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AFRICAN WORKPLACE SPIRITUALITY IN SOUTH AFRICAN MINES

Thesis presented for the Degree of

DOCTOR OF PHILOSOPHY

In the Graduate School of Business

UNIVERSITY OF CAPE TOWN

By

Thabo Cecil Makgoba

MKGTHA011

August 2009

DECLARATION

I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.

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DEDICATION

I dedicate this thesis to all the spinal cord-injured mineworkers following underground or surface mine accidents.

University of Cape Town

African Workplace Spirituality in South African Mines

An Empirical Study of Workplace Spirituality in South African Mines

Thabo Cecil Makgoba, Graduate School of Business, University of Cape Town

Presented for the Degree of Doctor of Philosophy, August 2008

ABSTRACT

This research explores the role of spirituality in an African mining context with specific reference to spinal cord-injured mine workers. In this study, spinal cord-injured, black male South African workers were interviewed using a specifically constructed questionnaire. Their responses were analysed in conjunction with the perspectives of the mine managers, medical team members, indigenous healers, pastoral care workers and mine-managing directors (MDs) or owners. These perspectives were gathered by way of face-to-face interviews using specifically constructed questionnaires. However, some managing directors and medical specialists completed the questionnaire and sent it by post or fax.

Many researchers have investigated the role of “workplace spirituality” with the aim of generating research data that would firmly entrench this construct as vital in the workplace. There are however, only a few that has investigated spirituality in the mining workplace. None has looked at the workplace spirituality of pastoral care workers. In this study, both are investigated, and a framework of workplace spirituality (WPS) is proposed, wherein the variables that may constitute workplace spirituality in this context are investigated.

This framework (WPS) was used as a foundation to develop structured and semi-structured questionnaires, with which interviews were conducted with miners, mine managers, medical team members, indigenous healers, pastoral care workers and mine managing directors (MDs) or owners in various settings. In total, 224 miners were interviewed over a period of three years, and 45 pastoral care workers, 10 indigenous healers, 20 mine managers, 20 medical and allied professionals, and 12 mining CEOs/directors/owners were additionally interviewed.

The variables that the researcher proposed to constitute the WPS framework were the following:

- Spirituality at the workplace as connected with personal identity (CPI)
- Spirituality at the workplace as connected with safety and well-being (WS)
- Spirituality at the workplace as connected with physical well-being (CPW)
- Spirituality at the workplace as connected with relationship to community-Ubuntu (CC)
- Spirituality at the workplace as connected with God (religion) (CG)
- Spirituality at the workplace as connected with meaning (locality and salience) (CM)

Using the SPSS statistical package, and the qualitative analysis software tool *Atlas ti*, the research data was analysed both quantitatively and qualitatively. The quantitative results suggested that there is a positive relationship between the dependent variable, workplace spirituality, in relation to the following independent variables: workplace safety (weak but positive relationship), God (strong and positive relationship), salience (strong and positive relationship), community (strong and positive relationship), personal identity (moderate and positive relationship), meaning (weak and positive relationship), and physical well-being (strong and positive relationship). These results were further supported by the qualitative analysis.

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CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION: RESEARCH FOCUS AND MOTIVATION

The researcher's experience as a clinician in a mine rehabilitation hospital spans a six-year period. It is the concomitant daily exposure to spinal cord-injured black miners that precipitated an interest in the repercussions to the injured. The experience perplexed the researcher, causing him to reflect more deeply on spirituality in the workplace in conjunction with the socio-economic challenges and after-effects of injuries in the dangerous terrain of gold mining. Uppermost in this reflection was the issue of social justice, articulated in Article 25 of the Universal Declaration of Human Rights:

"... everyone has the right to a standard of living adequate for the health and well-being of their person and their family; including food, clothing, housing, medical care and the right to security in the event of unemployment, sickness, disability, death, old age or the lack of livelihood due to circumstances beyond a person's control" (United Nations, 2007, Universal Declaration of Human Rights, article 25(1), 1948-2008)¹.

The researcher's reflection on the essence of Article 25, and the reality faced by those who work underground in gold, diamond, platinum, and other precious minerals' mining contexts, raised some initial questions. What is "spirituality" for spinal cord-injured people of God? What can an understanding of the spirituality and physical well-being of injured miners add to current definitions of spirituality? Are the present resources on spirituality adequate for spinal cord-injured miners, or for any other tragedy?

In wrestling with these questions, the researcher began to perceive the interplay between his situated understanding of "spirituality" and the trajectory that a research inquiry would take. If spirituality were to be understood merely as a "band aid" on

¹ Taken from the Fiftieth Anniversary of the Universal Declaration of Human Right: 1948- 1998. The Universal Declaration of Human Rights were Adopted and proclaimed by the General Assembly resolution 217 A (III) of 10 December 1948.

the wound or palliative in conceptualization and praxis, without addressing the deeper socio-economic and existential issues faced by these black spinal cord-injured miners, then it would not be able to address this tragedy adequately. And if spirituality could not adequately address such a tragedy, was it then useful at all? (Burack, 1999; Tischler, 1999).

The researcher's initial focus was to find and use appropriate resources that would adequately promote spirituality. These resources would be specifically aimed at people with spinal cord-injuries and those suffering from similar tragedies, with their specific questions about who God was, what meaning was, and what life, community, and pastoral care were ultimately about.

In Chapter 2, definitions of spirituality in the current literature are explored and categorized either as: (1) palliative, moderate or "via media", or (2) prophetic, revolutionary and transformative. In Chapter 3, a composite definition is proposed, which combines the resources in the current literature, with the researcher's own African indigenous context. This composite definition provides a foundation for the rest of the research. In Chapter 4, the research design and methodological concerns are described. Research findings are presented in Chapter 5, and the implications of these findings are further elaborated on, especially as they relate to the proposed composite definition and conceptualization of spirituality in the workplace. In Chapter 6, limitations and implications are discussed and recommendations are proposed.

Ultimately, this thesis addresses a deep problem in spirituality, namely, the issue of inadequate resources, both for addressing the tragedy of spinal cord-injured miners in underground and surface mining accidents, and for conceptualizing the spirituality of the injured.

In addressing this problem, the researcher has brought to bear an African conceptualization of spirituality. He draws on this rich indigenous spiritual resource to find ways to reflect critically on palliative definitions of spirituality, while at the

same time engaging with more prophetic and transformative definitions that are critically and socially applicable. The composite definition of spirituality thus proposed, both challenges and integrates existing work in the field. This dual purpose is achieved by exploring indigenous African concepts of spirituality, together with the lived experience of spinal cord-injured black mineworkers in South Africa.

1.2 RESEARCH TOPIC: IMPORTANCE AND APPROACH

In this explorative research, the researcher extends the examination of possible variables that may constitute workplace spirituality and that could be further regarded as core when evaluating workplace spirituality in an African mining workplace.

The literature review revealed three broad categories. First, there are those authors whom we broadly put into the palliative category of spirituality. These include most religious mystics who wrote on spirituality (Merton, 1961; Keating, 1999; Nouwen, 1994b), as well as some current writers in the field (Carson, 1992; Gibbons, 2000; Runcorn, 2006; Fluker, 2003). It is important to note that the earlier writers in this category were fulfilling a particular need at a particular time, and for particular reasons. Their views of spirituality tended to centre on the individual, and the individual's longings or quest for self-actualization (Kellemen & Peltonen, 2005).

Since much has been written about these writers and practitioners, there is no need to review this massive literature yet again. Yet even with an extensive literature on this discourse, the conceptualization of spirituality still raises critical issues, wherein spirituality runs the risk of being a mere conglomeration of constructs meaning anything to anyone who wants to appropriate the phenomenon for their own ends (Delbecq, 2000; Legge, 1995).

In contrast to these palliative writers, there is a second group whose views can be said to be accommodationist in orientation (Nolan, 2006a; Wilber, 1998). These writers acknowledge that the phenomenon of spirituality lacks sufficient conceptuality, particularly as it relates to the workplace, pastoral care, and phenomenological and

existential issues. In addressing this apparent lack of conceptuality, the writers in the second category propose a different route, namely, that of the “via media”. This second route stresses the integration of an emphasis on a deity and palliative care with consideration of the communal context, thereby offering a continuum from the individual to the community, rather than an either/or model.

It is this middle ground or “via media” which the researcher’s composite definition of spirituality in the workplace expounds and develops, by rooting it in an African spirituality and self-identity that is communal rather than individualistic.

The middle or “via media” authors view spirituality as a religious “accommodationist orientation” that places the individual’s search for interiority in a broader communal context (Thurman, 1984; Nolan, 2006a; Williams, 2004; Gibbons, 2000). The third category of writers on spirituality stands in opposition to the via media approach. Writers in this third category are suspicious of an inclusive, global spirituality (Carrette & King, 2004), especially when it seems to be religion repackaged. They reject the “accommodationist orientation” and argue for a spirituality that is devoid of any religious connections. The researcher refers to writers in this third category as prophetic or revolutionary (transformative).

For those engaged in furthering the understanding of the competitive advantage of workplace spirituality (Reichheld, 1996; Heskett, Sasser & Schlesinger 1997; Howard & Welbourne, 2004), particularly as an alternative to the mere focus on the “bottom-line”, this research offers “food for thought” in providing new conceptual notions in mining and African contexts. The conceptual framework, the researcher proposes, takes seriously an African worldview and Ubuntu ethic (Mbigi, 1997, 2000) as it seeks to evaluate them within the techno-economic and techno-scientific world.

This framework is developed by examining workplace spirituality in terms of the palliative, accommodationist, and transformative categories of spirituality. Using this threefold distinction as a contextualizing framework for workplace spirituality, the researcher brings to bear the African paradigm of an integrated spirituality, arguing

that it is the accommodationist and transformative concepts of spirituality that most effectively humanize the world of work.

In their desire for a more humane workplace, many individuals are defining themselves as “seekers” (Lofland & Stark, 1965) who are less willing to consign their spirituality to non-work hours and domains (Ashforth & Pratt, 2003). The seekers are thus searching for spiritual fulfilment, especially in work settings (Mitroff, Denton & Ferguson, 1999). To understand this search, Ashforth and Pratt (2003) suggest that we use the following three major dimensions. First, *transcendence of self*, which they define as a connection to something greater than oneself (e.g., other people, causes, nature, and belief in a higher power); second, *holism and harmony*, which they associate with authenticity, balance and perspective; and third, *growth*, which they regard as the realization of one’s aspirations and potential.

Ashford and Pratt’s (2003) three dimensions best fit the palliative-, and to some degree the accommodationist-, concepts of spirituality. The combination of these two concepts is best described by Evans (1990), who views spirituality as connected to what I am (identity) and what I must become (meaning, control and growth). This conceptualization has a Western-materialist and instrumentalist underpinning that is rooted in concepts of the individual and control. The researcher brings the African transformative paradigm to bear upon this conceptualization, in order to include *spiritus* in our discourse on workplace spirituality. In Latin, *spiritus* derives from *breath*, whereas in Greek, it represents *power or a vital principle or force*. African spirituality combines the Latin and Greek senses of *spiritus*, affirming that spirit and spirituality permeate the whole of life, as breath and the life force inhabit and move through all things.

Conceptualizing workplace spirituality in this transformative manner offers a post-materialist value system characterized by an increased desire for social equality, increased participation in important decisions impacting one’s life, increased desire for freedom, and increased concern for quality of life, self-expression, a sense of community, and environmentalism. These values are closely associated with the

Ubuntu ethic (Mbigi, 2002), and stand in stark contrast to the materialist values of prosperity, security and control (Inglehart, 1977). Following the trend toward representative lists of values that assist in developing definitional models of spirituality (Giacalone & Jurkiewicz, 2004), the researcher generates a list of values that best approximate spirituality for African spinal cord-injured miners.

This list ranges from the recognition of the interplay between God as present in the universe and in all created beings, to the perception of spirituality as a subjective experience not only related to God but nurtured in the community and reflected in values, attitudes, perspectives, beliefs and emotions (Giacalone & Jurkiewicz, 2004). Giacalone and Jurkiewicz's (2003) composite definitions (Table 1), and a composite account of the dimensionality of spirituality (Table 2), provide vantage points from which to review the literature on spirituality. They also offer a point of departure for the model of African workplace spirituality that the researcher develops in the context of post-colonial and post-materialistic notions of workplace spirituality.

Table 1: A Representative Sampling of Definitions of Spirituality in the Literature (source: Giacalone & Jurkiewicz, 2004)

Definition of spirituality	Source
The personal expression of ultimate concern	(Emmons & Crumbler, 1999)
That which involves ultimate and personal truths	(Wong, 1998, p.364)
How the individual lives meaningfully with ultimacy in his or her response to the deepest truths of the universe	(Bregman & Thierman, 1995, p.149)
The presence of a relationship with a higher power that affects the way in which one operates in the world	(Armstrong, 1995, p.3)
Our response to a deep and mysterious human yearning for self-transcendence and surrender, a yearning to find our place	(Benner, 1989, p.20)
A way of being and experiencing that comes about through awareness of a transcendent dimension and that is characterized by certain identifiable values in regard to self, life, and whatever one considers to be the ultimate	(Elkins, Hedstrom, Hughes & Leaf, 1988, p.10)
A transcendent dimension within human experience...discovered in moments in which the individual questions the meaning of personal existence and attempts to place the self within a broader ontological context	(Shafranske & Gorsuch, 1984, p.231)
A subjective experience of the sacred	(Vaughn, 1989, p.105)
A personal life principle which animates a transcendent quality of relationship with God	(Emblen, 1992, p.45)
The human dimension that transcends the biological, psychological, and social aspects of living	(Mauritzen, 1988, p.118)
The vast realm of human potential dealing with ultimate purposes, with higher entities, with God, with life, with compassion with purpose	(Tart, 1975, p.4)
That human striving for the transforming power present in life; it is that attraction and movement of the human person toward the divine	(Dale, 1991 , p.5)
Pertaining to the innate capacity to, and tendency to seek to, transcend one's current locus of centrality, which with transcendence involves increased knowledge and love	(Chandler & Holden, 1992)
The animating force that inspires one toward purposes that are beyond one's self and that give one's life meaning and direction	(McKnight, 1984, p.142)

Table 2 depicts spirituality as concerned with personal search, meaning, transcendence, the sacred, relationship with God and a vital force within the individual (Giacalone & Jurkiewicz, 2004). These factors are both intrinsic and extrinsic and, with the exception of transcendence, view spirituality as palliative.

Table 2: The Dimensionality of Spirituality (source: Giacalone & Jurkiewicz, 2004)

Spiritual dimension	Description	Source
Spiritual well-being	The affirmation of life in a relationship with God, self, community and environment. Nurtures and celebrates wholeness	(Ellison, 1983)
Spiritual transcendence	Capacity of individuals to stand outside of their immediate sense of time and place to view life from a larger, more objective perspective	(Piedmont, 1999)
Spiritual development	The process of incorporating spiritual experiences that result ultimately in spiritual transformation	(Chandler & Holder, 1992)
Spiritual wellness	Spiritual wellness represents the openness to the spiritual dimension that permits the integration of one's spirituality with the other dimensions of life, thus maximizing the potential for growth and self-actualization	(Westgate, 1996, p.27)
Spiritual needs	Any factors necessary to establish and/or maintain a person's dynamic personality relationship with God (as defined by that individual) and out of that relationship to experience the forgiveness, love, hope, trust, and meaning and purpose in life	(Stallwood & Stoll, 1975, p.1088)
Spiritual distress	A disruption of the life principle that pervades a person's entire being and that integrates and transcends one's biological and psycho-social nature	(Kim, McFarland & McLane, 1987, p.314)
Spiritual intelligence	Abilities and competencies that may be part of an individual's expert knowledge. These include the capacity to transcend the physical and material, the capacity to be virtuous, and the ability to experience heightened states of consciousness, sanctify everyday experience, and utilize spiritual resources to solve problems	(Emmons & Crumbler, 1999)
Spiritual (religious)	The extent to which individuals reflect on their faith and beliefs	(Leak & Fish, 1999)
Spiritual growth self-consciousness	Reflective of the gratification of individual needs, especially "belonging" and those of a higher order such as a "sense of achievement"	(Burack, 1999)
Spiritual health	Optimal function is the enhancement of spiritual oneness with whatever a person considers to be more than oneself as an individual with reason, experience, and intuition; the ongoing development of an adherence to a responsible ethical system	(Stroudenmire, Batman, Pavlov & Temple, 1986)

Table 2 highlights the various aspects that make up the definition of workplace spirituality (spirituality) as connected to the following variables: well-being, transcendence/meaning, and personal identity, other dimension of life, needs, personal safety, belonging and self-consciousness. These variables will be formulated as the construct, 'workplace spirituality' (WPS), and their effect on each other and on the workplace spirituality construct will be ascertained. This evaluation will be an attempt to subject the phenomenon of workplace spirituality to the rigour of positivistic analysis, while also highlighting the shortcomings of this way of treating what the African paradigm regards as an immeasurable energy that both flows through and is the source of all living in this world and beyond.

