming more aware of where I am at physically” (P0307).

*Mindfulness:* “it brings me very close to myself, my inner self, it actually draws my attention inward... allows me to focus through the body” (P0304).

*Self development:* “I focus on the most pressing issues in my life and explore the many facets of my problems without avoidance, as much as possible” (S0603).

*Problem solving:* “bringing a problem in my life to the fore in a sweat lodge helps me to focus and give clarity to the issue at hand” (S4701).

**Emotional affect.** Two subthemes of Emotional affect emerged: releasing or expressing emotions, and mental health.

*Release or expressing emotions:* “alleviates negative feelings” (S3001), “emotional release, particularly of stuck emotions” (S2503), “a sense of peace and fulfilment” (S3004), “a sense of strength” (S3104), “I felt very happy and content emotionally” (S4603) and it’s “like an uplifting psychological experience” (P0608) and “makes you feel love for yourself and others” (S0401) and “positive, grateful for life” (S3405).

*Mental health:* “it helps me so much with my emotions; it seems to level out the emotional highs and lows so that I stay mentally healthy. It has helped my depression so much; I cope without antidepressant medications now” (S0501).

**Self development.** Two subthemes of Self Development emerged: intimacy and accessing wisdom.

*Intimacy:* “I was really becoming more intimate with my own self, caring and kind and compassionate to myself in the movement of the sweat lodge” (P0606).

*Accessing wisdom:* “I find myself holding a different perspective, seeing deeper into things, having access to a greater wisdom part of myself, and choosing to behave differently... being more willing to confront the difficulties of life, and work through things” (S5207) and “going into the depths of the earth, in the darkness, with intense heat, naked, covered in drying mud and sweating — a primal experience on what is important in the moment — an opportunity for profound self-awareness” (S3302).

**Altered state of consciousness (ASC).** Some participants reported sweat ceremony produced an Altered State of Consciousness, for example, “it is a

nondenominational meditative practice which allows you to access another state of consciousness” (S2602). Three subthemes of Altered State of Consciousness emerged and included ecstatic states, extrasensory perception and energetic states.

*Ecstatic states:* “I recall very vividly leaving the sweat lodge and coming back into that breath of the open air at night and lying on the Earth and feeling the whole Earth pulsating through me and I mean the exquisite ecstasy... like a spiritual orgasm, it was incredible... like the earth and I were merged as one and we were moving together... exquisitely sensual... I just allowed myself to surrender to this and it was unlike anything I have ever experienced before... in this particular way... so unusual... each time I’ve expected that it would be different and it has been” (P0522).

*Extrasensory perception:* ‘hallucinations’ (S3703) or ‘visions’ (S5205) and “I saw the wings of... kinds of eagles... around me and it was quite extraordinary emotionally” (P0520).

*Energetic states* “deep altered state and third eye/crown chakra opening spiritual-profound!” (S4503) and “I felt energetically that it had altered me at a core essence level” (P0209).

### **Reports of Adverse Experiences of Sweat Ceremony**

There were a variety of responses to the question concerning adverse experience of sweat ceremony as indicated by “I haven’t had a bad experience in a sweat, no” (P0123) and “I don’t think that any of the effects of a sweat are adverse or bad. I think they are all very pertinent and relevant. I’ve had extremely difficult sweats where I have left and I hadn’t anticipated the sweat being like that and I’ve said to the person who was facilitating at the end if I had known that, that was involved, I wouldn’t have gone in there ‘or jokingly’, I’m never going to take part in one of these again” (P0221).

However, others reported an adverse or bad experience. These adverse experiences are sub-themed as *competition and bravado*, *poor focusing* and adverse *physical* outcome.

**Competition and bravado.** A representative example is “I have participated in two sweats — the first was a beautifully conducted spiritual ceremony, the story at the beginning helped with setting the tone for the journey we were about to embark upon and then although I felt emotional and nervous, once the chanting began and the rhythm changed I felt that I could go on and I felt uplifted and the sense of the community and then a sense of merging with something greater than myself. I stopped going to sweats after the second experience — which I felt was to become a contest of physical endurance and competition of how hot the beads could get — I was afraid for my survival and felt no sense of connection with the facilitator and no sense of community or even any spiritual ritual — the only thing I felt as the sweat was being begun (sic) was that we would need bravado to endure this test of endurance — I left the tent at the earliest opportunity and was and remain very glad to have done so” (S1801).

**Poor focusing.** Some sweat ceremony participants reported that poor focusing contributed to an adverse outcome such as “I knew before the end of the first round it was going to be a difficult sweat. It was very hot. I was very uncomfortable and I just wanted it to finish and the more I wanted it to finish the longer it went on for and the more people voiced (sic) and so by the end of the sweat I was so relieved to get out and I actually felt that my body was still simmering for 2 days afterwards” (P0220).

**Adverse physical outcomes.** Adverse physical outcomes are indicated by comments such as “experienced severe migraines post sweat regardless of

interventions” (S2403) and “I’ve had a little burning from the sweat, I don’t know why I get burnt and nobody else does” (P0104). The importance of preparation is highlighted by the following participant “It was obvious I was just suffering from some sort of heat exhaustion, most likely which started earlier in the day and the sweat just exacerbated it” (P0645).

### **What is Missing from Sweat Ceremony**

Sweat ceremony participants were asked if there was anything missing from sweat ceremony, with most responding they did not have any expectations, as exemplified by “I don’t really expect anything before I go into the sweat. It’s a place of heart in there and so what I’ve noticed is that everybody that’s in the sweat is there with an open heart and being their true selves, you can’t expect more than that really” (P0122) or “I am not going in with any expectation... of how things should be or what I should end up walking out of the ceremony with” (P0318) and “I cannot remember any specific expectations, perhaps because it was unlike anything I had experienced before and it superseded any expectations I believe I may have had” (P0527).

However, others reported there was something missing, or expectations were not met when there was no shift or altered state of consciousness, if the sweat was not hot enough or there was a lack of cultural connection and expression.

For example, *no experience of an ASC* is represented by “I probably had a preconception before doing a sweat that I would be accessing my subconscious... perhaps with visions to support that... people have also spoken about very deep journeys that they go on during the sweat, whereas I find... I am very conscious during the sweat” (P0219). *Not enough heat or ordeal* is represented by “If the heat is not there, I can feel that something hasn’t worked in the ceremony” (P0319) and a *lack of*

*cultural expression* is represented by “I never grew up around sweat lodges and so I was left to read historical or cultural accounts typically from the native Americans and one aspect of that was that the sweats seemed to be heavily imbued with custom and ritual prior to entering the sweat lodge... I do feel that there is one thing that would be better, would be probably... something like of a social type of context” (P0643).

Several participants indicated that sweat ceremony did not help them to cope, or to develop coping skills (S5301, S3701 and S0101) and “it varies, sometimes it is profound on many levels, sometimes it is a chore and I wonder if it was a waste of time and energy, sometimes it is subtle, I don't know what has shifted but something has, other times it is a journey with an issue” (S4903).

## **Discussion**

This research used a quantitative method to investigate unique differences between participants and non participants of sweat ceremony across different measures of religious coping, psychological wellbeing and spirituality. The relationship between measures of psychological wellbeing and spirituality for the sweat group was investigated.

The research investigated if sweat participants reported sweating to be a spiritual activity and if years of sweating influenced religious coping and spirituality. The phenomenological experience of sweat participants was investigated using a qualitative method.

### **Sweat Participants Understanding of Sweat Ceremony**

Sweat participants identified that sweat ceremony is an opportunity to connect with others at a personal, social and spiritual level, and, in an ecological sense, to the planet and nature. They also identified sweat ceremony is about an arduous journey of personal discovery and growth. The ordeal strips away the distractions of everyday living so that focus and mindfulness about the issue, concern or theme in the ceremony can be fully and completely felt, explored and/or expressed. The physical sensation of sweating creates a general feeling of cleansing (detox). Many participants reported an understanding that the ceremony is cross cultural and has a historical context, yet remains relevant in contemporary society.

Based on the results of the present study, the following definition for sweat ceremony is proposed:

“Sweat ceremony connects an individual to a personal and lived experience of the self, to his or her community, environment and spirituality. It is a practice whereby a physical and psychological ordeal alters the participant’s awareness. This altered awareness transforms, cleanses and heals, enabling the expression of emotional affect, personal growth and self-efficacy.”

Similar themes and results have been found in previous studies (Brault, 2005; Colmant & Merta, 1999; Colmant, 2010; Eason et al., 2009; Edwards, 2002; Polito et al., 2010; Stewart, 2006; Wagemakers Schiff, 2006). What is different in the present research is that sweat participants identified themes of connection to the planet, ecology or the universe compared to previous studies.

### **Years of Sweating**

Years of sweating had little or no influence on measures of religious coping or spirituality. Sweaters who had sweated for more years reported some spiritual discontent. The role of social support and social connection has been highlighted in previous sweat research (Brault, 2005; Colmant & Merta, 2009, Colmant, 2010; Edwards, 2002; Eason et al., 2009; Stewart, 2006) and the literature review. Therefore, although participants report spiritual discontent, they continue to participate in sweat practice. This indicates sweat practice continues to be useful socially, spiritually, psychologically or for physical health benefits. Otherwise, they would cease the practice. What may be happening is that more experienced sweaters appear to be sweating less (as represented by less Personal Application/Humility after many years of practice) and this may be linked to spiritual discontent. A casual relationship is not proposed.

## **Religious Coping, Psychological Wellbeing, Spirituality and Sweat Ceremony**

The primary research aim was to investigate if there were differences between sweaters and non-sweaters for measures of religious coping, psychological wellbeing and spirituality.

**Religious coping.** The research measured seventeen different types of negative and positive religious coping, finding only four differences between sweaters and non-sweaters. Sweaters more than non-sweaters reported negative religious coping defining the stressor as Punishment from God for sins, but from a spiritual perspective were less confused about the stressful situation (Spiritual Discontent). Sweaters also tended to report more Spiritual Connection and Religious Direction/conversion, than non-sweaters. They report more positive religious coping by looking to religio-spiritual activities for direction and connection. The theme of coping was evident in subjective reports. Participants report sweat ceremony assists them to identify personal strengths, how to cope with problems, to look at problems differently and to explore problems in a safe, non threatening environment. The ordeal of the ceremony exposes participants to a psychologically and physically demanding environment. Therefore the ability to focus becomes very important, so that the participant isn't overwhelmed by the experience. Mindfulness, breath and concentration are featured.

In the present study, sweaters reported less Spiritual Discontent, or less confusion and dissatisfaction with God's relationship to the individual in the stressful situation and more Punishing God reappraisal, or redefining the stressful situation as punishment from God for sins than non-sweaters. For some, sweat ceremony may be perceived as a punishing experience and the spiritual nature of the ceremony may lead participants to define the stress of the ceremony as punishment for sins. Some caution

should be exercised. The survey did not ask the participants to answer the question in relation to the sweat experience, rather in relation to a stressful or negative life experience/event. Therefore, participants may not be referring to the sweat ceremony as the stressful life experience when completing the survey.

These results replicate previous research that have also identified coping strategies such as concentration and focus (Weil, 1976), self regulation and interpersonal elements (Eason et. al., 2009) and making a commitment (Edwards, 2002).

**Psychological wellbeing.** The research measured six different types of psychological wellbeing, finding only two significant differences between sweaters and non-sweaters. Sweaters more than non-sweaters tended to report more Personal Growth and less Purpose in Life than non-sweaters. Religio-spiritual practices are often claimed to provide a sense of purpose to participants (Spilka, 2003, Stewart, 2006). This theme was not evident in subjective accounts, and non-sweaters reported more Purpose in Life than sweaters. This is despite the SOTEMS ceremony (represented by East - vision, purpose, direction) has a key focus on the virtue of purpose. However, sweat participants did report more Religious Conversion/Direction, or looking to religion for finding a new direction for living or a radical change in life, than non-sweaters. This suggests sweat practice should not be separated from a spiritual foundation, if the full benefits are to be realised.

Within the sweat group the present research found a significant positive weak to moderate strength relationship between different measures of spirituality with psychological wellbeing. Personal Growth, Self Acceptance, having Positive Relationships with Others and Autonomy relate to participation in sweat ritual and the

expression and exploration of a spiritual dimension. Psychological benefit was evident in themes of connection, ordeal, coping, healing, focus, emotional affect and self development.

A copious amount of research argues for the mostly positive benefits between spirituality and wellbeing (Spilka et., al., 2003). Previous sweat research has also found positive psychological outcomes for sweating such as social (Brault, 2005) psychological wellbeing (Wagemakers-schiff, 2006), interpersonal elements (Eason, et al., 2009), releasing emotional pain and personal healing (Edwards, 2002) and usefulness (Steward, 2006). The results replicate previous studies which have shown the important social element of group based sweat practices with themes such as communal healing (Edwards, 2002), social, usefulness, importance, healing, positive emotional effect, cleansing, ordeal (Stewart, 2006), development of socialising techniques, imitative behaviour, group cohesion and imparting information (Brault, 2005; Colmant & Merta, 1999), shared values and communal healing (Brault, 2005; Edwards, 2002).

**Spirituality.** The research measured four different types of spiritual involvement and beliefs, finding three significant differences between sweaters and non-sweaters. Sweaters tended to report more participation in activities or rituals or held beliefs consistent with an external power, had evolving beliefs and growth and were aware of the interconnectedness in daily life, and turned to religion/spirituality for a new direction for living or a radical change in life, than non-sweaters. These results replicate previous research regarding the spiritual nature of the ceremony such as universality and existential factors (Colmant & Merta, 1999), spiritual experiences and insight (Edwards, 2002) and altered states of consciousness (Polito et al., 2010; Stewart, 2006).