A positivistic cause-and-effect evaluation, and its instrumentality, will further reveal the absurdity of approaching spirituality in a quantifiable manner and thereby highlight the importance of a more humane and qualitative approach to the phenomenon. And yet, the researcher firmly believes that it will best serve the phenomenon of workplace spirituality in the African context of injured miners if both these approaches are advanced, rather than merely criticizing the positivists' theory and advancing the emancipatory and qualitative approach only. If this is not done, the criticism of workplace spirituality, especially in an African context, will remain that of a passing fad relying on qualitative sentimentality alone, while being unable to address issues of conceptuality. This exploratory study dares to attempt to address this gap.

Definitional issues will be dealt with in Chapters 2 and 3, but for now, it suffices to say that the three emerging dimensions are transcendence of self, holism, and harmony and growth. It is also worth noting that the word 'spirituality' can imply both a 'state of being' and a 'process' or 'journey'. Thus it can be an ongoing and open-ended process, a personal journey of exploration and discovery where the destination is unclear and paths are emergent (Ashford & Pratt, 2003).

1.3 WHAT THEN SHOULD BE THE FOCUS AND LOCUS OF SPIRITUALITY?

In using the term focus, the researcher invokes the notion of Ashford and Pratt (2003) that spirituality is a process, an end in itself that does not require completion. Spirituality engages with the transcendent and pertains to intangibility. Organizations, however, emphasize outcomes and tangibles rather than processes and intangibles, which they regard as means to an end, not as ends in themselves (Ashford & Pratt, 2003). Fuelled by the logic and motivation of capitalism, organizations are enmeshed in the struggle to commodify human activity for the marketplace. They argue that spirituality alone cannot sustain organizations, which must turn a profit. This study and its theoretical underpinnings seek to humanise and emancipate the workplace from such instrumentalist and capitalistic consumerism, by shifting the focus to a different worldview based on the Ubuntu ethic.

What then of the locus of spirituality? Spirituality, as the state and process of transcendence, is necessarily about the individual: extending the boundaries of self, striving for holism and harmony of self, and developing the self. The locus of spirituality resides in the individual. Yet unbridled individuality in the form of idiosyncratic spiritual journeys represents a potential threat to the coherence not only of capitalist organizations (Ashford & Pratt, 2003), but also to concepts of community within an African worldview (Mtuzze, 2003).

This raises a central paradox. If the locus of spirituality is the individual and its focus, process and intangibility, work organizations would not seem to be readily compatible with spiritual striving. The person-organization (P-O) fit would almost inevitably be incongruent, especially if the values, beliefs and practices of the individual and the organization are markedly at odds. And yet, the search for meaning and the need for being part of something greater than oneself have been posited as the major motivations for the identifying of individuals with organizations (Ashford & Pratt, 2003).

1.4 CAN WORKPLACE SPIRITUALITY ADDRESS THIS PARADOX?

Although spirituality is intensely personal, it need not be private (Palmer, 1994; Scott, 1994) and although spirituality tends to be idiosyncratic, it is often predicated on shared experiences, values and beliefs. A typical organization espouses a certain identity and attendant goals, values, beliefs and norms, that is, it stands for something. What the organization stands for provides potential spiritual hooks for the individual, particularly for connection and growth. Palmer (1994) and Scott (1994) argue that what organizations stand for can be conceptualized in terms of a continuum, ranging from those that involve relatively high individual control (enabling organizations) to those that involve relatively high organizational control (directing organizations). In the middle of the continuum, we find partnering organizations, which are characterized by mutual control between the individual and the organization. This continuum (as depicted below in Figure 1), applies to organizations that are receptive to spirituality.

1.5 APPROXIMATING SPIRITUALITY ORGANIZATIONAL TYPES

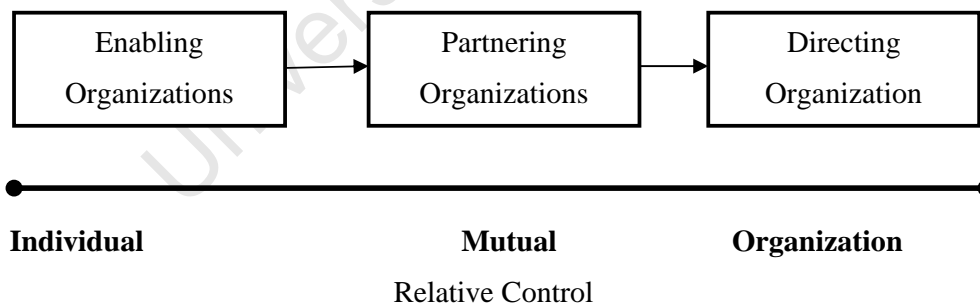


Figure 1: Spirituality continuum within organizations (source: Ashforth & Pratt, 2003)

The following sections, will now discuss these types of organizations, exploring what each means and what advantages and disadvantages exist in each type, beginning with the 'Enabling-' and ending with the 'Directing organization'.

1.5.1 The Enabling Model

In the continuum from enabling to directing, enabling organizations are those, which acknowledge that many individuals are defining themselves as seekers and are less willing to consign their spirituality to non-work hours and domains (Mitroff, Denton & Ferguson, 1999). Enabling organizations acknowledge spiritual striving and allow individuals to discover their own idiosyncratic transcendence, through prayer, meditation, journaling or retreats.

1.5.1.1 The advantages and disadvantages of the Enabling Model

The essence of enabling is personalization. This allows the individual to make a choice about whether or not they want to undertake a spiritual journey at work. Personalization could enable a sense of spiritual fulfilment congruent with the work place that enabled it. Personalization could further foster a diverse environment wherein organizations can affirm, rather than shun, creativity. Diversity, while being celebrated, however, can foster practices that make members feel unlike others in the organization, thus weakening the individual–organization bond (April & April 2009). This may lead to possible interpersonal conflict and alienation according to Ashford and Pratt (2003).

Enabling organizations may also encourage many diverse requests, raising troubling questions about whether and where to draw the line (Ashford & Pratt, 2003; Cash & Gray, 2000). Furthermore, as Ashford and Pratt (2003) note, the permissiveness of enabling organizations may actually cause some individuals to feel an implicit pressure to display their spirituality in the workplace, or to conform to the spiritual practices of their superiors or peers. Some may perceive this permissiveness as a license to proselytize, and what was once an idiosyncratic, voluntary activity may gain normative momentum and seem mandatory.

1.5.2 The Directing Model

This end of the continuum represents high organizational control, with a strong organizational culture that provides clear and distinct hooks for spiritual striving. These organizations can be “top down” in approach: constantly seeking to define who one is (identity) and who belongs (membership); what matters (values) and what is to be done (purpose), how and why things hang together to constitute “reality” and “truth” (ideology); and, how individuals are embedded in that reality and connected to what matters and what is to be done (transcendence) (Ashford & Pratt, 2003).

In recruitment and selection, directing organizations emphasize P-O fit over technical skills, or person–job fit (Schneiders, 2000; Wagner-Marsh & Conley, 1999). They socialize individuals using a cyclical process of sense-breaking and sense-giving (Weiss, 1999). They further challenge the incoming identities, values and beliefs of recruits via sense breaking, thus fomenting a desire for change. In sense-giving, managers and peers model the espoused culture, and recruits are encouraged to form personal attachments to these models.

1.5.2.1 Pros and Cons of the Directing Model

Strong cultures breed strong commitment by screening out those whose commitment is only half-hearted, and encouraging a sort of emotional contagion among those who remain. Directing organizations may facilitate a deep sense of spiritual fulfilment, spiritual community and belonging, workplace identification and wholeness, leading to enhanced motivation and organizational citizenship behaviour (Ashford & Pratt, 2003).

On the other hand, weariness and lack of creativity may also characterize these organizations, in conjunction with pressure applied to individuals who may not have internalized the organization’s cosmology. Lack of creativity may induce myopia, resistance to change, arrogance, and a degree of fundamentalism that will eventually not serve organizational goals.

1.5.3 The Partnering Model

The partnering model represents a middle ground, or territory of shared control, where power is not understood as a zero-sum proposition. The middle ground may represent high individual control and high organizational control. Its spirituality is a meld of active bottom-up and top-down processes that are not legalistic or mechanistic in manner. Spirituality is jointly authored, or socially constructed, as members explore their spirituality within a facilitative context. In these organizations, values are emergent and open-ended, and there are opportunities for the individual and organization to co-evolve (Ashford & Pratt, 2003).

In partnering organizations, leaders seek to serve rather than lead their followers. This servant leadership allows the incorporation of enabling values, such as a holistic approach to work, self-awareness and development, empowering and collaborating, true listening and constructive feedback (Greenleaf, 1977). As in the case of transformational leaders, articulating a vision and inspiring trust are critical.

In these organizations, trustees exchange personal and communal stories that explore the institution's identity, culture, and future and enhance each trustee's deeper, idiosyncratic connections with the institution (Fleming, 2001). In short, the personal becomes the communal, and vice versa (Ashford & Pratt, 2003).

1.5.3.1 Pros and Cons of the Partnering Model

This way of socially constructing spirituality is empowering, leading to personalization of spirituality and possibly to spiritual fulfilment and personal development. Because individuals and organizations co-evolve, both are likely to remain more adaptable than in the directing model, and the organization is less likely to lose external legitimacy. The disadvantage of this model is that it can easily turn into the directing model, depending on whose interest drives the process.

In sum, just as spirituality cannot be completely institutionalized without compromising its locus and focus, so institutions cannot be completely “spiritualized” without sacrificing their collective and corporeal form (Ashford & Pratt, 2003). Ashford and Pratt (2003) conclude that spirituality and institutions are like Venn diagrams that cannot totally overlap without one eclipsing the other. Furthermore, institutions may approximate spirituality through an array of approaches that differ in the degree of control arrogated by the organization. Given the inherent incompatibility between spirituality and organizational concerns, perhaps attempts to link them tightly must always involve a trade-off. Success in approximating spirituality for some members may necessitate failure in achieving certain organizational interests.

The turbulent contemporary work environment is driving new ways of thinking and transforming work arrangements. Rather than using new skin to patch an old wine container, surviving in the new economy requires a transformation of thought or paradigm shift. Zohar (2000), as well as April, Macdonald and Vriesendorp (2000), claim that this exigency has prompted a transformation from Newtonian to quantum thinking. The person-work relationship has altered. People want to bring their whole (physical, mental, emotional and spiritual) selves to work (Lynton & Thørgersen, 2009).

Today, most organizations want people to serve a purpose, not just to have a job (Kelleman & Peltonen, 2005). The challenge is to create an opportunity for workers to personalize their experiences in collaboration with the organization, beyond utilitarian objectivity. In other words, work should serve as a source of enjoyment, satisfaction and fulfilment, whereby purpose and meaning are more close to what we do. This new way of conceiving of work emphasizes, “why we do what we do rather than how we do what we do” (Richards, 1995, p.65).

When the writers exploring this new way of conceiving of work define spirituality, they describe it as a search for meaning, an aspiration beyond instrumentality, a deeper self-knowledge, or transcendence to a higher level. They define spirit in terms

of emotions-internalized and personal feelings of meaning, purpose, knowing and being. They conceive of the spirit as felt emotions that serve to energize action. Spirit for them is thus a form of energy. Feelings and emotions themselves cannot be observed, however, until they are expressed as behaviour. Thus, spirituality expresses itself behaviourally and cognitively (Richards, 1995). In the view of these writers, spirit represents an inner source of energy, and spirituality, the outward expression of that force.

1.6 SPIRITUALITY AS EXPERIENCED IN THE WORKPLACE

How we experience our work becomes increasingly central to our lives because it serves as a “source of spiritual growth, suggesting that organizations need to meet the meaning needs of their members” (Richards, 1995, p.115). People bring their whole selves to work and seek to integrate their work into their whole lives. This integration is more readily accomplished if personal values are congruent with organizational values. Some assert that workplaces that allow people to remain true to their beliefs in daily work will become the only companies that make a profit, because they create a context for creativity (Dorsey, 1998). This conclusion further endorses instrumentality, as opposed to understanding spirituality in its own right.

Kouzes and Posner (2002) posit that individuals who possess greater self-knowledge, and who exhibit clear personal values, are better prepared to make choices based on principles, whether their own or their organizations.

The dark side of this model, as with any other management notion, is that spirituality does not offer the ubiquitous “solution” to coping with the complexities of organizational life (Kouzes & Posner, 2002, p.115). The potential for spirituality to become another management fad persist (Welch, 1998). We need to ensure that corporate ends do not raid personal values (Welch, 1998).

There are those in business who say that it is not yet clear whether investment in organizational spirituality adds value to an organization’s bottom-line. This

researcher, while conscious of this concern, does not address the economic impact of workplace spirituality, but rather seeks to present to this field three broad approaches to research on organizational spirituality: the *normative*, the *descriptive* and the *critical*, with emphasis on the latter. These categories are borrowed from Legge (1995), although in this study they are given different names. The *normative* approach focuses on the vexed dichotomy of the secular and the religious, the *descriptive* focuses on the meaning and concrete manifestations of spirituality in organizations, and the *critical* emphasizes evaluative work, discussing self-development and the capacity to solve the problems of meaning at work.

This study will concentrate mainly on the last two approaches, namely, the descriptive and the critical. In dealing with critical or emancipatory approaches while drawing on a strong empiricist background, it will be important to ensure that management practices in this area are not merely insidious forms of colonization of the self, in the name of devotion to organizational goals (Kellemen & Peltonen, 2005). With this caution in mind, it will be important to demonstrate that organizational spirituality can in fact make a positive difference by going beyond corporate culturalism and the human relations legacy to take a fundamentally different look at humans at work (Boje, 2000).

1.7 THE STUDY OF SPIRITUALITY: THEORETICAL DEVELOPMENT

It would be overly optimistic to expect definitional consensus at this stage, but definitional concerns represent a critical starting point for developing a theory of spirituality in the workplace. An elementary point of departure is the prospect of spirituality as a construct or concept. Constructs have no objective reality, cannot be observed, and exist in people's heads only because they can be inferred from results of observable phenomena, that is, "mental abstractions designed to give meaning to ideas or interpretations" (Cameron & Whetton, 1983, p.7). In terms of such a definition, spirit represents a construct, that is, an unobservable feeling or emotion analogous to motivation. Spirituality also represents a concept, namely, observable

behaviour (Dehler & Welsh, 1994). Similarly, Sutton and Staw (1995) assert that while references, variables, diagrams and hypotheses do not in and of themselves constitute a theory, they nevertheless represent the “struggles” that complicate what Weick (1995, p.385) calls the “process of theorizing”. They conclude that discussions of spirituality have reached a point where it is time to take a more rigorous approach to theory building.

1.8 CONTEXTUALIZING SPIRITUALITY

At the societal level, spirituality reflects the growing dis-ease with Western ways of life and the search for alternative guidelines and for deeper and more meaningful relationships in the workplace. This discontent with the dominance of Western capitalism and consumerism is evident in the reactions of a variety of groups that are challenging the status quo of global capitalism. These critical groups include environmentalists, feminists, and anti-globalization movements. The current market credit crisis, arising from multiple factors including consumerism, greed, poor ethical standards and a lack of global business values promoting trust and sharing (Ramon, 1987), further suggests that global capitalism, in its current form, is unsustainable. In the face of this crisis, workplace spirituality may provide the sustainable values on which to restructure (Ramon, 1987; Thurman, 1981).

At an epistemological level, the era of grand theories, ultimate truths and meta-narratives is being challenged (Habermas, 1970; Heidegger, 1965). There is widespread belief that knowledge can be produced in “small stories” or modest narratives that take cognizance of their locality in space and time, and are capable of adapting or disappearing as need be (Poole, 2009). Thus, any theory that purports to offer rational, ultimate solutions to problems should be regarded with scepticism. Habermas (1970) would further regard any such theory as an attempt to institute power regimes that elevate some interests and suppress others. Poole (2009) argues in support of this assertion that we should regard rationality and progress as social constructs that obscure the conflict, struggles and messiness of everyday life.

1.9 THEORETICAL UNDERPINNING

Heidegger's (1965) concept of Dasein, translated as "being there," undergird the essence of what this study seeks to wrestle with. Underlying the concept of Dasein is Heidegger's (1965) notion of authenticity, described as the refusal to take things for granted. Dasein, or being there, is open to the possibility that you may need to create your own meaning for life, in terms of achieving an "authentic" existence. Nothing lies outside, before, beyond our existence, or beyond being, and "being" takes place in time. Thus, we are always changing with time, and as things change, we are presented with new possibilities (Lukes, 2005).

In this study, the Heideggerian concept of hermeneutics, as the existential understanding of the world to be discovered, is applied within the mining workplace/context. This hermeneutic is achieved using the positivist and reductionist approach to workplace spirituality, that is contrary to the emancipatory approach and which can be further criticized as advancing instrumentality. The aim of this reductionist positivist task, however, is to refute the suggestion that workplace spirituality lacks conceptual tools, and furthermore to attempt to bring into the academic domain, not in an anecdotal or qualitative manner only, the existential realities of African mine workers who have severed their spinal cords following underground mine accidents. The researcher strongly feels that the pain and hurt of these miners, which constitute the "authentic existence" herein equated with their spirituality, should be brought forward to be discussed and analysed both quantitatively and qualitatively, even if this "mixed approach" is unorthodox in terms of the emancipatory approach.