It is the ritualistic element that makes sweat ceremony a spiritual and transpersonal practice. Participants are encouraged to express personal spiritual beliefs in a way that is meaningful to the individual. Mythical stories, developed by SOTEMS, underpin the ritual journey and are linked to ceremonial themes of a psychological, spiritual, emotional, social, community or ecological nature. Research themes of Altered States of Consciousness and Transformation feature. Mystical experiences such as ecstatic states, communication with ancestors and nature, and hallucinations were reported. Thus, many participants report sweat ceremony is a spiritual experience.

It could be argued that the results provide evidence for the Hibbard (2007) proposition that sweat ceremony lacks transpersonal authenticity, because years of sweating had little or no influence on spirituality. What could be happening is a connection between Personal Application/Humility and Spiritual Discontent. More experienced sweaters reported less personal application and more spiritual discontent. However, this does not mean the ceremony lacks transpersonal authenticity, as evidenced by the following comment

“the benefits aren’t always tangible or easily described... that shouldn’t diminish in any way the benefits of experiencing the sweat lodge no matter where a person is at, whether they are beginners or quite experienced” (P0623).

In addition, Hibbard's (2007) premise that the ceremony lacks transpersonal authenticity negates spontaneous transpersonal or mystical experiences, which can propel an individual into a spiritual awakening.

It would be anticipated that the more one sweats, the more one masters the ordeal of the ceremony. However, this does not appear to be the case. Most experienced sweaters report the practice to be an ordeal as much as less experienced sweaters. What

is proposed is the ordeal may be crucial to assist participants to move into an ASC. The ASC, brought on by the ordeal, assists the participant to move into the spiritual world to effect personal change or to enter into relationship with Spirit. After many years of prayer and practice personal application reduces (possibly due to life circumstances or other unknown factors), the ceremony continues to be punishing and spiritual discontent increases, or vice versa. However, the social, spiritual, biological and/or psychological benefits are still present, therefore participants continue with the practice, despite reporting some spiritual discontent. It is emphasised no causal relationship is proposed and more years of sweating contributed only marginally to increasing Spiritual Discontent and decreasing Personal Application/Humility. Further analysis of the data is warranted.

The most significant report by sweat participants is that sweat ceremony connects the individual in a body, mind, social and spiritual sense. What is proposed is that sweat ceremony can be conceptualised as a bio-psycho-social-spiritual (BPSS) model of health within a therapeutic framework. How this occurs will be explained in the next section.

### **Sweat Therapy as a Transpersonal Therapeutic Framework within a BPSS Model of Health**

The following section will explain how the SOTEMS sweat ceremony can be conceptualised as a transpersonal therapeutic framework within a bio-psycho-social-spiritual model of health.

The results of the present research can be combined into a transpersonal therapeutic framework to explain the benefits of sweat ceremony from a BPSS and therapeutic perspective. It is proposed four existential questions underpin many issues

and concerns in a psychotherapy setting. These are 'where am I going', 'who am I', 'who is going with me', and 'how can I know myself'. These same existential questions are embedded within the SOTEMS sweat ceremony, and are conceptualised by the four virtues and elemental rounds (East, North, West, South) described earlier.

Sweat participants explore existential questions within a spiritual environment that alters awareness through sensory deprivation and ordeal. This altered awareness enables new insights and knowledge to emerge regarding a particular issue because the peripheral 'noise' of life is diminished. Participants focus on an issue (which could be positive, negative or neutral) rather than the physical or emotional distress surrounding it. The sweat ceremony becomes a metaphor for the participant's journey through the particular issue.

The research findings (survey and interviews) can be linked to the four existential questions, of the psychotherapy setting, the SOTEMS sweat ceremony format (explained in Table 1) and a BPSS model of health. The linkages are shown in Figure 3 below.

This framework is not dissimilar to the Eason et al., 2009 model, the main difference being that it is conceptualised within a BPSS model of health, with the ceremony providing the contextual and metaphorical element across the entire model. An explanation of the framework is provided in the next section.