In thus discussing and analysing the miners' authentic existence, or in Heidegger's language, in refusing to take things for granted, the researcher moves away from the traditional hermeneutic thinking into Habermas' (1988) emancipatory methodological approach as the basis for social criticism and transformation and, to some degree, into pragmatism. The orthodox Frankfurt School, in which Habermas (1970) participated, would out rightly reject the approach that the researcher is advocating – that of using

positivist language to develop a quantitative analysis of the miners' responses. The researcher will nevertheless pursue this unorthodox approach to give a fuller account both to positivist and anti-positivist adherents, in order to argue for a more humanistic workplace for the miners.

The critical theory approach, originating with the Frankfurt School, maintains that in the social and human realm there is not, as in the natural sciences, a given rational basis of eternal verities. On the contrary, a rational form of social existence is something not yet in existence, but a task to be achieved (Mautner, 2005). As opposed to traditional theoretical movements, which claim to be disinterested, critical theory has an interest in human emancipation and a commitment to seeking radical social change (Mautner, 2005).

While differing in significant ways from the Frankfurt School, existentialists nevertheless share their concern for the individual and for personal responsibility. They are suspicious of the submersion of the individual in larger forces. To this effect, Heidegger (1965) distinguished "authentic existence" from mere social existence. In short, the most apt statement that captures Heidegger's (1965) concept of Dasein is as follows – "the sort of being I become, is a matter of how I act in the context in which I find myself" (Mautner, 2005, p.270). Habermas (1988) also continued the critique of the view that social theory can, and must, be objective, disinterested and value-free. He argued that human beings interact and communicate with one another, and that this generates another type of inquiry, that of the historical and hermeneutic disciplines. Habermas' (1988) further interest is emancipator – it seeks to analyse and overcome the distortions imposed by the workings of power and domination in society. Its aim is to realize human freedom and responsibility, and its ideal is a society in which social arrangements are those that would result from unconstrained consensus achieved in open and well-informed dialogue (Mautner, 2005).

As this study is not a work of philosophical theory, but rather a study in critical management wherein workplace spirituality is interpreted (hermeneutical approach), it will lean more towards a descriptive account of the miners' reality than a critical

evaluation and application of particular methodological approaches and their philosophical underpinnings. This emphasis may represent a shortfall of the study, but it will serve to enhance both conceptual clarity regarding workplace spirituality, and an authentic understanding of the existential reality of injured miners. Another potential shortfall of the study will be its lack of purity in approach, theoretical underpinning, and methodology.

The study will be eclectic in its theory and methodology, using both the positivist language of quantitative analysis, and what a critical theorist might deem the more appropriate language of qualitative analysis. One possible advantage of this eclectic methodology may be the demonstration that scientific investigation, even if it involves a positivist approach in an emancipatory domain, is not impossible in the field of workplace spirituality.

Although only a brief descriptive account of Habermas (1988) and critical theory will be provided in this study, the researcher will be more pragmatic in using salient aspects of Habermas and critical theory in his management research into the spirituality of spinal cord-injured miners. Critical social theory², which underpins Habermas' emancipatory interest, seeks to analyse and overcome distortions imposed by the workings of power and domination in society (Lukes, 2005). The emancipatory interest aims to realize human freedom and responsibility, and its ideal is a society in which social arrangements are those that would result from unconstrained consensus achieved in open and well-informed dialogue (Habermas, 1970).

These Western critical approaches will be tempered by applications of an African worldview. This worldview, rather than solely Western societal conceptions and epistemological frameworks, must necessarily contextualise workplace spirituality within the lived reality of African miners. Nurenberg (2007) describes the African worldview as dynamistic, wherein “everything that exists harbours impersonal forces

² Critical social theory - seeks to analyse and overcome distortions imposed by the workings of power and domination in society.

and such forces drive everything that happens. Like a vast ocean, dynamistic power can be relatively calm or in tempestuous turmoil, but it is always in motion” (Nurnberg, 2007, p.22). In this worldview, it is generally held that “power flow,” which is equated with “spirit”, can go in beneficial or in detrimental directions. Rituals performed within communities can assist in maintaining the desired beneficial state and in eliminating the detrimental spirit.

Within such communities, the most important positive flow of dynamistic power is the life force of the extended family, the clan, the chiefdom and the kingdom. Life is life-in-community, and there is no other possible life (Nurnberg, 2007; Mtuze, 2003; Makgoba, 2008). Within traditional African communities, there is a general agreement that there is a “Supreme Being” who is normally not directly accessible to all, but capable of being influenced by “go-between” (ancestors) who make accessibility possible. Health is not an individual matter, but is primarily the health of community relationships. Individual ailments, diseases, misfortunes, barrenness, premature deaths, mental disorders and even spinal cord injuries are attributed to diseased relationships. Healing is only possible when these relationships are restored within the community – a community that extends beyond death (Nurnberg, 2007).

The spirituality of African spinal cord-injured mine workers thus cannot be understood apart from a communal context, or without reference to the African worldview that informs it. These themes will be revisited in later chapters that seek to integrate them into a discussion of the workplace spirituality of African mine workers.

1.10 CONTRIBUTION SUMMARY OF THIS RESEARCH

Based upon an extensive scan of the pertinent literature in spirituality and, most especially, extensive experience and work with spinal cord-injured African miners, this research provides a contributory framework based upon integrative precepts. It is believed that the said framework can be used by rehabilitation centres, community pastoral care-givers and mining houses to better understand the complex, dynamic variables and relationships that African mine workers perceive as vital for their

spirituality in their workplaces. Additionally, the framework may have some relevance to related fields, and even within other areas of study seeking contextual relevance, such as leadership.

The theoretical framework, that the researcher proposes and which is underpinned by the workplace spirituality (WPS) construct, introduces the notion that workplace spirituality, for an African miner, can be best understood as interplay of dynamic variables beyond the individual and the world of work. Thus, building on previous research findings, and in order to “operationalise” the fundamental elements of the workplace spirituality (WPS) construct (which could assist in understanding the concept of workplace spirituality), a robust and pragmatic framework is offered. It is believed that this framework can both assist practitioners in this field, and enhance our theoretical understanding of workplace spirituality.

This WPS construct further provided this researcher with a conceptual toolset to investigate the validity and reliability of the proposed framework. In the study, this proposed theoretical framework for workplace spirituality at the (mining-related) workplace consisted of the following: connectedness to God, connectedness to community (Ubuntu), connectedness to personal identity, workplace safety, connectedness to physical well-being, and connectedness to meaning.

In order to attain the desired outcomes and to contribute to the body of research knowledge, this researcher designed a study approach that was both appropriate and robust, in order to gain insight into the concepts necessary for development of the “Workplace Spirituality Framework.”

While the purpose of this research was exploratory in nature, that is, to investigate definitional issues of workplace spirituality, it also sought to identify and understand the variables that, when combined with others, aid in the conceptualization of the WPS construct and in understanding the framework of workplace spirituality. To this end, both qualitative and quantitative designs were proposed; the primary tools for gathering qualitative evidence were semi-structured interviews, and questionnaires

were used for gathering quantitative evidence. In order to provide additional cross-validation of the miners' evidence, triangulation in evidence (Gallivan, 1997) was sought through managerial interviews, mine owners' evidence, and pastoral care workers' evidence, as well as through medical and allied members' group data, thereby, strengthening the validity of the miners' primary evidence.

1.11 SCOPE OF THE RESEARCH

This research explored the role of spirituality in an African mining context, with specific reference to spinal cord-injured mine workers. More specifically, this research investigated the dynamics at play in the conceptualization of workplace spirituality, and how these variables could offer insights in this important industry which employs a significantly high number of people in Southern Africa.

After an extensive scan of the literature on business management, philosophy, spirituality and leadership, the following overarching three research questions were developed:

- Do we have sufficient empirical data to support the validity claims of the usefulness of spirituality at work, for example, with task effectiveness, motivation, well-being, leadership and other values such as growth, self-actualization and creativity? (Tischler, 1999; Neck & Milliman, 1994).
- Do we fully understand the usefulness of spirituality at the place of work, such that we can measure it and generalize our findings?
- What are the specific predictors of spirituality and well-being for spinal cord-injured mineworkers?

Within the context of this thesis, these three questions were formulated in the form of six hypotheses for the study of workplace spirituality. Based on the definition of WPS and the formulated hypotheses, spinal cord-injured, Black male South African

workers were interviewed using a specifically constructed questionnaire. Their responses were analysed in conjunction with the views of the mine managers, medical team members, indigenous healers, pastoral care workers and mine-managing directors (MDs) or owners, whose views were gathered by way of face-to-face interviews using specifically constructed questionnaires. However, some managing directors and medical specialists completed the questionnaire and returned it by post or fax.

Using the SPSS statistical package, and the qualitative analysis software tool Atlas ti, the research data was analysed both quantitatively and qualitatively. The quantitative results suggested that there is a positive relationship between the dependent variable, workplace spirituality, in relation to the following independent variables: *workplace safety* (weak but positive relationship), *God* (strong and positive relationship), *saliency* (strong and positive relationship), *community* (strong and positive relationship), *personal identity* (strong and positive relationship), *meaning* (weak and positive relationship), and *physical well-being* (strong and positive relationship). These results were further supported by the qualitative analysis.

1.12 WHAT ARE THE METHODOLOGICAL ASSUMPTIONS IN THIS STUDY?

A more elaborate account of methodological assumptions, methods and empirical procedures will be offered in later chapters. What follows here is a short discussion of the unit of study, sample and data collection methods and techniques. The objectives stated in this chapter will be discussed in the form of hypotheses in later chapters, following a discussion of the literature, and offering a clear account as to how these hypotheses are derived from the literature reviewed.

The methodological assumptions made in this study are in keeping with grounded theory as well as with the emancipatory approach. Undergirding this approach is the grounded theory methodology, to which the researcher provides a brief orientation now, to be elaborated on in the methodology section.

Grounded theory is a methodology that has been used to generate theory where little is already known, or to provide a fresh slant on existing knowledge (Glaser & Strauss, 1967). It is an interpretivist mode (Goulding, 1998). In contrast to theory obtained by logico-deductive methods, grounded theory is theory, which has been systematically obtained through “social” research and is grounded in data (Goulding, 1998).

Developed in the 1960s and 1970s, the main purpose of grounded theory was to bridge the gap between theoretically “uninformed” empirical research and empirically “uninformed” theory by grounding theory in data (Charmaz, 2000). It was born in opposition to extreme empiricism, or “grand theory”, a term coined by Mills (1959) to refer pejoratively to sociological theories couched in highly abstract conceptual terms. Mills (1959) and Habermas (1988), representing the Frankfurt School, similarly criticized abstracted empiricism or the process of accumulating quantitative data for its own sake. The main emphasis of grounded theory, as with many qualitative methodologies, is the careful and systematic study of the relationship of the individual’s experience to society and to history (Goulding, 1998; Glaser & Strauss, 1967; Charmaz, 2000). In other words, the key role of grounded theory is the generation of new theory. In keeping with its grounded principles, the theory evolves during the research process itself, and is a product of continuous interplay between data collection and analysis (Charmaz, 2000; Glaser, 1992; Glaser & Strauss, 1967; Strauss & Corbin, 1997).

This study proposes (as will be discussed later in Chapter 3) to use a combination of positivist and grounded theory methodologies. The positivistic paradigm of research originated in the 19th century as an attempt to apply the methods of the natural sciences to social phenomena (Smith, 1983). In 1822, the French philosopher Auguste Comte created the term *sociologie* and further classified social interactions as physical science-like phenomena to investigate and find their universally governing rules (Babbie, 1993). Prior to this time, religious taxonomies were prevalent to investigate and explain social phenomena (Kim, 2003). Comte aimed at replacing these religious beliefs with scientific objectivity and empirical inquiry, by arguing that the human world could be detached and analysed in an objective way (Kim, 2003).

Comte's conceptualization of positivism was based on scientific objectivity and observation through the five senses, rather than subjective beliefs. This revolutionary view of the social world, as a science-like phenomenon that was understandable through empirical investigation, became the basis for the application of the positivistic approach (Babbie, 1993).

A positivistic perspective in the field of management aims to generate causal relationships which will enable management to become more scientific and better able to predict and control its environment (Smith, 1993), or in the words of Popkewitz (1980) to assume mind-independent reality. Its concern is to develop propositions supported by data and logic, and it is underpinned by an emphasis on experimental research designs (Kim, 2003). Within a positivist framework, theories are accepted or rejected on the basis of their correspondence with facts perceived in an objective world (McAuley, Duberley & Johnson, 2007). Positivist management research critically addresses a perceived neglect of the need for relevance in the over-emphasis on issues of internal validity. In the messy and confusing management context, which resists technical solutions, an aloof, objective stance is of little use to individuals and society. That is why there has been a move toward interpretive methods of inquiry and away from the narrow searching of casual relationships aimed at prediction and control, qualities which have little bearing on everyday managerial work (McAuley, Duberley & Johnson, 2007).

The rationale for using this combination of theoretical approaches will be discussed in depth in Chapter 3. At this stage, the researcher refers to Burrell and Morgan's (1979) diagram illustrating the usefulness of social theory and organizational analysis. Burrell and Morgan (1979) argue that social theory and organizational analysis can be understood in terms of a matrix of four paradigms with their axes based upon different meta-theoretical³ assumptions about the nature of social science and the nature of society (McAuley, Duberley & Johnson, 2007). Their table offers a helpful overview

³ 'Meta-theory' literally means 'beyond, above, before or after theory.' These theories are purported to uncover and open up to critical reflexive inspection, the pre-understandings, assumptions and connections which are expressed as conventions.

of the assumptions of the present study in terms of ontology, epistemology, human nature and methodology.

1.13 BURRELL AND MORGAN'S META-THEORETICAL ASSUMPTIONS ABOUT THE NATURE OF SOCIAL SCIENCE

Drawing on Burrell and Morgan's (1979) diagram, the researcher of the current study connects the ontological assumption with realism and the epistemological with both anti-positivist and positivist understandings. The researcher's background assumptions about human nature fall under voluntarism, while his methodological assumptions are both nomothetic and ideographic.

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Understanding Management Research

assumptions about the nature of social science

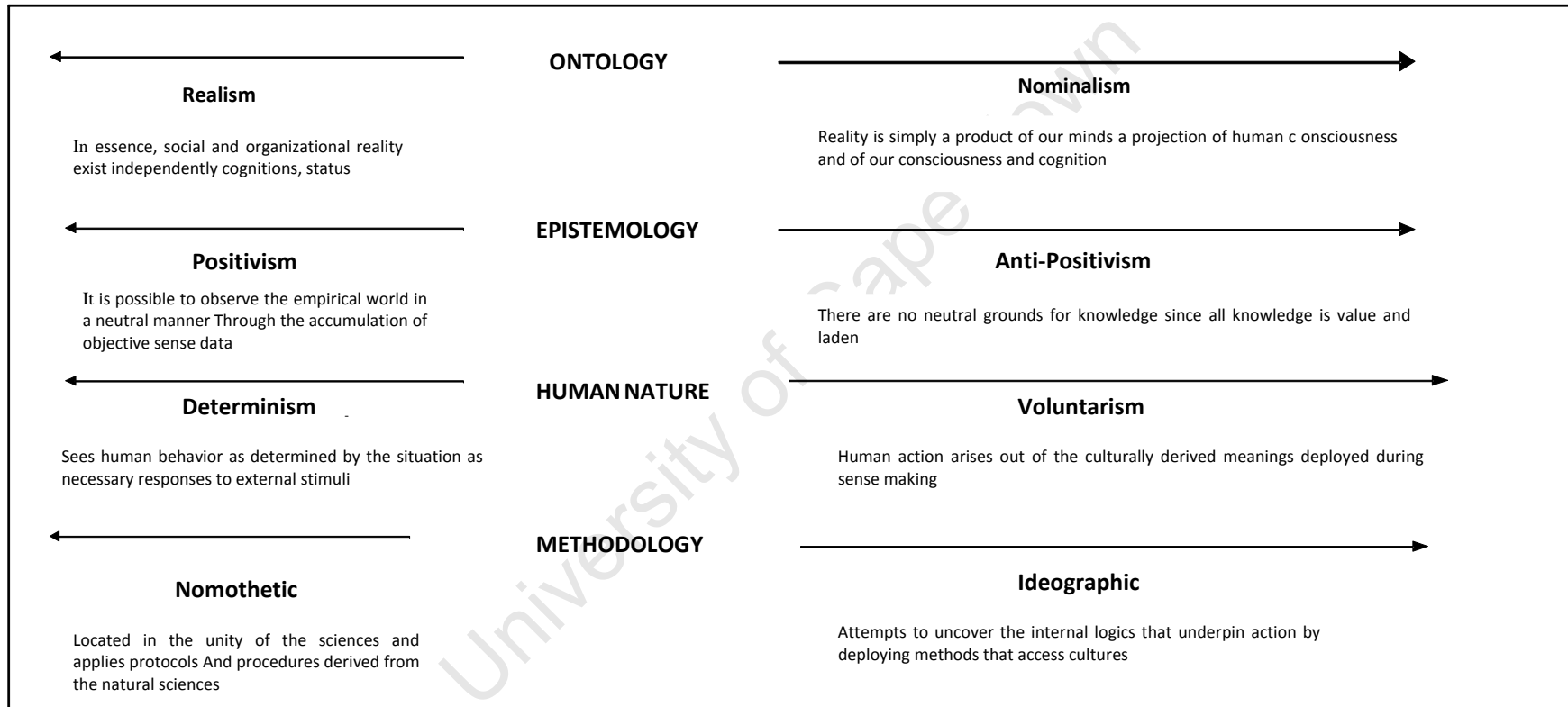


Figure 2: Understanding Management Research (source: McAuley, Duberley & Johnson, 2007)

1.14 METHODOLOGICAL ASSUMPTIONS

In this study of the workplace, the researcher will draw on the much criticized positivist theory and an interpretative mode of inquiry. In adopting this eclectic approach, the researcher opens himself to possible criticism for failing to take up a singularly-defined theoretical position. His methodological eclecticism runs against grounded theory, critical theorists, Habermas (1970) and Heidegger (1965) on the one hand, and those who value prediction and control over emancipation on the other. The researcher acknowledges these potential criticisms, but firmly holds to a methodology that best serves the ultimate goal of this study, which is to bring the plight and worldview of spinal cord-injured Black African miners into the mainstream of rigorous academic research on workplace spirituality.

In pursuing this study, the researcher constructed various questionnaires to conduct interviews with miners, mine managers, medical team members, indigenous healers, pastoral care workers and mine managing directors (MDs) or owners in various settings (see abstract and Chapter 3). In total, 224 miners were interviewed over a period of three years, and 45 pastoral care workers, 10 indigenous healers, 20 mine managers, 20 medical and allied professionals, and 12 mining CEOs/directors/owners were also interviewed. The responses from these populations will be analysed using the SPSS statistical package, and Atlas ti, the qualitative data analysis software tool. The miners' responses form the basis or unit of analysis, which is developed in conjunction with the responses from the other groups.

Atlas ti, which will be discussed in Chapter 3, provides what is called the Hermeneutical Unit, which is a unit of analysis for a combination of various primary documents (PD).

The primary documents capture each respondent views and insights. Respondents' view and insights are given codes within the primary document during coding, and then later grouped in terms of linked emerging themes, association and frequency of occurrence (family codes). This grouping then makes it possible to conduct systematic discussion of qualitative results. How this tool is used was further discussed in the

methodology section. The researcher turns away now from methodological concerns to address a broader question. What is the value of workplace research on spinal cord-injured Black South African miners?

1.15 MINE HEALTH AND SAFETY CLIMATE IN SOUTH AFRICA (SA)

South Africa's economy is one of the strongest in Africa (Rossouw, 1997, 2005; Jones, 1995) and mining is a key sector, employing a significant number of people in this country (Krige, 2003; Price, 1988; Taylor, 1998). Badenhorst and Mostert (2004) define mining as a risky business:

“... any operation or activity for the purpose of mining any mineral on, in or under the earth, water or any residue deposit, whether underground or open, working or otherwise, and includes any operation or activity incidental thereto” (Badenhorst & Mostert, 2004, S.13- 10).

Safety, in general, is a complex issue (Erasmus & Stacey, 2005; Wallace, 1998), primarily due to the difficulty in implementation and consistency in application (Lewis, 1996; Stone, 2002), as well as the infrastructural challenges and attitudinal levels in safety procedures (Mandal, 1997), or simply machinery errors and failures (Shtein, 1996). One begins to see how difficult it is to harness spirituality at the workplace in this industry when the specific safety issues of South African mining are considered: poor safety around mine hostels, lack of employment tenure, hostile take-over bids of certain mines, mine automation, roof belting and other safety measures that are aimed also at reducing the labour force (NUM Report, 1986). Mine safety is further affected by non-human factors, e.g., rock-falls remain the cause of approximately one half of all total mine accidents in South African mines, followed by accidental falling from heights (Department of Minerals and Energy [DME], 2005).

The Mine Inspectorate also recognizes factors such as “noise, vibration, heat, cold, harmful chemicals, radioactive material, and transport system and mobile machinery as well as flammable gas potential and occupational hazards requiring special attention” (Krige, 2003, p.40). The degree and number of safety factors affecting South African mining suggest why South African mine workers face approximately three times the risk of being killed at work as their counterparts in Australia, and the USA (Walker, 2006).

Walker (2006), citing The Mine Safety Digest (No 1-6, 2001), suggests critical targets that should be pursued in the sector, namely: 2(a) protecting the health and safety of persons of mines; 2(b) identifying hazards and eliminating, controlling and minimizing risks related to health and safety at the mine; and 2(h) (i) promoting a culture of health and safety in the mining industry. In this study, the researcher evaluated whether these stated aims were shared by the miners and mine owners, as well as by experts in this field.

Safety is not only about physical safety, however, but also about security of tenure. Many believe that the downsizing, re-engineering, and lay-offs of the past decade have left the workplace, and in particular, the American workplace, an environment where workers are demoralized (Hamel & Prahalad, 1994) and where there is a growing inequity in wages (Agarwal, Hazari & Ho, 2007). Job insecurity does not affect the American context only; it applies to all countries, especially in the mining sector, where a significant number of miners are employed on a short-contract basis. As a result, they grapple with issues of whether spirituality can be an alternative to the pursuit of capitalism (Boje, 2000; Butts, 1999).

1.16 ORGANIZATION OF THIS RESEARCH

This study is organised as follows: Chapter 1 consists of the introduction; Chapter 2 reviews the literature on spirituality in general, using literature from a variety of sources. Chapter 3 reviews the literature as it specifically relates to the WPS-based framework, combining the resources in the current literature with an African

indigenous context. This composite definition provides a foundation for the rest of the study. In Chapter 4, the study design is discussed, outlining the way in which the research was conducted. Chapter 5 presents evidence from the selected participants in the research. The “chain of evidence” approach introduced in Chapter 4 is elaborated on in Chapter 5 to create higher levels of conceptual abstraction, ultimately leading to a portrait of workplace spirituality. Using the evidence gathered in the case studies, Chapter 6 presents patterns of insights gathered through cross-comparative analysis, as well as experts’ evidence taken from other sources in this research; this evidence was used to cross-validate findings found in the pattern analysis. Conclusions, contributions and key findings are presented in Chapter 5, whilst conclusions, limitations and areas for future research are discussed in Chapter 6 (see Figure 3 for linear and pictorial overviews of establishing of the research foundation).

An outline of the thesis follows:

Chapter One:

Provides an introduction of the research focus and motivation for undertaking the study. This chapter traces the locus and focus of spirituality and contextualises it within the African paradigm.

Chapter Two:

Provides a Hermeneutical Trajectory of spirituality as perceived within the Western and African worldviews, and summarize these into three broad categories of the “palliative, via media and transformative.” This chapter concludes by attempting to locate spirituality within the South African mining context.

Chapter Three:

Specifically explores issues of workplace spirituality for spinal cord-injured mineworkers. A theoretical framework is then presented, and forms the basis of the six hypotheses that are explored in this research.

Chapter Four:

Provides the research methodology and specifically argues for the use of a “mixed methodology” approach, as opposed to either the qualitative or quantitative research method.

Chapter Five:

Provides the evidence and discussion of the research results.

Chapter Six:

Provides the overall interpretation of the research findings, its limitations and recommendations for future research.

Bibliography:

A list of references used in this research.

Appendices:

Provides a list of tables and responses from the various research populations.

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1.17 ESTABLISHING THE RESEARCH FOUNDATION

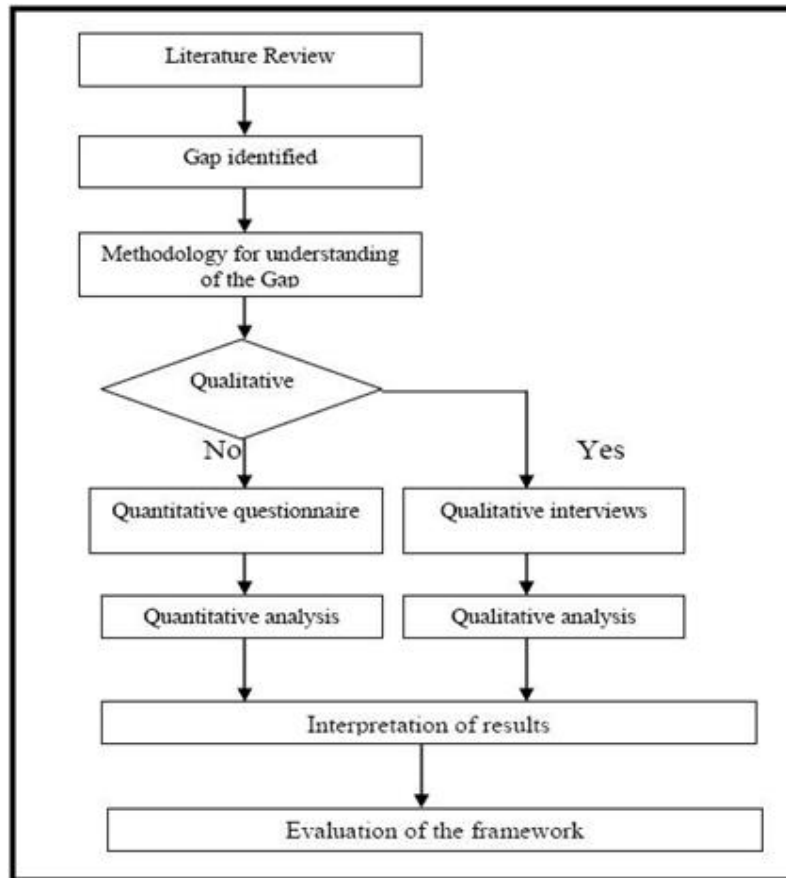


Figure 3: Establishing the research foundation

Figure 3 depicts the framework used to establish the research foundation. To summarise, this thesis addresses a deep problem in spirituality, namely, that we do not have adequate resources to address the tragedy of underground gold mining accidents, or to conceptualize (Church & Waclawski, 1998) and understand the spirituality of the injured. In this study, the researcher hopes that an African conceptualization of spirituality will shed light upon this problem. In drawing on this rich indigenous spiritual resource, the researcher further hopes to provide a way of reflecting critically on palliative definitions of spirituality, while at the same time engaging with more prophetic and transformative definitions that are critically and socially engaged. The composite definition of spirituality that the researcher proposes thus both challenges

and integrates existing work in the field, by bringing it into conversation with indigenous African concepts of spirituality and with the lived experience of spinal cord-injured Black mines workers in South Africa. In Chapter 2, a general literature review is provided from a variety of sources in order to demonstrate the depth of resources in this field and to explore further some of the concepts raised in the Introduction.

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CHAPTER TWO: LITERATURE REVIEW

2.1 HERMENEUTICAL TRAJECTORY

Initially, the hermeneutical trajectory, which always begins with a context, will be traced along lines of broad definitional issues in the field of spirituality. The context here is both an academic discipline with a plethora of definitions and, more specifically, an African workplace where miners have severed their spinal cords.

To fully explain this trajectory and the concept of spirituality, it is important to begin with a high level of conceptualisation and a brief history of the understanding of spirituality over time. The researcher will first offer what he regards as a concise interpretation of: (a) Western understandings of spirituality; (b) an African understanding of spirituality in the context of spinal cord-injured South African miners; (c) why spirituality is becoming important in the workplace; and (d) three approaches to workplace spirituality, which will be presented as lenses through which to evaluate any discussion of workplace spirituality.

The Melanesian concept of “manoa”⁴, or the waves of the ocean as they move around the Solomon Islands, captures the enormity of the hermeneutical trajectory that the researcher proposes to trace. Since manoa suggests a plethora of energies and life forces in the ocean, it is useful to remember the caution raised by Evelyn Underhill (1937) early in the twentieth century regarding definitions of spirituality: “... so while we must avoid too much indefiniteness and abstraction on one hand, we must also avoid hard and fast definitions on the other hand. For no words in our human language are adequate or accurate when applied to spiritual realities” (Underhill, 1937, 23). While respecting Underhill’s (1937) overall caution, the researcher also contends that critical approaches to spirituality, including robust and specific definition, will enlarge the scope of this concept (Kellemen & Peltonen, 2005; Neck

⁴ Winston, a bishop and lecturer in Theology, in our conversation (2008) about the research, described the spirituality of the Solomon Island people of Melanesia as focused on waves of energy that carry with them both sources of sustenance, and a deeper force that can make or destroy.

& Milliman, 1994). In such a context, spirituality goes beyond the idiosyncratic journeys of individuals to include our homes, our communities, our jobs and our pain (Neck & Milliman, 1994; Nurenberg, 2007; Thurman, 1984).

2.2 WESTERN CONCEPTUALIZATIONS OF SPIRITUALITY

Influenced by past philosophical questions focusing on the history of knowing and the search for identity, Western conceptualizations of spirituality tend to privilege the struggle of the individual. This struggle may have been influenced by Cartesian dualism and the search for connection between mind and body in early modern philosophical debates. Ashford and Pratt (2003) understand this search as a striving for connection⁵, coherence⁶ and competence⁷. In such a philosophical context, spirituality figures as the human striving for the transforming power present in life and the quest to move and be attracted to the divine within each one of us (Neck & Milliman, 1994). The focus is the individual, and the locus is the search for the divine within the individual. Spirituality thus fulfils a utilitarian purpose as we seek to find meaning and purpose in our lives and to live out the deeply held personal values that we regard as consistent with this inner discovery (Ashford & Pratt, 2003; Neck & Milliman, 1994). These values often reflect a desire to make a difference and to create a meaningful world (Neck & Milliman, 1994).

Yet Western spirituality is also still associated with narrow understandings of religion that run against broader philosophical or conceptual approaches. Each time the vexed question of spirituality's relation to religion is revisited, especially given the increasingly pluralistic belief systems of the West, concerns about conceptual clarity are raised (Gibbons, 2000). It is not the researcher's intention to resolve this vexed question, but he does submit that religion remains an important context for spirituality, given that much of the world's population still regards itself as religious, and that for many, even in a post-modern context, spirituality remains the most

⁵ This is about transcendence of self, and a connection to something greater than one's boundaries.

⁶ This implies a certain degree of self- insight, authenticity and balance.

⁷ This relates to growth, a sense of self-development or self-actualization.

meaningful path to a deep communion with God. At the same time, it would be naive to ignore those in the West who, with the advent of postmodernism, no longer regard God as the object of their spiritual search, or religion as its context. Their path has rather become one of communion and connectedness with other transcendent conceptions.

What then are the themes emerging in contemporary Western definitions of spirituality? At this stage, two possible themes are emerging: (a) a focus on the irrational, the emotional, the mysterious and the tacit within oneself; and (b) a focus on transcendence, in the form of a connection with a higher reality or cosmos, God or otherness (Kellemen & Peltonen, 2005; Tisdell, 2000; & Eisenberg, 2001). It has even been asked whether the word “spirituality” is still appropriate for defining the quest of the post-modern seeker. Addressing this concern about the term spirituality, Hadot (1995, p.82) states that “it is necessary to use this term, I believe, because none of the adjectives we could use - “psychic”, “moral”, “intellectual”, “of thought”, “of soul” - covers all aspects of the reality we want to describe. Commenting on the Spiritual Exercises of Ignatius of Loyola in particular, Hadot (1995) affirms, “the word spirituality is quite apt to make us understand that these exercises are the result, not merely of thought, but of the individual’s entire psychism. Above all, the word ‘spiritual’ reveals the true dimension of these exercises. By means of them, the individual raises himself up to life of the objective Spirit; that is to say, he replaces himself within the perspectives of the Whole” (Hadot, 1995, p.82). Hadot (1995) may be commenting specifically on Ignatius’ spiritual exercises, but he raises key points regarding the appropriateness of the concept of spirituality and its contents. His implication is that spirituality can potentially lead to the development of an ethical attitude, and that through spiritual awareness, individuals can sense and control their passions and see their actions in a larger context (see also Foucault, 1986; Kellemen & Peltonen, 2005).

As we can already see, contemporary Western definitions of spirituality tend to conceal as much as they reveal (Bauman, 2000; Underhill, 1937; Kellemen & Peltonen, 2005). Bauman (2000) articulates this problem most forcefully, asserting

that definitions of spirituality often 'maim and obfuscate' while pretending to clarify and straighten up. He cautions, however, that if we fail to coin a rational definition, we would enter the post-modern world ill-prepared to tackle the essential (research) questions. Post-modern Western spirituality is thus characterized by a subtle quest for new "grand theories." The West's longstanding search for "knowing" has been recast as the fear of dogma and/or religion as paths for the individual's spiritual longings, and as contexts in which to develop ethical responses. The researcher nevertheless asserts the possibility of developing rigorous contemporary definitions and conceptualizations of spirituality that can advance research in what remains an important area of human experience and thought.