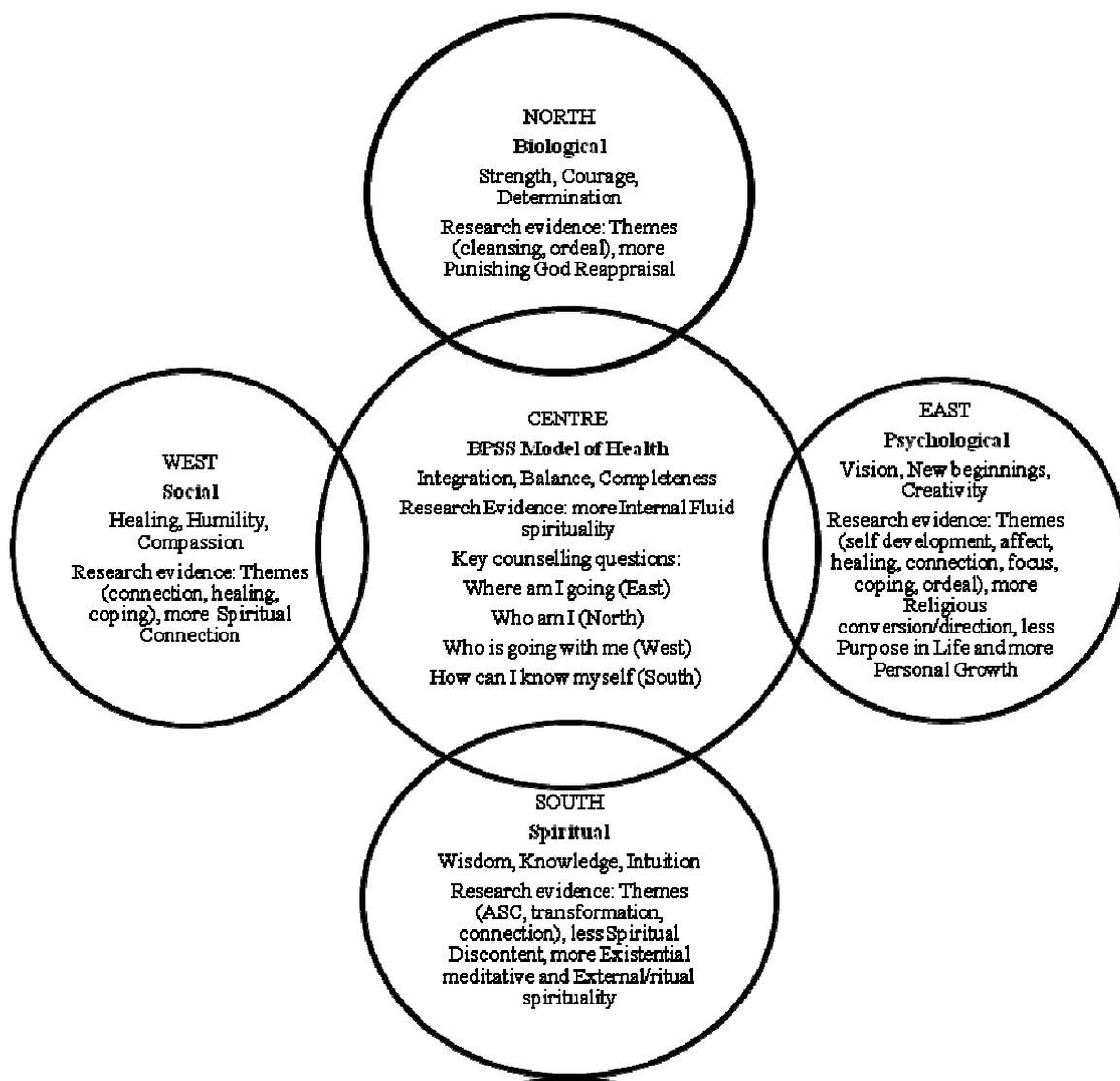


Figure 3 Sweat Ceremony Transpersonal Therapeutic Framework within a BPSS model of health

**East: psychological - vision, new beginnings, creativity.** Therapeutic benefit is gained by participants focusing on a vision of where they are going in their life, both in the present and in the future. In essence, what are the person's hopes, dreams and aspirations? Previous research has shown that an individual who reports more positive religious coping will also, in general, report more wellbeing (Spilka, 2003). This positive religious coping style can assist the individual to know where their life is going, its direction. The psychological component of the BPSS model of health is highlighted and is represented by the themes of focus, healing, connection, emotional

affect, self development, coping, and ordeal. The sweat ceremony, in principle, is very similar to Mindfulness and Acceptance and Commitment Therapies. These therapeutic approaches encourage the individual to focus on the present moment, and to accept whatever is occurring in the moment, including emotions and thoughts.

Interestingly there was no significant difference between sweaters and non-sweaters for Purpose in Life (psychological measure) and there was no correlation between Purpose in Life and any of the four measures of spirituality for the sweat group. However, sweaters did report more Religious Conversion/Direction (positive religious coping). Therefore sweaters report spiritual beliefs support them to find a new direction in life, but it doesn't necessary provide a sense of purpose to their life. Direction is about 'where am I going' whereas purpose is about 'what am I doing'.

Personal Growth correlated with all four measures of spirituality (external ritual, internal fluid, existential meditative, humility personal application) indicating a weak to moderate relationship between these constructs. Sweat ceremony appears to facilitate personal growth within a spiritual context.

**North: biological - strength, courage, determination.** Participants experiencing the physical ordeal of the ceremony, and drawing upon virtues of strength, determination and courage to move into and through difficulties gain therapeutic benefit. Previous research has identified sweat practice increases frustration tolerance and self regulation (Eason et. al., 2009). Colmant (2010) has highlighted the physiological benefits with relaxation, detoxification and exercise. The physical component of the BPSS model of health is highlighted and is represented by the themes of ordeal and cleansing.

There was no significant difference in Environmental Mastery between sweaters and non-sweaters, and Environmental Mastery did not correlate with any measures of spirituality within the sweat group. This indicates both sweaters and non-sweaters report a similar sense of mastery and competence in managing the environment despite reports by sweaters that the ordeal of the ceremony increases coping mechanisms. Therefore, one would have expected a positive correlation between Environmental Mastery and the four measures of spirituality. The spiritual practice does not appear to provide additional benefits for improving a sense of mastery and competence in managing the external environment. Which also makes sense, because sweat ceremony is an ordeal, and sweaters report it is the ordeal of the ceremony, which provides benefit either spirituality, psychological, physically or socially. However, the 'dark side of religion' appears evident with sweaters reporting more Punishing God Reappraisal, than non-sweaters.

**West: social - healing, humility, compassion.** Participants experiencing a sense of spiritual connection gain therapeutic benefit. This includes a connection to the personal, physical, social and ecological dimensions, as evidenced by responses. Everyone experiences the ordeal of the ceremony (dark, enclosed, hot, oxygen deprived environment) and so there is a sense of shared suffering, which reduces alienation and aloneness. Participants “journey alone and yet with fellow travellers” (Locke, 2003).

The social component of the BPSS model of health is highlighted and is represented by the themes of *connection, healing* and *coping*.

Spiritual Connection is a positive religious coping style and has been expressed as connection to self, community and spirituality. Ninety-four percent of sweaters reported a sense of belonging of a community and/or spiritual nature, indicating the

overarching theme of connection permeates the sweat experience. Just over half of the participants (56%) reported they attend sweat ceremony at least monthly. However, possibly, those who completed the survey were the more regular attendees. Positive Relations with Others correlated to three measures of spirituality (external ritual, existential mediative, humility/personal application) highlighting the relationship between the spiritual nature of the ceremony and the social component of sweat ceremony.

**South: spiritual - wisdom, knowledge, intuition.** Participants experiencing the transcendental dimension including altered states of consciousness and mystical experiences gain therapeutic benefit. Transcendental or mystical experiences can uplift emotionally and psychologically, and can assist a person to feel connected to something greater or 'other' such as God or Spirit. Throughout history, sweat ceremony has been a shamanic practice in which an altered state of consciousness is thought to facilitate new insights and understandings and to bring about change in the personal, social and spiritual domains. The ritualistic nature of the ceremony is emphasised (External Ritual spirituality).

The spiritual component of the BPSS model of health is highlighted and is represented by the themes of *altered state of consciousness, connection and transformation*. In addition sweaters reported more spirituality than non-sweaters across three of the four measures of spirituality.

**Centre: BPSS Model of Health - integration, balance, completeness.** The findings of this research, coupled with an explanation of the contextual elements of the SOTEMS sweat ceremony are embedded within the BPSS model of health. This creates a proposed transpersonal therapeutic framework to explain the therapeutic

benefits of sweat ceremony. It is an opportunity for sweat participants to reflect on how to explore key existential questions - where am I going (represented by East, vision), who am I (represented by North, strength), who is going with me (represented by West, connection) and how can I transform myself (represented by South, wisdom). The metaphorical context of the ceremony is a 'map and a compass' (Locke, 2003) for navigating the challenges in life, and in the ceremony.

Participants navigate (move into, through and around) the ceremony physically, psychologically, socially and spiritually reflecting the ritualistic and fluid nature of the ceremony. It engages the whole person at multiple levels, potentially making it a powerful technology for addressing a range of psychological and spiritual concerns. It combines elements of the talking, experiential and mindfulness therapeutic approaches with a spiritual element to create a transpersonal, therapeutic approach. Application of the heat on rocks creates an altered state of awareness. It is a place of transformative energy, interrelationships and cosmic forces, where strong psychological, physical, social and spiritual energies are played out, and a place of profound connection. In the words of van Duerzen-Smith (1988)

"when people rediscover their inner connectedness to something greater than themselves, to some ideal which will lift them beyond their everyday struggles, a new motivation flows inside of them, which can carry them through difficulties with unerring purposefulness" (p. 97).