Western spirituality tends to define itself in terms of the abstract, the universal, and the inclusive, which allows it to accommodate many different belief systems and spiritual paths. King (1997), for example, defines spirituality as the search for meaning, inner wholeness and connectedness to others, to non-human creation and to the transcendent. This level of abstraction and the universality of its applications, however, afford little practical help in terms of how spiritual seeking might be conducted, or what variety of belief systems might guide that search (Gibbons, 2000). It would seem that greater specificity is needed to fully understand the phenomenon of contemporary Western spirituality. How might the invocation of a specific worldview, for instance, help to tease out the possible components of a working definition of spirituality?

Western conceptualizations of spirituality are not, of course, immune to dominant Western ideologies. One cannot consider post-modern Western spirituality, for instance, apart from the global Western capitalist system. Post-modernism itself has not escaped the web of globalization, and has been used within the contemporary capitalistic system as a tool to question pre-globalization concepts of knowing. Were spirituality also to become tool-globalized capitalism in a post-modern world, it would risk the exclusion of the mysterious and the privileging of rationality as the sole source of knowledge. Such a concept of spirituality, of course, could not escape criticism, as life is much more complex than mere rationality. Some degree of

eclecticism will thus assist in conceiving of spirituality as a transcendent spiritual journey, rather than a scripted spiritual journey (Gibbons, 2000; Heelas, 1998). What the researcher seeks is a concept of spirituality that can assist us in addressing the following questions. What is workplace spirituality in particular? How does it differ from its pre-modern and modern ancestors? And how might African concepts of spirituality assist in developing a typology that would organize conceptualizations of post-modern spirituality into three types of definition, namely, religious, secular and mystical (Gibbons, 2000).

The religious and the secular are embedded in Legge's (1995) three-fold categorization of approaches to spirituality as *normative*, *descriptive* and *critical*. Legge (1995) subdivides the normative into the secular and the religious. He characterizes the descriptive as focused on meaning and the concrete manifestations of spirituality. The third or critical-evaluative category has been elaborated by Ackers and Preston (1997), who argue that it ensures that spirituality is not used to cover the ruthless operations of capitalism and further alienate and deskill without changing the basic economic relations of production and consumption that sustain the exploitative conditions at work (Ackers & Preston, 1997). The following summary of spiritual categories will both assist in the understanding and conceptualizing of spirituality, and serve as a brief historical survey of workplace spirituality.

The religious view of workplace spirituality uses the religious community to model how spirituality leads to moral conduct and the general mental and social well-being of organizations. It acknowledges the Christian heritage of secular workplace spirituality and discusses its potential for the development of spiritual management (Delbecq, 2000). In contrast, the secular notion invokes earth-centred, nature-centred and humanistic spiritualities (Legge, 1995). The main thrust of Western secular spirituality is away from monotheism and toward pantheism and atheism. This category includes social and environmental activism, which is understood more in terms of humanism than religious belief (Maslow, 1970). The aim of secular spirituality is to articulate ethical codes and strong values as spiritual pathways

(Krieger & Hanson, 1999; Milliman, 1999). Individuals can thus base their personal projects of transcendence and fulfilment on universal values.

The mystical tradition is regarded as a sub-discipline of the Abrahamic faiths (Judaism, Christianity, and Islam), as well as most Eastern spiritualities (Schmidt & Posner, 1983). In this category, the goal is the mystical presence in individuals' lives. Claims are made for organizational outcomes of lowered stress and improved effectiveness in those who pursue this type of spirituality (Schmidt & Posner, 1983).

These categories do not, however, help to address the vexed relationship of religion to spirituality. When they take on the issue at all, they tend to present a negative view of religion as restricting and inhibiting human potential, while perceiving spirituality as a positive force that speaks to the greatest of human capacities (Gibbons, 2000; Pargament, 1999). Perhaps, this disciplinary dis-ease with religion can be approached by asking the following critical question: What religious values or attributes embodied and practised by spiritual persons in the workplace, and in society, would best serve the conceptualization of spirituality? Table 3 offers a useful summary of what these values and attributes might be and of how they might manifest as activities.

Table 3: Manifestations of spirituality: Attributes vs. activities (source: Giacalone & Jurkiewicz, 2004)

Spiritual Attributes	Spiritual Activities
Greater capacity to love	Transcending physical and material
A recognition of divine presence in ordinary Activities	Experiencing a heightened sense of awareness.
Broader worldview	Acting on positive attitudes
Intention to live with integrity	Acting virtuously
Intention to develop sacred relationships	Living out one's deep personal values
A belief that there are multiple levels of reality that are not readily apparent	Acting with altruistic love and action
Confidence that life is deeply meaningful	Affirming what is essential through service
Confidence that one's own existence has purpose. A deep awareness of human suffering, pain, and death	Acting with authenticity. Using spiritual resources to develop solutions.
Having a source of yearning	Self-actualization
Desiring meaning and purpose	Seeking personal integration
Desiring to create a meaningful world	Going beyond one's self-interests
A sense of responsibility to life itself	Ability to live with inconsistencies
A sense of inner truth	Accepting life and others on their own terms

Spirituality figures here in a pluralistic world. In contrast to a belief in God as the sine qua non of spirituality, these belief systems privilege a supernatural other, meaning, inner truth and ethical living. They facilitate the individual's quest for meaning, but are devoid of the sacred. Table 7 continues this discussion and offers the various dimensions of Williams' (2004) and Thurman's (1984) views of the content of a Western-religious conceptualization of spirituality. This table presents a post-modern, Western conceptualization of spirituality.

Table 7 drawn from Thurman (1984), Fluker (2003), Mitroff, Denton and Ferguson (1999), Reder (1982) and Zohar and Marshall (2004) offers some of the values that may best help in the conceptualization of spirituality in the Western worldview. They include compassion, integrity, caring, empathy and self-respect.

The abstraction of spirituality in this way affirms that there can never be a “content-free” spirituality, and also that spirituality can never be reduced to static dogma but is rather a dynamic “*manoa*” initiated by prayer, meditation, sacred texts, and sacraments on the one hand, and on the other hand by the quest for ethical living and values such as compassion, mindfulness, love and integrity. These values, in the Christian sacred text, are appropriately referred to as the “Fruits of the Spirit.” Hawley (1993, p.3) makes a useful, but inadequate, attempt to reconcile religion and spirituality when he states “spirituality is the goal and religion the path,” This is an artificial and unsustainable distinction, however, as will be demonstrated when the African worldview is brought to bear on Western conceptualizations that often suffer from their dualistic Cartesian ancestry.

2.3 THE AFRICAN CONCEPTUALIZATION OF SPIRITUALITY

In Chapter 1, Nurenberg (2007) and Mtuze (2003) reminded us that the African worldview is a dynamic worldview. In this worldview, “everything that exists harbours impersonal forces and such forces drive everything that happens. Like a vast ocean, the *manoa*, this worldview’s dynamistic power can be relatively calm or in tempestuous turmoil, but it is always in motion (Nurnberg, 2007, p.22). Therefore, its momentum through the whole of life cannot be put in pockets or dichotomised. In this worldview, the overflow of the *manoa*, which is equated with “spirit” in everything that exists in this world and beyond, can go in beneficial directions or in detrimental directions. When the spirit goes in detrimental directions, rituals are performed within communities to assist in maintaining the desired beneficial state and to eliminate the detrimental spirit (Mtuze, 2003). In these communities, the most important positive flow of dynamistic power is the life force of the extended family, the clan, the chiefdom and kingdom (Makgoba, 2005; Dube & Makgoba, 1997). Life

is life-in-community, and there is no other possible life (Nurnberg, 2007; Makgoba, 2007).

Furthermore, within this worldview, there is a general agreement that this life-force is directed by a Supreme Being, normally not directly accessible to all. However, there are “go-betweens” (ancestors) that make this accessibility possible. Certain rituals are also performed to evoke the ancestral action, especially when the detrimental forces seem to pervade the community, either directly or through a particular individual. There may be insufficient anthropological support for this belief, but it is an existential reality for these communities (Nurenberg, 2007). In contrast to Western concepts of spirituality, the focus and locus of the search for health, for example, is not the individual, but is rather the community and community relations. Individual ailments, diseases, misfortune, barrenness, premature deaths, and even spinal cord injuries and mental disorders are attributed to diseased relationships. Healing is only possible when these relationships are restored within the community – a community that extends beyond death (Nurnberg, 2007).

This African conceptualization does not create a dichotomy between path and goal, as in Hawley’s (1993) attempt to reconcile Western spirituality and religion. An African proverb states, “the path is made and known through walking it.” It suggests that the content of spirituality is not scripted from previous ways of knowing alone, but that it is formulated in, and as, the spiritual journey itself. The journey is not that of an individual, but rather one that the individual travels together with the whole of life, including those that have traveled before, those who are currently living, and those who are no longer alive.

The Setho word *umoya*, or spirit, like the Greco-Roman *spiritus*, or life-force, suggests a presence that is in all, and for all. It is in rocks, ants, mountains, ravines, God and gods, lightning, animals and the community.

The bedrock of African spirituality is a set of values called the Ubuntu ethic. At the heart of Ubuntu is a sense of community. The African God, termed, Qamata or

Modimo points to the transcendent one who holds together the community of the living and the dead for the common good. Among the living, a human being who embodies and radiates this connection, and who practices the positive ethical values of Ubuntu, is described as having “seriti.” Seriti is a combination of dignity, integrity and respect. It literally means the shadow. Others as a white cloud or an attractive presence attending a person who has a spirit of generosity, the ability to receive as well as give and the capacity to forgive and to respect difference and diversity (Tutu, 1999; Mbete, 2006) perceive this shadow.

One of the researcher’s challenges is to bring to bear this level of spiritual abstraction in a quantitative study that aims to provide face validity for the concept of spirituality at work. How can one measure concepts such as Ubuntu, Modimo, or seriti? How can one define the contents of a force that permeates all life? Yet regardless of their resistance to quantitative analysis or conclusive definition, these concepts inform the spirituality of the spinal cord-injured South African mineworkers who are the subject of this study, and as such, they must be honored and to some extent explained. Table 4 provides a descriptive overview of the main tenets of African spirituality.

Table 4: The main tenets of African spirituality (source: Nurenberg, 2007; Mtuze, 2003; Makgoba, 2005)

Tenets	Description
Healing-well being	Broken spirits are the source of emotional suffering. Healing thus focuses on the community and its broken spirits, rather than on the emotional suffering of the individual.
Self Understanding	Individuals understand themselves relationally.
Connectedness	The art of listening to oneself and nature is central to the individual's spiritual journey and meaning.
Family Relations-community	Family is central to all relationships and self-identity.
Creation	Ancestors are part of existential reality. Life is not merely about the here and now, but is also linked with those that have come before us.
Human Nature	Seriti, or dignity, is the salient quality for relating to God, nature and others.
Personal Values	Seriti is central.
Life force	That which holds all life together and is related to the source of all life. Maintaining safety is key, hence rituals performed in the absence of safety.
Qamata or Modimo	There is a supreme being who initiates all beings and non-beings into existence.

Most people in the South African context, especially African mine workers, regard themselves as people of faith and as religious practitioners. The vexed Western dichotomy of religion and spirituality is thus irrelevant to the South African context, as is the characteristically idiosyncratic spiritual journey of the Western individual. Rather, most South Africans experience their spirituality as an accompanied communal journey wherein health, well-being and healing are the core components.

The quality that most characterizes a spiritual person in this context is *seriti*, in the form of a self-aware congruency between the integrity of one's inner life and the community's perceptions of one's actions and public ethics. This connectedness of the individual within the community is a function of one's openness to receive and live that connected life in the context of an overflow of *umoya* or *spiritus* (Makgoba, 2005).

In summary, the salient differences between Western and African concepts of spirituality are: the African emphasis on the communal as opposed to the Western focus on the individual; the African location of personal fulfilment within a context of communal healing and well-being, as opposed to the de-contextualized Western quest for individual meaning and fulfilment; and the African adherence to a belief in God and ancestral mediation, as against the tendency in post-modern Western spirituality to do away with concepts of God and religious practice. Yet despite these differences, African and Western concepts of spirituality do share a concern with *seriti*, i.e., the belief that individual ethical principles must be lived out in public space. In both worldviews, spiritual persons should be people of integrity, care, compassion, empathy, self-respect and love.

A person with *seriti* in an African context is comparable to what Maslow (1970) describes as a self-actualised person in a western context. Thus, both Western and African understandings of spirituality require high levels of personal awareness and ethical conduct. How do these concepts of spirituality play out in the workplace, and why is spirituality itself becoming an increasingly important concept within the workplace?

2.4 WHY IS SPIRITUALITY IMPORTANT IN THE WORKPLACE?

Howard and Welbourne (2004) provide a straightforward answer to this question in their assertion that people have souls and must therefore, by definition, bring their souls with them to work. Spirituality at work is thus important in helping individuals

to integrate their most felt need and their work. The more the workplace can facilitate this integration, the more it will have fulfilled workers who return to their families and communities contented, refreshed and ready to contribute rather than escape (Gibbons, 2000).

Since the spirit is an important element of being a human being and human flourishing, failure to exercise it and/or release it in the workplace is unnatural and likely therefore to be deleterious (Hawley, 1993). Research studies have also concluded that, in addition to enhancing personal fulfilment, workplace spirituality helps individuals and businesses to become humane, socially active and environmentally responsible (Gibbons, 2000). Peters & Waterman (1982) found, and was later echoed by Collins and Porras (1994), that companies “who stood for something” outperformed those that did not, while Loyd (1990) reports that “companies of the future are the imaginative, caring, sensitive and loving ones”, and that companies that refrain from hostile take-over bids outperform those who do not by 86% (Collins & Porras, 1994, p.109, p.225).

Despite Loyd’s (1990) optimistic view and quantification of the performance benefits accruing to caring companies and those not involved in hostile take-over bids, others argue that there is still no clear indication that investment in organizational spirituality can add value to a company’s bottom-line (Weaver & Angle, 1999; Hicks, 2002). Anecdotal and qualitative research results, however, support the importance of workplace spirituality. Rosen (1999) concludes that healthy companies possess and emanate a certain vitality and spirit – a deep feeling of shared humanistic values at the core of the company – and it is these values that are the glue that binds healthy, successful employees with healthy, productive workplaces (Rosen, 1992). Brown (1992) also found that a sense of community at work led to greater employee satisfaction because, according to Rosen (1999, p.124), “our heart’s desire is to be part of a larger community of endeavour that is worthy of our best effort”. Vaill (2000) argues for the usefulness of workplace spirituality by claiming that the spiritual dimension is the special energy behind all situations of great achievement. He suggests that allowing people to access the spiritual dimension of their work not

only improves their health and well-being, but also accelerates organizational change (Rosen, 1992).

Brown's (1992) findings are congruent with African spirituality, in that he connects workplace spirituality to a sense of community and our effort to do well. Vaill's (2000) conclusions about the importance of workplace spirituality also resonate with African concepts of spirituality. He understands spirituality as a form of energy behind all situations (of great achievement), and connects it to health and well-being. Reichheld (1996) also conceives of spirituality in terms of energy, and Brown (1992) speaks of finding that work that is congruent with personal principles as a source of energy. The critical question for the current study, then, is whether the mining workplace is congruent with the personal principles of African miners. To take on this question, the researcher musters both anecdotal information and quantitative research into the spirituality of spinal cord-injured miners in a South African mining context.

This brief discussion of the relevant literature seems to suggest that workplace spirituality is a valuable phenomenon not only for organizations and academic studies, but also as a philosophical approach that can transform inhumane and exploitative places of work. The phenomenon of workplace spirituality will be more fully discussed in Chapter 3. We turn now to the three lenses that the researcher earlier proposed as ways of viewing spirituality in general, and workplace spirituality in particular. These lenses are the palliative, the accommodationist, and the transformative, whose definitions, similarities and differences are now discussed in the ensuing paragraphs.

2.5 THE THREE LENSES OR CATEGORIES OF SPIRITUALITY

The authors and writers whom we can broadly put into the palliative category include the most religious mystics who wrote on spirituality (Merton, 1961; Keating, 1999; Nouwen, 1994a, 1994b), and some current writers (Carson, 1992; Gibbons, 2000; Runcorn, 2006; Fluker, 2003) on the topic. It is important to note that the writers in

this category are fulfilling a particular need, at a particular time, and for particular reasons. Their views of spirituality tend to centre on the individual (Nouwen, 1998; Hawley, 1993), and the individual's longings or meaning-making (Mitroff, Denton & Ferguson, 1999; Zohar & Marshall, 2004). It has even been suggested that these writers present spirituality as a commodity for self-indulgence, e.g., Lamont (2002), Ramon (1987) and Nouwen (1994b), reducing it to a simple quest for individual self-expression and self-understanding with no apparent concern for establishing clear parameters of meaning (Neck & Milliman, 1994; Drane, 2005). These writers are criticized for presenting spirituality as an escape from the reality and harshness of "everydayness" and the challenges of life's full tensions. At worst, this form of spirituality risks becoming an instant alternative to existential realities, or a "band aid" for the self (Delbecq, 2000; Legge, 1995).

In contrast to these palliative writers, there are those who have been called "accommodationist" (Nolan, 2006a; Wilber, 1983). Accommodationist acknowledges that the construct of spirituality lacks sufficient conceptuality, particularly as it relates to the place of work, pastoral care and phenomenological and existential issues. In addressing this apparent lack of conceptuality, they propose a possible second route, that of the *via media*, which integrates an emphasis on a deity and palliative care with consideration of the communal context, thus offering a continuum from the individual to the community, rather than an either/or model (Peters & Waterman, 1982; Renesch, 1992).

The accommodationist or *via media* authors include Williams (1991), Thurman (1984), Gibbons (2000) and Fluker (2003). They are resolute in their opposition to the construction of spirituality as the teleological or deontological quest by individuals for their own ends. Rather, they insist on rooting the interior search in the good of the community (Reder, 1982; Rosen, 1992; Williams, Casaubon & Anderson, 2008). It is on this middle ground – the accommodationist or *via media* approach to spirituality in the workplace – that the researcher stakes his own exploration of workplace spirituality, rooting it in African concepts of spirituality and self-identity

that are communal rather than individualistic (Williams, 2004; Kinjerski & Skrypneck, 2006; Gibbons, 2000; Nolan, 2006b).

The accommodationists have been criticized for a lack of definitional clarity that reduces spirituality to a conglomeration of constructs that can be perceived as anything by anyone who wants to appropriate them for their own ends. This criticism emanates from writers in the third category, which has been called “revolutionary” or “transformative” (Hackman & Oldham, 1976; Carrette & King, 2004; Weber, 1930; Wilber, 2000). These revolutionary or transformative critics resist any tendency to assume an inclusive, global spirituality, which they suspect of being religion repackaged (Carrette & King, 2004; Moe-Lobeda, 2002; Reichheld, 1996; Howard & Welbourne, 2004). In rejecting what they dub the “accommodationist orientation,” these critics argue for a spirituality that is devoid of any religious connection.

Spirituality cannot be repackaged religion, they argue, nor can it be used as a tool for oppression, as in the past (Hackman & Oldham, 1976; Carrette & King, 2004; Weber, 1930; Wilber, 2000). According to this school of thought, the vexed dichotomy of spirituality and religion should be resolved by categorically separating spirituality from religion (Carrette & King, 2004). Spirituality should rather be transformative for the individual, the community and the capitalist workplace, focusing on values such as social justice⁸ and compassion⁹ (Peters & Waterman, 1982; Hawley, 1993; Reder, 1982; Runcorn, 2006). offers a summary of the generic, or global, values that undergird transformative spirituality, in their internal and external manifestations. Table 6 offers a survey of other generic values or “proxies” that may be regarded as informing workplace spirituality.

⁸ Social justice is a biblical concept aimed at creating global justice and working towards ending inequality. The United Nations Declarations of Human Rights and the Millennium Development Goals are tools to measure the efforts by countries to ensure this social justice.

⁹ Compassion is defined as ‘feeling with,’ or as putting oneself in the shoes of those who suffer.

Additional generic values might include connectedness, transcendence, organizational values, self-actualization, internal motivation, soul-friendliness, wholeness and energy, direction, and inner wholeness (Gibbons, 2000; Howard & Welbourne, 2004; Reder, 1982; Kinjerski & Skrypnek, 2004).

Table 5: Generic/Global values of spirituality (sources: Sheldrake & Fox, 1997; Poole, 2006; Jung, 1966; Neck & Milliman, 1994; Fluker, 2003)

Internal View – Individual’s Interior	External View – Connectedness
Compassion (action on behalf of others)	Empathy
Respect for others	Respect for oneself
Practicing social responsibility	Deep awareness
Solidarity	Moral code/ethics
Devotion to the needs of others	Character

Table 5 above gives the internal and external views of what may constitute global spirituality, while Table 6 provides further “proxies” of what may constitute spirituality in the workplace.

Table 6: “Proxies” or generic values that may be regarded as workplace spirituality (sources: Kinjerski & Skrypnek, 2004; Gibbons, 2000; Fluker, 2003)

Spirituality Proxy	Author(s)
Sense of Purpose	Milliman, Ferguson, Trickett & Condemi, 1999; Collins & Porras, 1994
Values and Ethical	Moe-Lobeda, 2002; Renesch, 1992; Zohar & Marshall, 2004
“Metanoic” ³	Kiefer, 1992; Peters & Waterman, 1982; Reder, 1982
Job Satisfaction	Hackman & Oldham, 1976
Other-Worldly	Kinjerski & Skrypnek, 2004
Community Sense	Rosen, 1992; Mitroff, Denton & Ferguson, 1999
Loyalty	Reichheld, 1996; Heskett, Sasser & Schlesinger, 1997a, 1997b
Health and Well-Being	Hawley, 1993
Personal Growth	Neck & Milliman, 1994
Shared Values	Renesch, 1992; Reder, 1982; Zohar & Marshall, 2004

'Workplace spirituality' is perceived as an interpersonal locus of control¹⁰ (individual responsibility), or sometimes as a disguised spiritual intelligence (SQ). It has been described encompassing self-awareness¹¹, spontaneity¹² and vision¹³, and as being value-led¹⁴ (Zohar & Marshall, 2004; Joley, 2002; Hood, 1992; Erikson, 1995). It has been defined as a journey towards integration of work and spirituality for individuals (Fluker, 2003; Butts, 1999; Gibbons, 2000), in which "work" is defined as that which gives the character¹⁵, meaning¹⁶, dignity¹⁷ and status¹⁸ in human life (Dehler, 1994; Jurkiewicz & Giacalone, 2004). Organizations, in this sense, provide the context, which enables direction¹⁹, wholeness²⁰ and connectedness²¹ (Gibbons, 2000; Tischler, 1999). More specifically, Dunn and Ambige (2004), Kellemen & Peltonen (2005), Tisdell (2000), Mitroff, Denton and Ferguson (1999), Zohar and Marshall (2004), as well as Thurman (1984) define it as the search for meaning and connectedness that is refined by ongoing dynamic and dialectical relations between the individual in community, their work context, work content and their respect for their respective cultures, as well as the immediate environment within which this relationship is shaped.

These accounts of workplace spirituality (largely palliative and accommodationist) do not seem to address the particularity of the lived experience of indigenous Black South African spinal cord-injured mine workers, following mine underground accidents. These workers nevertheless provide an excellent microcosm for rethinking spirituality in the South African workplace, as their injuries almost naturally force them to confront their own spirituality and make sense of it – and given that the mining sector is the largest employer in South Africa. Gibbons' (2000) question

¹⁰ Refer to inner wholeness or journey and enabling the individual to transcend self and be connected with others for the greater good.

¹¹ Refer to self-actualization or, awareness of personal growth.

¹² Refer to soul-friendliness or internal motivation.

¹³ Refer to a vision of the greater good, and vision of one's own health and well-being.

¹⁴ Being good and loyal or being ethical in terms of organizational values.

¹⁵ Refer to moral strength or being good and ethical or honouring organizational values.

¹⁶ Refer to this as meaning-making, or interpreting the world of work.

¹⁷ Refer to a sense of elevation enhancing the person's well-being and sense of self.

¹⁸ Refer to a position within the community.

¹⁹ Refer to movement towards integrating inner wholeness and the world of work.

²⁰ Refer to wholeness' as a proxy for spirituality that is evident in job satisfaction and personal growth.

²¹ Refer to connectedness as a sense of being connected with others.

seems particularly a propos: “Can spirituality, as we have traditionally defined it (historically rooted in religion and religious practice), co-exist with the techno-economic, the socio-cultural and the scientific perspectives?” (Gibbons, 2000, p.12). Are there, in the South African context, the primers or indicators for workplace spirituality, as advocated by Church and Waclawski (1998)? Which attitudes, values and experiences best define workplace spirituality and its relevancy to workers in the South African context (Carrette & King, 2004; Kinjerski & Skrypneck, 2004, 2005; Cavanaugh & Bandusch, 2002; Kvarfordt & Sheridan, 2007)? The revolutionary or prophetic categories of writers (Carrette & King, 2004; Weber, 1930; Gibbons, 2000; Boje, 2000; Bell & Taylor, 2001) claim that, should spirituality fail to address issues of tragedy and perceived socio-economic injustice, it should be discarded as unviable. Spirituality must, therefore, be transformative²² – but how can it be, when it is also captive²³? Perhaps the worldview of African spirituality may hold an alternative for the praxis and re-conceptualization of spirituality (Kretschmar, 1997; Mtuze, 2003; Mosala & Thlagale, 1986; Mbete, 2006).

Two dialectical categories have been chosen, namely, the “*via media*” and the transformative, due to their requirement for critical reflection on the discourse of spirituality. They also provide the best foundation for the composite definition that will be developed by integrating the tenets of African spirituality into this discourse. African spirituality does not separate the sacred from the secular, because the rhythm of daily life is understood as entirely spiritual (Mtuze, 2003; Mangaliso, 2001; Mbete, 2006). African spirituality is thus holistic. It is for the benefit of all, and its goals are compassion, social justice, and respect and care (Mkabela, 2005, Mbigi, 1995).

Archbishop Rowan Williams, subscribing to the *via media* category, maintains that spirituality is never abstract or pure in form, but that it seeks to integrate all aspects of human experience, including our idiosyncrasies, and the moral and relational worlds (Williams, 1994 and cited in Sheldrake, 1998, p.59). Williams’ (2004) definition is useful in moving spirituality from our internal, idiosyncratic or egoistic world to our

²² It is about the move from self-actualization to concern for the common good.

²³ This asks the question of whether the two concepts are incompatible or not, that is, can workplace spirituality co-exist with the world of business or will it be captive to the pursuit of profit?

duty and responsibility to others in the world. Williams' (2004) conceptualization may be usefully compared with Thurman's (1984, p.2), who views spirituality as a way of seeking or being in relationship with an Other²⁴ who is believed to be worthy of reverence and the highest devotion. Through a combined consideration (Thurman, 1984; Williams; 2004), we see a blend of spirituality as connected with a Deity²⁵, and the responsibility that we should have towards this Deity as expressed in relationship with others.

Table 7: Various dimensions of Williams' (2004) view and Thurman's (1984) view (sources: Williams, 2004; Thurman, 1984)

Williams (2004)	Thurman (1984)
Meaning-Making	Work Providing Meaning
Relational	Common Source/Connectedness
Rooted in God	The Other/Deity
Salience/Worshipping Community	Reverence and the Highest Devotion of the Other
Values; Integrity	Mutual Understanding of Values

When these two hermeneutical horizons from different times and contexts coalesce, they offer an eclectic vision that may be interpreted as follows: spirituality is about our common source, as we live with integrity²⁶ with each other in our borrowed contexts. When this integrity is not evident in our relationships, we have a moral duty to correct it, based on our mutual understanding of values and our notion of who the Other expects us to be, and what the Other expects us to do. This conceptualization is useful, but broad. It derives from an obviously religious perspective, but does not lend itself to clear implementation.

Gibbons (2000) included in the *via media* category in a different sense, moves spirituality out of the realm of religion and into the field of work. He defines spirituality at work as “a journey towards integration of work and spirituality, for individuals and organizations, which provides direction, wholeness and connectedness at work” (Gibbons, 2000, p.6). This conceptualization introduces another aspect and

²⁴ Refer to 'Other' as the one worthy of reverence, as in God.

²⁵ Deity as in God or god but in this sense is God as in most World Religions perceives it.

²⁶ Refer to adherence to moral and ethical principles.

use of spirituality. Without venturing into a philosophical debate about utilitarianism and instrumentalism (Hadot, 1995; Habermas, 1988), it is important to highlight one aspect of Fluker’s (2003) definition, namely, his emphasis on the connectedness of the individual and the place of work. Fluker’s (2003) work is useful in raising questions about what work is, what constitutes its primary goal and how it is related to spirituality. Although one could characterize his definition of spirituality as “accommodationist” in orientation, it does not include religion or a deity. Rather, it treats work itself as a deity. Thurman (1984) defines work as the vehicle that delivers character, meaning, dignity and status in human life. If this definition of work by Thurman (1984) and Fluker (2003) is to be followed, then one can deduce that work and spirituality have symbiotic relations in their quest for meaning and connectedness (Mitroff, Denton & Ferguson, 1999; Reder, 1982; Zohar & Marshall, 2004), which can also be linked to the positive attributes of both an individual and the place of work. Table 8 provides a summary of positive attributes of individuals and the workplace.

Table 8: Positive Attributes of Spirituality at Work and of the Individual Sources: (Thurman, 1984; Fluker, 2003; Mitroff, Denton, & Ferguson, 1999; Reder, 1982; Zohar & Marshall, 2004)

Positive Attributes of an Individual	Positive Attributes of Places of Work
Compassion	Character
Integrity	Meaning
Caring	Dignity
Empathy	Status
Self-Respect	Self-Worth

Carrette and King (2004), who represent the revolutionary or transformation category, argue that spirituality cannot be repackaged in this way, especially within religion. Spirituality, in their view, must not be used as a tool for oppression, and thus they urge that it must keep religion out, striving instead for generic values of social justice and compassion. These writers and others (Ackers & Preston, 1997; Bell & Taylor, 2001; Boje, 2000) emphasize that spirituality cannot be about the individual, nor about cultural addictions that avoid the community’s traditional values. Rather,

spirituality must be about challenging the ills of our work policies (Neck & Milliman, 1994). They advocate what Nolan (2006a) calls an engaged and radical spirituality, which should form the basis of civic engagement.

Weber (1930), Boje (2000), Ackers and Preston (1997), as well as Nolan (2006a) advocate a radical, transformative spirituality in the workplace that is neither translative nor palliative. In particular, Bell and Taylor (2001) assert that ‘unfettered capitalism’ de-sacralises life, whereas spirituality should have everything to do with making life sacred (Delbecq, 2000; Drane, 2005; Green, 2007) including economics and politics (Hadot, 1995; Foucault, 1997; Legge, 1995), and that it must challenge the very tenets of traditional capitalism (Krieger & Hanson, 1999; Delbecq, 2000). Thus, spirituality at the place of work should not only be opposed to the spirit of capitalism, but it should lead to the development of ethical attitudes (Hadot, 1995; Foucault, 1997). There is, however, a growing despondency amongst some writers (Lee, 1991; Hawley, 1993; Kiefer, 1992; Carrette & King, 2004) in the prophetic or radical category, who fear that spirituality in the workplace is largely irrelevant and offers no alternative to capitalism (Boje, 2000; Bloesch, 2007). They advocate the deployment of appropriate universal values and goals of social and economic action in the workplace (Boje, 2000; Carson, 1992; Goldsby, Neck & Gerde, 1998; Groody, 2007; Legge, 1995; Delbecq, 2000), rather than spending more time on spirituality.

2.6 SPIRITUALITY SYNTHESIS

What is spirituality? In this next section, more definitions will be explored, but instead of categorizing them under the headings of palliative, “via media”, and transformative, as has been the case thus far, the researcher will attempt to develop some form of synthesis on workplace spirituality. Kvarfordt and Sheridan (2007, p.6) offer a typically generic and palliative definition of spirituality: “... [it is] the search for meaning, purpose and connection with self, others, the universe and ultimate reality, however one understands it.” It is the last part of their statement that is most problematic, that is, “however one understands it.” In this formulation, spirituality is limited to an individual’s self-expression and self-understanding (Lamont, 2002; Neck

& Milliman, 1994), with no clear parameters as to what it is that we are exploring beyond that individual's self-understanding.

If this definition is integrated with the "via media" category, spirituality then becomes a search for the integration of something that defines the character of meaning (Mitroff, Denton & Ferguson, 1999; Zohar & Marshall, 2004) and gives dignity and status to all aspects of the human experience (Williams, 2004; Gibbons, 2000; Fluker, 2003) as individuals seek ways of being in relationship with a transcendent Other (Thurman, 1984) through the creation of critical reflection space (Howard & Welbourne, 2004). Workplace spirituality then comes to be understood as not seeking to oppress (Carrette & King, 2004; Boje, 2000), but rather to release communities to search for values (Reinesch, 1992; Neck & Milliman, 1994; Zohar & Marshall, 2004) of social justice (Bourdieu, 1999; Delbecq, 2000; Giloth & Meier, 1989) and compassion (Nolan, 2006b; Williams, 2004).

This synthesis is broad. It attempts to be faithful to the authors discussed, while highlighting the absurdity of putting together a conglomeration of different strands in order to define spirituality. To demonstrate this point further, we can expand a different strand of spirituality in relation to work. In the context of work, spirituality is a search for meaning, purpose and connectedness (Gibbons, 2000; Tischler, 1999) that is refined by ongoing dynamic and dialectical relations between the individual in community (Rosen, 1992; Neck & Milliman, 1994; April & April, 2007), the individual's work context and the content of their work (Hackman & Oldham, 1976; Tischler, 1999) and their respective cultures (Hofstede, 2001; Kellemen & Peltonen, 2005; Horwitz, Kamoche & Chew, 2002), as well as the immediate environment within which this relationship is shaped (Fry, 2005; Tisdell, 2000; Eisenberg, 2001).