### **What is Missing and Adverse Effects**

Although, most participants reported satisfaction with their sweat ceremony experience, some dissatisfaction was also reported. These being themed around: if there was no shift or altered state of consciousness, if the sweat was not hot enough and the

lack of cultural expression. Sweat participants may have different definitions of what constitutes an ASC. For instance, one participant may view a relaxed state as an ASC, whereas another may not. The latter may view an ASC as clairaudience or clairvoyance. What is evident though, is that in order to cope with the ordeal of the ceremony, some shift in consciousness occurs. The themes of transformation, focus, coping and ordeal all reflect a shift in varying degrees of an ASC. These themes are in addition to actual ASC experiences identified within the response set, for example, hallucinations. Therefore, the ASC is an important element to the ceremony, and underpins a change process. A change process occurs when the sweat participant moves from feeling uncomfortable, as the heat intensifies, to feeling comfortable because the ASC is entered. Examples of ASC included relaxed state, focused, out of body experience etc.

*Poor focusing* was identified as an adverse effect of sweat ceremony.

Participants have either left the sweat early, or "simmered" for days afterwards because they have become overwhelmed by the heat and ordeal. The psychological and physical ordeal of the ceremony may have been too stressful. Weil (1976) offered an explanation for why the intense heat is tolerated, and along with Hibbard (2007) argues the Ceremonial Leader has an important role in this process. Others however have highlighted the duality of both the Ceremonial Leader and the participants to cope with the ordeal of the ceremony (Colmant & Merta 1999, Colmant, 2010; Eason et al., 2009). The results from the survey and the interviews indicate the duality is more likely because 'connection' emerged as a repeated theme in both the survey and interviews. This premise is supported by previous studies (Brault, 2005; Colmant, 2010; Edwards, 2002; Stewart, 2006), who all argue positively for the important role of social support in sweat ceremony. The Ceremonial Leader sweats and struggles as much as the participants struggle. The participants sweat and struggle together, sharing and listening to each other's struggles, insights and prayers. The role of the Ceremonial

Leader is to assist participants to navigate the ceremony. They provide a focal point for concentration, be it the theme, the mythical story, the contextual or metaphorical elements, or through application of the heat as a change process to induce an ASC.

The proposed relationship between years of sweating, Personal Application/Humility and Spiritual Discontent were discussed earlier indicating a potential adverse outcome for sweat participants. However, no causal relationship is suggested and further analysis of the data is required. Sweaters reported more negative religious coping in the form of Punishing God Reappraisal, or viewing the stressful situation in terms of punishment for sins.

Encouraging participants to focus on their breathing, moving the person closer to the door where there is more oxygen or asking the person to explain the struggle so they can be offered support and an opportunity to process what is happening can all assist to manage adverse effects. In addition, there is no shame in leaving a sweat ceremony. Some sweat ceremonies have an 'intermission' where water is shared or participants leave the structure between rounds. Participants in the SOTEMS sweat ceremony can leave up until the end of third round, with the fourth round traditionally being less hot and with a focus on integrating the entire ceremonial experience.

Appropriate preparation and contextual strategies can assist in managing many adverse effects, as highlighted earlier. Even more important and relevant is appropriate training of sweat Ceremonial Leaders or facilitators. There are no formal regulation standards of sweat ceremony delivery in Australia, nor is there a recognised public training program, although members of SOTEMS can access training delivered by experienced Leaders and there is ongoing monitoring and feedback.

## Conclusion

The present research found unique differences between sweaters and non-sweaters. These unique differences can be linked to the format of the SOTEMS ceremony, which operates in a transpersonal therapeutic framework. The BPSS model assists to conceptualise the health benefits of sweat practice. Key existential questions are explored in the ceremony - who am I, where am I going, who is going with me, and how can I know myself. These same questions are often explored in the counselling room, making the ceremony a therapeutic as well as a spiritual experience.

The exploration of these key questions are guided by a theme provided by the Ceremonial Leader at the commencement of the sweat ceremony. Participants focus on the theme and throughout the ceremony can offer a prayer to share their understanding of the theme, to seek healing for a problem, or to give thanks for the blessings in their life. These prayers are heard and shared with other participants, leading to a sense of connection and shared humanity. Therapeutic benefit ensues from a mind, body, social and spiritual perspective (BPSS model of health). It is a deeply spiritual ceremony, and to view it as merely a self-development or a personal growth technique is diminishing.

The application of heat to rocks, in an enclosed space to induce an ASC is a key element of sweat practice. The ordeal strips away the distractions of everyday living so that focus and mindfulness about the issue, concern or the theme in the ceremony can be fully and completely felt, explored and/or expressed.

The present research found the personal, physical, social and spiritual nature of sweat ceremony has been eloquently described by many participants as connection to community, the personal (psychological, physical) and spirituality. Put simply to

connect means to join, unite or associate (Webster, 1988), and in our modern Western world, for some people, a sense of alienation and aloneness pervades.

The present research found differences in religious coping, psychological well-being and spirituality between sweaters and non-sweaters. Sweat participants reported more Personal Growth (continuing development, sees self as growing and expanding), Spiritual Connection (experiencing a sense of connectedness with forces that transcend), Religious Direction/Conversion (looking to religion for finding a new direction for living or a radical change in life) and Punishing God Reappraisal (redefining the stressor as a punishment from God for the individual's sins) than non-sweaters. Sweat participants reported less Spiritual Discontent (expressing confusion and dissatisfaction with God's relationship to the individual in the stressful situation) than non-sweaters. Sweat participants reported more External/Ritual Spirituality (spiritual activities/rituals), Internal Fluid Spirituality (evolving beliefs) and Existential/Meditative Spirituality (awareness of the interconnectedness in daily life) than non-sweaters.

Within the sweat group, Personal Growth, Self Acceptance, Positive Relationships with Others and Autonomy related to participation in sweat ritual and the expression and exploration of a spiritual dimension. Sweaters report 'sweating' to be a spiritual activity and years of sweating had little or no influence on measures of religious coping or spirituality.

Ten themes emerged: altered state of consciousness, connection, focus, cleansing, coping, healing, self development, ordeal, transformation and emotional affect.

Adverse outcomes (physical, competition and bravado, poor focusing) coupled with negative religious coping (Punishing God Reappraisal) were identified as being less beneficial for sweat participants. Lack of cultural expression and no altered state of consciousness contributed to some participants reporting sweat ceremony lacked or was missing something. Less Personal Application/Humility and more Spiritual Discontent was reported by more experienced sweat participants, in terms of years of practice. However, the effect of years of sweating on these measures was minimal.

The research has found sweat ceremony sits within a transpersonal therapeutic framework and bio-psycho-social-spiritual model of health.

**Limitations.** The present research sought to overcome some of the limitations of previous research. This included a mixed design and recruiting participants from multiple sweat sites across Australia. The majority of sweat participants were from SOTEMS sweat locations, therefore results may not be generalised to other sweat ceremony frameworks. There was a high attrition rate from survey respondents before completing the first scale, which was religious coping. It is suggested the religious coping scale was not appropriate for this population group with its Christian orientation. A more general coping scale is recommended. A larger sample size of non-sweaters would have been preferred. It is proposed that participants that are happy with their sweat experience responded therefore the results may be biased.

However, these are minor limitations and overall, the research supports previous findings and adds to the current body of knowledge regarding the benefits and risks of sweat ceremony.

**Implications and directions for future research.** The implications for future research are substantial. There are few studies of sweat ceremony, with most

focusing on the benefits from a group based, drug and alcohol rehabilitation or prosocial perspective. What is needed is a study that measures the efficacy of sweat ceremony as a transpersonal therapeutic framework for conditions such as depression, anxiety and posttraumatic stress disorder. Further research into its applicability in drug and alcohol rehabilitation is also warranted. Hibbard (2007) has suggested that participants need to question the meaning of any transpersonal experiences, such as visions etc. Results from the present study indicate transpersonal experiences contribute to the sweat experience. However, further research is required to determine the type, frequency and strength of altered states of consciousness experienced by participants, such as conducted by Polito et. al., (2010).

It would be interesting to investigate why sweat participants stop or reduce sweat practice, or become discontent after many years of practice. This could provide valuable information to improve sweat practice outcomes, and to address any concerns.

What has emerged from the research is that sweat ceremony is a traditional practice for a modern world. It connects the individual to a lived experience that is both personal and transpersonal and has therapeutic value. The ceremony can be conceptualised within a bio-psycho-social-spiritual model of health and fits with therapeutic approaches such as cognitive behaviour therapy, mindfulness, experiential and personal centered therapies.

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## Appendices

### Appendix A Demographic Questions

Appendix A shows the demographic questions

Question	Rationale
Have you ever participated in a sweat lodge ceremony? Yes/No	To enable between group comparisons (sweaters to non-sweaters)
If yes, how many years have you been going to sweat lodge ceremony?	To enable within group comparisons (sweaters)
Approximately, how many 'sweats' have you participated in?	To enable within group comparisons (sweaters)
a. 1 to 20	
b. 21 to 40	
c. 41 to 60	
d. 61 to 80	
e. 81 to 100	
f. 101 to 120	
h. 121 or more	
i. None	
Approximately, how often do you participate in sweat lodge ceremony?	To enable within group comparisons (sweaters)
a. Weekly	
b. Fortnightly	
c. Monthly	
d. One every two to three months	
e. One every six months	
f. One a year	
g. I've only been to one sweat, and don't plan to go again	
h. I have never participated in a sweat lodge ceremony	

Do you consider participating in sweat lodge ceremony gives you a sense of?

To enable within group comparisons (sweaters)

- a. Belonging to a spiritual/religious organisation or group
- b. Belonging to a community group, not necessarily of a spiritual/religious nature
- c. Accessing a community service, with no real sense of group belonging
- d. Other, please describe
- e. None of the above

Are you a member of Spirit of the Earth Medicine Society (SOTEMS)? Yes/No

To enable within group comparisons (sweaters)

What is your age?

Your relationship status?

- a. Single
- b. Married
- c. Defacto
- d. Widowed

Were you born in Australia?

Yes/No

What is your gender?

Female/Male

What is your highest level of education?

Year 12 or below

Advanced Certificate

Diploma

Degree

Masters or higher

Would you describe yourself as?

studying full/part time

part time work

full time work

home duties or primary carer

looking for work or for study (unemployed/not studying)

5. Do you see yourself as? (select one) To enable between group comparisons (sweaters to non-sweaters)

5.1 Christian

5.2 Hindu

5.3 Jewish

5.4 Muslim

5.5 Buddhist/Confucian

5.6 Pagan or Earth Based

5.7 Atheist

5.8 No religious group

5.9 Other

6. Do you consider yourself to be To enable between group comparisons (sweaters to non-sweaters)

6.1 Not at all religious or spiritual

6.2 Somewhat religious or spiritual

6.3 Moderately religious or spiritual

6.4 Strongly religious or spiritual

6.5 Very deeply religious or spiritual

## Appendix B Religious Coping Scale Description and Representative Question

Appendix B shows the religious coping scales with representative item question.

RCope1	Benevolent Religious Reappraisal/Spiritual Support—redefining the stressor through religion as benevolent and potentially beneficial for example <i>'tried to see how the situation could be beneficial spiritually.'</i>
RCope2	Punishing God Reappraisal—redefining the stressor as a punishment from God for the individual's sins for example <i>'wondered what I did for God to punish me.'</i>
RCope3	Demonic Reappraisal—redefining the stressor as the act of the Devil for example <i>'wondered if the devil had anything to do with this situation.'</i>
RCope4	Reappraisal of God's Power—redefining God's power to influence the stressful situation for example <i>'realized that God cannot answer all of my prayers.'</i>
RCope5	Collaborative/Low Self-Direction Religious Coping—seeking control through a partnership with God in problem solving for example <i>'worked together with God to relieve my worries.'</i>
RCope6	Active Religious Surrender—an active giving up of control to God in coping for example <i>'turned the situation over to God after doing all that I could.'</i>
RCope7	Passive Religious Deferral—passive waiting for God to control the situation for example <i>'didn't try to do much; just assumed God would handle it.'</i>
RCope8	Pleading for direct Intercession—seeking control indirectly by pleading to God for a miracle or divine intercession for example <i>'bargained with God to make things better.'</i>
RCope9	Religious Focus—engaging in religious activities to shift the focus from the stressor for example <i>'prayed to get my mind off of my problems.'</i>
RCope10	Religious Purification/Forgiveness—searching for spiritual cleansing and peace through religious actions for example <i>'tried to be less sinful.'</i>
RCope11	Spiritual Connection—experiencing a sense of connectedness with forces that transcend for example <i>'thought about how my life is part of a larger spiritual force.'</i>
Rcope12	Spiritual Discontent—expressing confusion and dissatisfaction with God's relationship to the individual in the stressful situation for example <i>'wondered if God really cares.'</i>
RCope13	Marking Religious Boundaries—clearly demarcating acceptable from unacceptable religious behavior and remaining within religious boundaries for example <i>'stuck to the teachings and practices of my religion.'</i>
RCope14	Seeking Support from Clergy/Members—searching for comfort and reassurance through the love and care of congregation members and clergy for

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example *'looked for love and concern from members of my church.'*

RCope15 Religious Helping—attempting to provide spiritual support and comfort to others for example *'tried to comfort others through prayer.'*

RCope16 Interpersonal Religious Discontent—expressing confusion and dissatisfaction with the relationship of clergy or members to the individual in the stressful situation for example *'felt dissatisfaction with the clergy.'*

RCope17 Religious Direction/conversion—looking to religion for finding a new direction for living or a radical change in life for example *'looked to God for a new direction in life.'*

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## Appendix C Psychological Wellbeing Scale Description and Representative

### Question

Appendix C shows the psychological wellbeing scale with representative item question.