For the purposes of this thesis, Gibbons' (2000) definition is the most practical one. It conceives of spirituality as a journey that is connected with the human person and their work in the quest for integration, and it assumes a sense of mutual responsibility in this journey. The critical question that can be posed of this working definition is: does Gibbons' (2000) definition further an understanding of the specific lived

experience (Mkabela, 2005; Mbigi, 1997; Venter, 2004; Mtuze, 2003; Olupona, 2000; Ndiaye, 1999) of indigenous black Southern African spinal cord-injured mine workers, following mine underground accidents (Ide & Ogata, 1995; Romano & Lassiter, 1972; Odendall, 1995; Wallace, 1998; Wallace & Vodanovich, 2003)? In other words, does this definition have sufficient theoretical and conceptual resources (Katzner & Miller, 1986; Leede, 1993; Miles & Huberman, 1994) to illuminate spirituality at work as experienced by indigenous Southern African spinal cord-injured mine workers?

2.7 DEFINITIONAL TRAJECTORY: MINE HEALTH AND SAFETY SPECIFICALLY

The context within which this hermeneutical path is traced is that of mine health and safety (Stone, 2002; Wallace, 1998; Wallace & Vodanovich, 2003; Lewis, 1996). Again, the key questions posed are: What is spirituality for spinal cord-injured people of God? What can an understanding of the spirituality and physical well-being of injured miners add to current definitions of spirituality? Are the present resources on spirituality adequate (Burack, 1999; Carson, 1992; Hicks, 2002) for spinal cord-injured miners, or for any other tragedy (Thompson, 2007; Mandal, 1997)?

These questions must also be framed in relation to the mining workplace. Can spirituality as we have traditionally defined it, which is historically rooted in religion and religious practice (Thurman, 1984; Williams, 2004; Thompson, 2000), co-exist with the techno-economic, the socio-cultural and the scientific (Gibbons, 2000; Kellemen & Peltonen, 2005)? These questions can also be reframed as follows: What are the predictors of spirituality in the workplace (Parker, 2005; Patton, 1990; Cassel & Symon, 2004)? What attitudes, values and experiences best define spirituality in the mining workplace? In addition, what are the specific predictors for spirituality and well-being of spinal cord-injured workers (Kvarfordt & Sheridan, 2007)?

To address these issues, let us return to Gibbons' trenchant question: "Can spirituality, as we have traditionally defined it (historically rooted in religion and religious practice), co-exist with the techno-economic, the socio-cultural and the scientific perspectives?" (Gibbons, 2000, p.12). Gibbons asserts that spirituality and business are two belief systems with different ultimate goals, namely, God (transcendent) and profit (transactional) (Gibbons 2000, p.15). He further contends that spirituality at work may have become another liberal rhetoric, used to conceal issues of exploitation to make the intolerable tolerable. His poignant question frankly asks if spirituality at work can withstand the ruthless operations of capitalism, and be able to solve the problem of meaning at work and the unproductive rational issues (Boje, 2000; Bell & Taylor, 2001).

Framing these questions in an empirical language, for social science research (Babbie, 2001; Bennet, 1986; Dubin, 1978), leads to three possible over-arching research questions. These questions were raised in Chapter 1, and are restated here again:

1. Do we have sufficient empirical data to support the validity claims of the usefulness of spirituality in, for example, such areas as task effectiveness, motivation, well-being, leadership and other values such as growth, self-actualization and creativity?
2. Do we fully understand the usefulness of spirituality at the place of work, in such a way that we can measure it and generalize our findings?
3. What are the specific predictors of spirituality and well-being for spinal cord-injured mine workers?

What then is workplace spirituality, given such a plethora of definitions and conceptualizations of spirituality? This question points to the need for methodological and critical lines of questioning, and the formulation of answers in this domain (Patton, 1990; Parker, 2005; Kellemen & Peltonen, 2005). Furthermore, this need can only be met by an extensive discussion and some clarity regarding the

definition of these concepts. Thus, the review, now more narrow and aligned with the research questions, will again venture into definitional issues by once more categorizing approaches as to whether they are palliative, “via media,” or revolutionary. At this stage, it is vital to note that Legge (1995) uses different categorizations to those proposed in this thesis, namely, normative, descriptive and critical. This thesis will not delve deeper into these, except to mention that under the normative, Legge (1995) puts the secular and the religious. He regards the secular as an attempt to articulate the ideal type of organization, with ethical codes for personal pursuit through corporate objectives (Krieger & Hanson, 1999; Neck & Milliman, 1994). On the other hand, Legge (1995) conceives of the religious as that aspect in which the business community may attempt to live and lead the moral conduct and the social well-being of organizations (Delbecq 2000; Legge, 1995).

These categorizations will not be further explored in this study, but will be integrated as succinctly as possible in the categories already discussed in Chapters 1 and 2 of this thesis. It is also worth noting that any categorization of spirituality according to these neat aspects can be misleading (Underhill, 1937). It is thus important to emphasize that the categories are interrelated, even as they reflect different theoretical frameworks. There is also further need for collaboration and for the integration of the discourse of spirituality with other fields (Childre & McCraty, 2001; Gibbons, 2000; Legge, 1995) if it is to be rigorous in proposing a theoretical self-identity that cuts across the whole of life (Brandenburger & Stuart, 1996). The current research is an attempt at addressing this specificity by drawing on various fields of studies in addressing spirituality.

2.7.1 Palliative Trend

Writing from a perspective of sexuality in religion, Dunn and Ambige (2004, p.68) offer the following definition:

“... spirituality in general is grounded in the human search for ultimate reality and value, and finds expression in the basic attitudes and the practices that embody them. It embraces the whole of life, beginning with our intimate relationship with the God who made us and loves us. It pervades and transforms all aspects of our being, both mind and body. It embraces all our communal and interpersonal relationships, as it reaches out in service to others and commits us to justice” (Dunn & Ambige, 2004, p.68).

Dunn and Ambige (2004) may have a potentially radical topic, but they are in fact, outlining a fairly conventional definition of spirituality as serving the individual in forming a connection with God (Nouwen, 1998; Nolan, 2006a; Williams, 1990) that is expressed in community (Williams, 2004; Thurman, 1984; Fluker, 2003), while still managing to present spirituality as an interpersonal concept with an intra-personal locus of control (Lamont, 2002; Hood, 1992). This focus motivated the researcher to undertake an in-depth exploration of the possible “intra-individual” psychological processes (Jung, 1966) that may be at play in spiritual development (Goleman, 1998; Underhill, 1937; Williams, 1991) and that may assist in defining workplace spirituality with more rigour.

There are various authors who have written about the psychological and psychosocial stages of development, for example, Kohlberg (1981), Piaget (1971) and Erickson (1995). However, given the volume of criticism of this research, and the disagreement of other psycho-linguistic and cognitive behavioural theorists, this review will not venture into this area (Vygotsky, 1978). It suffices, however, to recognize the lack of consensus on moral or spiritual development (Peck, 1980; Vygotsky, 1978) and to nonetheless offer a brief discussion of the current state of this debate.

Wilber (2000, p.129) defines spiritual development as a linear process that involves the transpersonal, trans-rational attitude and the highest moral achievement. On the other hand, Capra (1982, p.59) defines spiritual experience as an experience of the aliveness of mind and body as a unity. Goleman (1998) and Albert (2006) add yet another key dimension to consciousness development, and ultimately, spiritual development, called emotional intelligence. These authors (Capra, 1982; Goleman, 1998; Albert, 2006; Wilber, 2000) are attempting to explore spiritual development within the nature–nurture debate, and link its development to the process of how, in particular, cognition develops.

There are a few more authors in this palliative category who regard spiritual development as being the same as, or akin to, cognitive development. For example, Vaill (2000) states that spiritual intelligence is a process of wisdom that involves four elements, namely: (1) grounding in existence, (2) appreciation of openness of the human spirit, (3) understanding of human consciousness, and (4) an appreciation of the spirituality of humankind. Zohar and Marshall (2004), on the other hand, write of spiritual intelligence as a way by which we address and solve problems of meaning and value, or an intelligence with which we can assess our course of action as we wrestle with questions of good and evil. These authors argue that spiritual development has to do with our dreams, our aspirations and our intuitive thinking (Mbeti, 2006; Olupona, 2000).

Zohar (2000), referring to spirituality and not spiritual intelligence, defines it as encompassing self-awareness, spontaneity, vision, and values (Mitroff, Denton & Ferguson, 1999; Lamont, 2002; Tischler, 1999). She adds that spirituality is about being holistic and compassionate, and enabling a celebration of diversity. Zohar (2000) further states that it is, nevertheless, field independent, as spirituality asks the “why” questions, reframing positive outcomes from adversity. She concludes that spirituality is about vocation.²⁷

²⁷ It refers to a summons or strong inclination to a particular state.

The above section can be summarised by affirming that the palliative category views spirituality as a concept that has to do with interiority, as earlier described by Williams (2004), and as felt by the individual. How such feelings and vocation are translated in the community are dependent on the definitional interpretations of the individual (Zohar, 2000; Fluker, 2003). What this summary does not address is what happens when an individual's vocation is nurtured by a value system different from that held by their community, including the value system(s) of organizations (Habermas, 1970; Nussbaum, 2003). Who is responsible for regulating this vocation, and whose values should be upheld? The more focused "via media" approach seems to offer a possible explanation here.

2.7.2 "Via Media" Trend

Writers in this category include those who define key elements of spirituality as consisting of religion and God, and their relationship as expressed in community (Gibbons, 2000; Sheldrake, 1998; Sheldrake & Fox, 1997; Williams, 1982; Fluker, 2003). There are also those in this category who reject religion, but appropriate its values, as described in Legge's (1995) normative category of spirituality. Those whom Legge (1995) classifies as secular seek to integrate the generic values of spirituality into the place of work (Hadot, 1995; Delbecq, 2000; Foucault, 1983; Milliman, Ferguson, Trickett & Condemi, 1999). There are writers who urge a critical dialogue in this domain, but argue that this dialogue must accept the historical location of spirituality in the field of religion (William, 1982; Howard & Welbourne, 2004; Sheldrake, 1998). These authors further support the notion of assimilating other views and practices, and placing them within the religious "apostolate" (Sheldrake, 1998).

Nolan (2006b) concurs with the view expressed above, but from the perspective of human rights and the tenets of liberation theology in the context of South Africa. He defines the search for ultimate reality, or spirituality, as a revolutionary and transformative journey. Wilber (2000) further supports this view of a transformative and revolutionary spirituality, as articulated by Nolan (2006a). Their (Nolan, 2006a;

Wilber, 2000; Williams, 1991) work suggests that spirituality cannot merely be a private and personal enterprise that comforts and soothes the individual (Green, 2007; Keating, 1999; Slosson Wuellner, 1998), but that it must also lead to a radical transformation of the individual, enabling this individual to be an agent of social change in the world (Nolan, 2006b; Bloesch, 2007; Walters, 2001).

Spirituality must therefore be about the whole spiritual experience, or orientation, of a person or group, involving their beliefs, ways of thinking, feelings and relationships (Venter, 2004; Thurman, 1984; Taylor, 2002). When individuals suffer, their spiritual connection must move them to overcome their suffering for the benefit of all (Webber, 1985; Walters, 2001; Slosson Wuellner, 1998). Spirituality then becomes an all-encompassing concept, including behaviours and the attitudes and expectations that underlie behaviour (Grayson, 1990; Sheldrake & Fox, 1997; Williams, 1990; Thurman, 1981).

Some (Sheldrake, 1998; Dehler & Welsh, 1994; Cavanaugh, 1999) would argue that, even though spirituality overlaps with ethics, it cannot be reduced to ethics alone. From the “via media” perspective, spirituality is not exclusive, but “connects” with ethics. Ethics enables spirituality to raise questions about the consequences of behaviour (Foucault, 1997; Fry, 2003; Garratt & Robinson, 1996), as well as issues of personal identity as they relate to the good of others (Goldsby, Neck & Gerde, 1998; Goleman, 1998; Haegert, 2000). How does spirituality influence an individual whose social practices and policies degrade that individual’s religious practices (Miller & Miller, 2002; Childre & McCrathy, 2001)? Resorting to Archbishop Williams’ 1990 formulation of spirituality is useful at this stage. He affirms the notion that spirituality cannot be limited to interiority, but that:

“... it must seek to integrate all aspects of human experience, it must touch every area of human experience, public and social, painful and negative, even the pathological byways of the mind, and the moral and relational world ... spirituality is never abstract or pure in form” (cited in Sheldrake, 1998, p.59).

Williams (1990) suggests that spirituality cannot relate to a vacuum, but must shape and be inculturated by its encounter with its context. His conceptualization not only assists in addressing the perceived dualism (Foucault, 1985; Peck, 1980) that usually exists between the artificial dichotomies²⁸, but it also highlights the possible underlying value or motif of spirituality. He emphasizes that spirituality pervades the whole spectrum of life, as we experience a sense of the aliveness of the mind and body as a unit (Capra, 1982). This experience of transcendent unity should not only mend the separation of mind and body (Peck, 1980; Merton, 1961), but also mend the split between the self and the world (Makgoba, 2005; Moe-Lobeda, 2002).

The question still remains, though: how can the “via media” or inclusive approach enable the individual and organisation to transcend all? What will inform the criteria of inclusion and exclusion, and what ethical standards, moral basis, and values can be applied to this approach in its descriptive or critical account of spirituality? Would, for example, the Decalogue²⁹ be appropriate for regulating individual activity, or would a Kantian categorical imperative³⁰ be the basis for appropriate decision-making? These are crucial theoretical questions that this researcher needs to pose in order to achieve rigour and critical analysis within this discourse. The transformative approach, as will be shown, offers critical and better insights than the previous two, and will now be explored.

2.7.3 Transformative Trend

The third category of definitions, which Legge (1995) calls the critical approach, includes what in this thesis has been referred to as the transformative or prophetic approach. In this approach, there is a general agreement that mainly rejects the relationship of spirituality to religion, defining the latter as an organized and structured set of beliefs and practices shared by a community (Kvarfardt & Sheridan, 2007; Carrette & King, 2004). What is most important to this group is the premise

²⁸ Dichotomies include spiritual-scientific, technological-economic, and socio-cultural.

²⁹ The Decalogue, are the Biblical Ten Commandments.

³⁰ Philosophical idea which is also based a biblical notion of “do unto others as you would have them do unto you”.

that spirituality must move individuals to be agents of change in the world, and that their agency should not be appropriated by religion (Krieger & Hanson, 1999; Ackers & Preston, 1997; Bell & Taylor, 2001). Writers in this group (Gibbons, 2000; Howard & Welbourne, 2004) argue that there cannot be neat distinctions between different facets of human experience, such as religious, secular, techno-economic, legal or scientific. Individuals need to evaluate their material conditions holistically, along with the system that dictates relations among those conditions and other facets of their experience (Tischler, 1999; Webber, 1930).

Carrette and King (2004) argue that we need less emphasis on definitional issues, and more on confronting the unfettered capitalism that alienates communities and individuals in its pursuit of profit (Boje, 2000; Groody, 2007). The question still is: How can researchers, within the bounds and limitations of empiricism (Habermas, 1970, 1988), operationalize a spirituality of compassion and social justice (Hicks, 2002; Jackson, 1991) that will create space for engagement with wealth-creators and those traumatized and incapacitated by wealth-creation (Jurkiewicz & Giacalone, 2004; Kellemen & Peltonen, 2005; Martin & Schuman, 1996; Bailey, 2001)?

Spirituality does need to address these issues and provide the clarity and specificity that is wanted, especially as it relates to the domain of trauma and permanent disability (Wallace & Vodanovich, 2003; Childre & McCraty, 2001). If spirituality cannot speak into such situations, including situations of economic injustice (Engelbrecht & Van Aswegen, 2005; NUM, 1986), then we must concede that the revolutionary or prophetic authors are right in advocating an alternative to it. However, we do not wish to reject the relevance of Martin and Schuman's (1996, p.106) claims when they argue that "spirituality [can] no longer [be] identified simply with ascetism, mysticism, or the practice of virtue and methods of prayer; it [should be understood as] the human capacity to be self-transcending, relational, and freely committed." Indeed, spirituality must be understood to encompass all aspects of life (Cavanaugh, 1999; Tutu, 1999). It should be transformative, and it needs to be liberated from its current captors (Gibbons, 2000; Boje, 2000). Perhaps African

spirituality may provide an alternative conceptualization that will transform the whole discourse of spirituality.