Scale	Description	Representative Question
PWB1 Autonomy	<p>High Scorer: Is self determining and independent, able to resist social pressures to think and act in certain ways, regulates behaviour from within, evaluates self by personal standards</p> <p>Low Scorer: Is concerned about the expectations and evaluations of others, relies on judgments of others to make important decisions, conforms to social pressures to think and act in certain ways</p>	<p>For example ‘My decisions are not usually influenced by what everyone else is doing’</p>
PWB2 Environmental Mastery	<p>High scorer: has a sense of mastery and competence in managing the environment, controls complex array of external activities, makes effective use of surrounding opportunities, able to choose or create contexts suitable to personal needs and values</p> <p>Low scorer: has difficulty managing everyday affairs, feels unable to change or improve surrounding context, is unaware of surrounding opportunities, lacks a sense of control over external world</p>	<p>For example ‘I am quite good at managing the many responsibilities of my daily life’</p>
PWB3 Personal Growth	<p>High scorer: has a feeling of continuing development, sees self as growing and expanding, is open to new experiences, has sense of realising his or her potential, sees improvement in self and behaviour over time, is changing in ways that reflect more self knowledge and effectiveness</p> <p>Low scorer: has a sense of personal stagnation, lacks sense of improvement or expansion over time, feels bored and uninterested in life, feels unable to develop new attitudes or behaviours</p>	<p>For example, a negative response would be ‘I don’t want to try new ways of doing things – my life is fine the way it is’</p>
PWB4 Positive Relations with	<p>High scorer: has warm satisfying, trusting relationships with others, is concerned about the welfare of others, capable of strong empathy, affection and intimacy, understands</p>	<p>For example ‘People would describe me as a giving person, willing</p>

Others	<p>give and take of human relations</p> <p>Low scorer: has few close, trusting relationships with others, finds it difficult to be warm, open and concerned about others, is isolated and frustrated in interpersonal relationships, not willing to make compromise to sustain important tie others</p>	to share my time with others'
PWB5 Purpose in Life	<p>High scorer: has goals in life and a sense of directedness, feels there is meaning to present and past life, holds beliefs that give life purpose, has aims and objectives for living</p> <p>Low scorer: lacks a sense of meaning in life, has few goals or aims, lacks sense of direction, does not see purpose of past life, has no outlook or beliefs that give life meaning</p>	<p>For example</p> <p>'I am an active person in carrying out the plans I set for myself'</p>
PWB6 Self Acceptance	<p>High scorer: possesses a positive attitude toward the self, acknowledges and accepts multiple aspects of self including good and bad qualities, feels positive about past life</p> <p>Low scorer: feels dissatisfied with self, is disappointed with what has occurred in past life, is troubled about certain personal qualities, wishes to be different than what he or she is</p>	<p>For example</p> <p>'I like most aspects of my personality'</p>

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## Appendix D Spiritual Involvement and Beliefs Description and Representative

### Questions

Appendix D shows the spiritual involvement and beliefs scale with representative item question

Scale	Description	Representative Question
SIBS1 External/Ritual	Address spiritual activities/rituals or were consistent with the belief in an external power	For example 'A spiritual force influences the events in my life'
SIBS2 Internal/Fluid	Refers to evolving beliefs and many items that focus on internal beliefs and growth	For example 'My spiritual beliefs continue to evolve'
SIBS3 Existential/Meditative	The awareness of interconnectedness in daily life is measured by the existential/meditative subscale and includes items dealing with meditation and transcendent dimensions.	For example 'I can find meaning in times of hardship'
SIBS4 Humility/Personal Application	The humility/personal application dimension addresses the positive potential in all aspects of life for the application of spiritual principles in daily life.	For example 'When I wrong someone, I make an effort to apologise'

## Appendix E Question List and Rationale for Question Formation for Sweat Group

Appendix E below describes the questions and rationale used in the present study. In addition, online survey participants were invited to respond to five open ended questions, identified with an asterix (\*).

Question	Rationale for use
Understanding of sweat ceremony	
How did you become involved in sweat ceremony?	To explore how participants heard about sweat ceremony in Australia
*What is your understanding of sweat ceremony? Please describe?	To explore participants subjective understanding of what sweat ceremony is about
Direct experience of sweat ceremony	
*Describe your experience of sweat ceremony. What happens for you (physical, psychological, emotional, and spiritual)?	To explore participants subjective experience of sweat ceremony with a focus on physical, psychological, emotional and spiritual.
What don't you gain from sweat ceremony that you perhaps would like, or were expecting?	To explore what sweat ceremony does not provide to participants
What keeps you participating at sweat ceremony?	To explore participants subjective experience of why they continue to participate in sweat ceremony
Have you ever had an adverse or bad experience from sweat ceremony?	To explore any adverse or bad experiences of the participants
If you could describe the main benefits of sweat ceremony, what would they be?	To explore participants reasons for participating in sweat ceremony
*What have you learnt about yourself by participating in sweat ceremony? For example?	To explore what benefits are gained by participating in sweat ceremony
Does sweat ceremony give meaning to your life? If so how?	To explore the relationship between sweat ceremony participation
To what extent does sweat ceremony provide you with a source of strength and comfort? In which ways?	To explore if participants report sweat ceremony has a positive influence
Coping and Sweat Ceremony	
Has sweat ceremony helped you to cope	To determine if participants had used the

with a life crisis or negative event? If yes, how?	sweat experience to assist with a life crisis or negative event
*Is your experience of sweat ceremony applicable to everyday life? If yes, in what way?	To explore if participants use the experience of sweat ceremony in everyday life
*Does participating in sweat ceremony help you to cope, if yes, how?	To explore if participants believe sweat ceremony provides them with coping skills

Belongingness, Spirituality and Sweat Ceremony

Do you feel you are a member of a religious or spiritual community?	To determine participants subjective understanding of group membership or otherwise
If yes, to what extent, does the sweat community help you to cope?	To explore if the sweat community, rather than the sweat ceremony helps him or her to cope
Which do you think is more beneficial for you	To explore participants view of sweat ceremony
Participating in a sweat community	
Sweating as spiritual practice	
Both equally	
Do you see sweat ceremony as a spiritual practice?	

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## Appendix F Coded Word List for Theme

Appendix F shows the types of word that were coded to a specific theme

### ORDEAL

obstacles	discomfort	difficulties	ordeal	heat	overwhelming
anxiety	nausea	migraines	demanding	darkness	uncomfortable
stressful	low oxygen	sweating	cramping	intense energies	crowded
going to die	challenges	fear	struggle		
exertion	hardship	confronting	ordeal-		
distressing	body relaxed	shielded heat			

### COPE

supports	cope	resources	manage challenges	stability	move through challenges
sustains me	tackle things differently	sit with it	work through	cope-	not react always
how adversity	relax in stress	stay with	regain perspective	even keel	handle difficulties
self reliance	don't sweat small stuff	spiritual commitment	resilience	clarity	draw from
neg feelings-	self regulate	focused	tolerant	let go	difficulties handled
easier	flow of life	problem solve	patience	endurance	surrendering
get through	still dignified	effortless	sit with	not alone	virtues
judgment-	navigation tool	on top of things	heard	altered perspective	detached problem
embrace aspects					

## SELF DEVELOPMENT

path inwards	Personal discovery	going inwards	discover new aspects	travel to truth
enlightenment	learn	clarification	awareness	development
examine	sort out	reflection	reminds	deep inside self
inner world	ideas	what to do	personal growth	review
guide	search	self awareness	understanding	improve self
deeper	inner world	intimate	self awareness	who I want to be
centre	finding way			

## CLEANSING

Detox purification

## HEALING

Heal Healing

## EMOTIONAL AFFECT

gratitude	honour	love	understanding	meaning	purpose
nurtured	self worth	enjoyed	strength	trust	wellbeing
compassionate	calm	uplifting	liberating	emotions	uplifted
clear thoughts	centered	energised	life flowing	feel better	relaxing
heard and witnessed	held safe	compassion	empathy	heavy load-	containment
flourish	sanctuary	thrive	empowerment	resilient	lifted higher
release	joy	sincerity	embraced	invigorated	still mind
exhilarated	affirmed	balanced	enjoyable	endurance	tolerant
valued	accepted	lossgrief-	flow (life)	richer	better my experience
benefits	appreciation				



### ALTERED STATE CONSCIOUSNESS

visions	ASC	euphoric	difficult explain
don't feel heat	not in sweat	states being	observing self
see things	merging	hear ancestors	memory of experience-
no separation	ecstasy	hallucinations	inner spaciousness
	aware	ascension	awakening
Focus	strip away distraction	attend to	breath

### TRANSFORMATION

death and birth	inner growth	transformation	rebirth	born	came up
let go	depleted to energised	release	shifted	morphed	change process
transmuted	move through	changes response			
adaptability	movement	process			

### CONNECTION

connect	contact	access	lostness-	home	
external exp	unity	grounded	oneness	at one	in tune
not alone	closer	same search	relating	shared	merged
	not lost	internal exp	draw on	interaction	close to

For example the Theme 'Ordeal' has the following key words from the response data set. *'Obstacles, discomfort, ordeal, heat, overwhelming, anxiety, nausea, migraines, demanding, darkness, uncomfortable, stressful, low oxygen, sweating, cramping, intense energies, crowded, going to die, challenges, fear, struggle, exertion, hardship, confronting, ordeal-, distressing, body relaxed, shielded heat, heat, darkness'*

### Appendix G Number of Theme Responses by Participants

Appendix G shows the number of theme responses by participants. An asterix indicates participant P01 reported that theme eg (ASC, connection, cleansing, healing, self development, ordeal, emotional affect, transformation)

Participant	ASC	Connect	Focus	Cleanse	Cope	Heal	Self Develop	Ordeal	Emotional affect	Transform
P01	*	*		*	*	*	*	*	*	*
P02	*	*	*	*	*	*	*	*	*	*
P03		*	*		*	*	*	*	*	
P04		*	*		*		*	*	*	
P05	*	*	*		*		*	*	*	*
P06	*	*	*		*	*	*	*	*	*
S01							*	*		*
S02		*						*	*	*
S03	*	*			*			*	*	
S04	*	*				*			*	*
S05	*	*		*	*			*	*	
S06	*		*		*	*	*	*		*
S07	*	*			*			*	*	
S08		*			*		*		*	*





## Appendix H Example of Response Set Coding

Appendix H shows coding system

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I feel connected to other people would be coded as Connection

The heat is overwhelming would be coded Ordeal

It cleanses me would be coded as Cleansing

I feel new, reborn would be coded as Transformation

I feel connected to other people, to myself, to mother earth and to Spirit would be coded as Connection

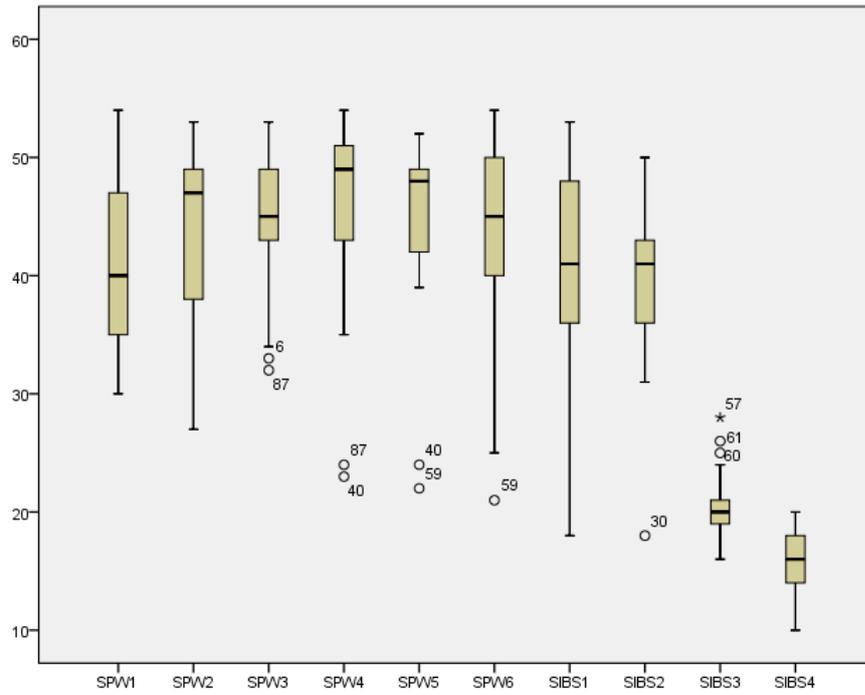
It's the beginning of a path inward would be coded Self Development

Releasing issues deep down or when not processing something just feeling self love and know we are all connected would be coded as Connection, Emotional affect and Healing

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## Appendix I Box Plots for Non-Sweat group Spiritual Involvement and Beliefs and Psychological Wellbeing

Appendix I shows the skewness for spiritual involvement and beliefs (non-sweat group)



## Appendix J Box Plots for Sweat Group for Spiritual Involvement and Beliefs and Psychological Wellbeing

Appendix J shows the skewness for spiritual involvement and beliefs for the sweat group.