2.8 RE-CONCEPTUALIZATION: IN VIEW OF AFRICAN SPIRITUALITY

African spirituality may offer the possibility of mediating between opposing discourses of spirituality. It may provide a way out of the conventional palliative and interior aspects of spirituality, not so much for the sake of the individual in isolation, but rather for the sake of the individual within the community (Mbigi, 1997; LeRoux, 1993). Similarly, African spirituality can reclaim the “via media” perspective, since, in its essence, African spirituality does not separate the sacred from the secular, because of the understanding that the rhythm of daily life is all-spiritual (Mtuzze, 2003; Mbete, 2006; Olupona, 2000). African spirituality is revolutionary in its resolve to uphold the dignity of all human beings, and it is also communal, generous and caring in its praxis, which is in direct contrast to the spirit of capitalism (Mtuzze, 2003; Mbete, 2006; Olupana, 2000). Thus, African spirituality holds much promise for integrating a wide range of approaches to spirituality, including the palliative, the “via media” and the revolutionary perspectives (Ndiaye, 1999; Olupona, 2000; Mbete, 2006).

The discourse of African spirituality may also, however, like the broader domain of spirituality, lack theoretical clarity and the methodological tools to ascertain clarity around certain questions. For example, what are the predictors of African spirituality, and what are the methodological processes that we could pursue in quantifying the validity claims about African spirituality? While acknowledging this criticism, we cannot discount the usefulness of African spirituality in offering an alternative to the existential reality of current spiritualities and capitalist workplace practices (Habermas, 1988; Carrette & King, 2004).

To conclude this section, we can state that the literature surveyed suggests a possible convergence around three main definitional themes: (1) *palliative*, mainly dealing with sine qua non, (2) *inclusive* or “*via media*”, mainly advocating the celebration of diversity, but from a strongly sine qua non ground, and (3) *prophetic*, which proposes a radical re-orientation and/or discarding of the traditional concept of spirituality at

work as irrelevant. These differentiations were all discussed and critiqued in this chapter and, finally, a brief introduction of African spirituality was proposed as potentially holding all of these positions together. In Chapter 3, the researcher offers a framework and pertinent literature on workplace spirituality that under girds the proposed integrative framework, based on the researcher's African experience and interaction with the injured miners.

2.9 WHITHER WORKPLACE SPIRITUALITY IN A SOUTH AFRICAN CONTEXT?

The South African economy is no different from the global world economy in its pursuit of markets and profit. The history of colonial rule, the dictates of the global financial institutions and the Keynesian principles that inform Western capitalist economies are not foreign to South Africa. In fact, even under the country's relatively new democratic order, the Ministry of Finance annually reports economic growth and the success of the mining sector in particular, without being able to demonstrate any correlation between this growth and improvement in community living.

The workplace context in South Africa is tremendously varied, ranging from the agricultural sector to the motor industry, from the education sector to the fishing industry, from the construction industry to the mining sector, among many others. Chapter 3 develops an in-depth discussion of the mining workplace as the researcher describes pertinent variables that may constitute workplace spirituality in a South African mining context. More immediately, Table 9 presents a pertinent list of questions that assist organizations in being intentional about workplace spirituality, from recruitment to reward issues. This table is not only relevant to the South African workplace but can be used globally.

Table 9: Pertinent questions to assist organizations to be intentional about workplace spirituality (source: Giacalone & Jurckiewicz, 2003)

Potential criteria of interest	Representative connections
Recruitment	Do organizations need to recruit spiritual employees in different ways?
Self-presentation	Does spirituality impact how individuals present themselves to colleagues and managers in terms of both self-presentational style and quantity of self-presentation?
Ethics	What is the relationship between spirituality and ethical decision-making?
Health insurance claims	Does the relationship between spirituality and health similarly relate to health insurance claims?
Creativity/Innovation	Are spiritual individuals more creative, as some e.g. (Ray, 1996) have suggested?
Antisocial/Pro-social behaviours	Given their value structure, do spiritual employees demonstrate more pro-social behaviours and/or less antisocial behaviour?
Public relations	What are the public relations repercussions to those organizations embracing or rejecting spirituality?
Leadership	Do spiritual employees possess a different leadership style (e.g., servant leadership)?
Job satisfaction	To what extent is a person's job satisfaction impacted by spirituality?
Work group/cohesion dynamics	Given the role that concern for others can play in spirituality, how does spiritual employee's impact work group cohesion?
Work-family issues	What is the relationship between spirituality and concern with work-family balance?
Motivation/reward systems	Are spiritual employees motivated by different factors than non-spiritual employees?

The researcher draws on this table as it relates to the African spirituality of spinal cord-injured miners. He is nevertheless aware of Nurnberg's (2007) caution that African religions (and spirituality) defy systematization. Like its opposite (modernity), African religion is pragmatic, almost utilitarian. It has no time for ontological descriptions or metaphysical speculations (Nurenberg, 2007). Rather, Nurenberg (2007, p.28) argues that one finds in African spirituality "a diverse spectrum of combinations, interactions, inter-penetrations, adjustments and new developments, deconstructions and simple decay." In this study, the researcher nevertheless hopes to bring out of Nurenberg (2007) a systematization of the salient

features of African workplace spirituality. The researcher's underlying assumption is that although spirituality may be perceived as too broad a phenomenon, that by adopting a critical approach to a positivistic paradigm, he may be able to offer some scientific tools to gain better insight into the phenomenon of workplace spirituality. One of his tools is Heidegger's (1965) concept of hermeneutics, and his approach is Habermas' social criticism and transformation. These philosophical underpinnings will not be discussed in this research, but they are important to bear in mind, particularly as we do data analysis.

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CHAPTER THREE: PERTINENT LITERATURE REVIEW FOR THE PROPOSED WPS THEORETICAL FRAMEWORK OF THE CONSTRUCT

3.1 WORKPLACE SPIRITUALITY RE-CONCEPTUALIZED IN THE SOUTH AFRICAN MINING CONTEXT

The literature reviewed has mainly concentrated on defining spirituality. It is important to pull together the different definitional strands discussed thus far to evaluate if, within this wide range of views, there is a convergence that can be investigated in order to provide some conceptual clarity for workplace spirituality in a South African mining context. What follows here is a series of juxtapositions drawn from the literature discussed in Chapters 1 and 2, and with a particular emphasis on its relevance to the workplace.

Kellemen and Peltonen (2005) describe spirituality as the individual's longing or quest for self-actualization. In the particular context of the workplace, Lofland and Stark (1965) see individuals as "seekers" who are less willing to consign their spirituality to non-work hours and domains. Ashforth and Pratt (2003) conclude that these seekers are after spiritual fulfilment, especially in work settings. They assert that spirituality has the force of both a noun, implying a state of being, and a verb, suggesting a process or a journey. The seeker thus engages in an ongoing and open-ended process whose destination is unclear and whose paths are emergent (Ashford & Pratt, 2003). To facilitate analysis of this search, Ashforth and Pratt (2003, p.93) propose a framework consisting of four major dimensions: transcendence³¹, holism³² and harmony³³, and growth³⁴. Giacalone and Jurkiewicz (2003) also treat the

³¹ Refer to spirituality as an expansion of one's boundaries to include other people, causes, nature or as a belief in higher power.

³² Refer to spirituality as an integration of various aspects of oneself into a roughly coherent and consistent self.

³³ Refer to the sense that the integration of various aspects is synergistic and informs behaviour.

³⁴ Refer to the realization of one's aspirations.

dimensionality of spirituality in a table showing that spirituality is concerned with personal search, meaning, transcendence, the sacred, relationship with God, and a vital force within the individual.

Having reviewed this material in Chapter 2, the researcher proposed bringing to bear an African worldview, associating it with the Greco-Latin term *spiritus*, which implies both breath and power. In the African realm, spirit and spirituality permeate the whole of life. The main tenets of African spirituality summarized in Table 4 (well-being, transcendence/meaning, personal identity, other dimension of life, needs, personal safety, belonging and self-consciousness) are not substantially different from those invoked in Western definitions of spirituality. As with Western forms of spirituality, it is well to bear in mind Ashford and Pratt's (2003) caution that, fuelled by the logic and motivation of capitalism, organizations are enmeshed in the struggle to commodify human activity for the marketplace (Ashford & Pratt, 2003). African spirituality is no less vulnerable to such commodification than Western spirituality, especially given the inroads of globalized capitalism on the continent.

What then should be the locus and focus of workplace spirituality? If locus and focus are opposed – for example, if the locus is the individual and the focus is process and the intangible (Ashford & Pratt, 2003) – participating in work organizations will not be readily compatible with spiritual striving. If spirit is described as a search for meaning, an aspiration beyond instrumentality, a deeper self-knowledge, transcendence to a higher level, internalized and personal feelings of meaning, purpose, knowing and being, then these felt emotions are said to energize action, thus making it into a form of energy. Since feelings and emotions themselves cannot be observed until they are expressed as behaviour, spirituality may be understood as the expression of spirit behaviourally and cognitively (Richards, 1995). This understanding of spirit as both an inner source of energy and the outward expression of that force resonates with the researcher's contextual experience and lived reality as an African working in Africa. This being the case, and accepting that people bring their whole selves to work and seek to integrate work into their lives, organizational values that are congruent with personal values will more readily connect to this inner

source of energy and hence its outward expression in terms of productivity and creativity. As Dorsey (1998) suggests, workplaces that allow people to remain true to their beliefs in daily work will become the only profitable companies, because they will be the companies that create a context for creativity (Dorsey, 1998).

There are nevertheless those in business who say that it is not yet clear whether any investment in organizational spirituality adds value to an organization's bottom-line (Legge, 1995). In the face of such scepticism, Kouzes and Posner (2002) suggest that people who possess greater self-knowledge regarding their personal values are better prepared to make choices based on principles evident in their own affairs or in those of organizations. If Kouzes and Posner (2002) are correct, businesses indifferent to organizational spirituality run the risk of harnessing spiritually unfulfilled individuals who are ill prepared to make sound organizational decisions. Other research suggests that a range of important organizational qualities is enhanced by workplace spirituality. Neck & Milliman (1994), linking workplace spirituality with Maslow's (1970) concept of self-actualization, argue that spirituality positively affects employee and organizational performance by enhancing intuitive abilities and individual capacities for innovation, while increasing personal growth and employee commitment and responsibility.

The question that is not asked in the existing research, however, is whether such person-work relationships adequately address the spiritual needs of the worker, and not simply the organizational needs of the employer. What, in particular, are the content, locus and focus of the spiritual needs of African mine workers following spinal cord injuries in their place of work? Maslow's (1970) conceptualization presupposes high levels of self-knowledge in western terms. What is the extent of such self-knowledge among underground miners following their spinal cord injuries?

3.2 WHAT IS WORKPLACE SPIRITUALITY?

Giacalone and Jurkiewicz (2004, p.10) define workplace spirituality “as a framework of organisational values evidenced in the culture that promotes employees experience of transcendence through the work process, facilitating their sense of being connected to others in a way that provides feelings of completeness.” They further describe workplace spirituality in terms of practical and ethical utility, the former producing better work outputs and the latter ensuring that such work is held within a moral framework. Non-spiritual workplaces, they warn, run the risk of reducing morality to a private preoccupation that may not be integrated into work practices (Giacalone & Jurkiewicz, 2004).

Howard and Welbourne (2004) approach the same question, but with an emphasis on profitability. While being careful to say that using spirituality for profit is wrong, and that, in any event, there is insufficient research evidence to support the view that profit follows those who do right (Giacalone & Jurkiewicz, 2004), they nevertheless provide examples of spiritual companies that are profitable. Broadway Tires (UK), for instance, reduced absenteeism by introducing spiritual principles. At Raffrey Park Institute (UK), 75% of workers sought spiritual principles. Ninety percent of UK managers surveyed nevertheless report that they have not attempted to discuss the issue of spirituality with their workers.

The researcher perceives these conceptualizations of spirituality as pre-eminently Western. In developing his own study, he seeks to integrate them with what he describes as the African worldview, a worldview that affirms that everything that exists harbours impersonal forces, and that such forces drive everything that happens. Like a vast ocean, or *manoa*, the dynamistic power of this worldview ranges from relative calm to tempestuous turmoil, but is always in motion (Nurnberg, 2007, p.22). This overflow, which is equated with “spirit” in everything that exists in this world and beyond (Mtuze, 2003), can go in beneficial or detrimental directions. In other words, spirituality in the African worldview is not simply for the religious, nor can it be left at home or divorced from life itself. The “Spirit of life” gives life and

movement to this world and beyond. It is the source of life itself, understood in Christian terms as God, the Spirit of life, made known to us in Christ.

The researcher proposes that bringing both Western and African understandings of spirituality to the mining workplace will not only assist with conceptual clarity, but will also yield transformative tools that can make the profit-driven mining workplace more humane for the African spinal cord-injured miners. Cavanaugh's (1999) account of the alienation experienced by Western businesspeople, for example, resonates with the dehumanizing experience of African miners, who are also called upon to compartmentalize their lives into long hours of work, brief weekend worship experiences, and very limited time with family (Cavanaugh, 1999). Cavanaugh (1999) observes that this compartmentalization leaves people feeling dry, unfulfilled and unhappy, and is often experienced as a profound absence or vacuum in one's life (Cavanaugh, 1999).

In contrast to this bleak picture, workplace spirituality meets a deep desire to find ultimate purpose in life and to live accordingly. It is fundamentally about discernment: about listening to the inner voice in the midst of a turbulent workplace; about recognizing a need for self-integration; about connecting with one's community and family; and, for those of a religious or mystical bent, about relating to the Source of creation and the transcendent (Cavanaugh, 1999; Miller & Miller, 2002). It is a journey of integration, collaboration and dialogue, and yet one that, as Gibbons (2000) argues, needs rigour in order to avoid being a passing "fad".

Thus, there is indeed a convergence of definitional issues regarding workplace spirituality, wherein the following elements figure most prominently: direction, wholeness, connectedness, meaning making, integration, community, religion or its absence, self-awareness, and living with integrity in terms of personal values and global public values. The researcher comes to this material as one initially trained in the sciences and positivist thinking, and subsequently exposed to and trained in contextual-African theology. He also comes as a human being who has worked with injured miners. Formed by these experiences, he now assesses the definitional issues

of workplace spirituality (WPS) to identify and adapt those that best, or most adequately, articulate the spirituality of African spinal cord-injured miners.

3.3 BUILDING THE PROPOSED THEORETICAL FRAMEWORK OF WPS

In this section, the researcher develops a discussion of workplace spirituality informed by an African worldview in a Western milieu. Building on this account, he then proposes a theoretical framework within which to consider the workplace spirituality (WPS) of the spinal-cord injured miners. This discussion is developed along three axes: (1) the six dominant themes from the pilot study³⁵, (2) the researcher's existential lived encounter with the miners, and (3) the literature reviewed thus far, especially that which treats the African worldview. Discussion of this proposed theoretical framework proceeds in a linear manner, but the WPS of the injured African miners cannot be understood in linear terms. The purpose of the discussion is to elucidate the soundness of the theoretical framework for workplace spirituality, as proposed by Kouzes and Posner (2002), and to determine whether it is useful in the context of spinal cord-injured African miners. In addition, to what extent the researcher can then draw on its conceptual toolset. Both the framework and the tools need to be located within the researcher's worldview, as he demonstrates how he arrived at the framework, he proposes. The researcher's worldview may be summarized as combining Afro-centric and contextual theology, his own lived experience, and philosophical and social critiques of Western spirituality. It is in keeping with an approach that is eclectic in research method and data collection, and particularly appropriate to fieldwork conducted in a specific socio-spiritual context.

³⁵ The pilot study is described in the methodology section, in Chapter 4. The six interrelated and interdependent themes that constitute a theoretical framework for workplace spirituality (WPS) in the context of African miners are framed as follows: (1) connectedness to personal identity, (2) connectedness to workplace safety, (3) connectedness to physical well-being, (4) connectedness to community (Ubuntu-ethic), (5) connectedness to God (religion), and (6) connectedness to meaning.

The linear discussion of WPS is developed under the following headings:

- Spirituality at the workplace as connected with personal identity (CPI).
- Spirituality at the workplace as connected with safety and wellbeing (WS).
- Spirituality at the workplace as connected with physical wellbeing (CPW).
- Spirituality at the workplace as connected with relationship to community-Ubuntu (CC).
- Spirituality at the workplace as connected with God (religion) (CG).
- Spirituality at the workplace as connected with meaning (locality and salience) (CM).

This conceptualization is based on a synthesis of definitions of spirituality and the elements constituting WPS, especially for spinal cord-injured mine workers (Thurman, 1984; Williams, 1990, 2004; Mtuze, 2003; Mbigi, 2000; Gibbons, 2000). Thurman (1984) offers a particularly appropriate account of the constitutive elements of spirituality, which he identifies as: civility³⁶, community³⁷, character,³⁸ and the crucified one³⁹. Based on Thurman (1984), and confirmed both in the literature reviewed and anecdotal responses in the pilot study, the proposed framework will be represented in terms of the headings listed above. WPS thus has a relationship with the following variables: CPI, WS, CPW, CC, CG and CM.

3.3.1 Spirituality at the workplace as connected with personal identity (CPI)

In this section, the researcher reviews additional literature to argue for the inclusion of personal identity in the theoretical model. CPI, as understood by the researcher, refers to the ways in which self-awareness, personal values and values in general shape spirituality, and should thus be recognized as elements of workplace spirituality. Thurman (1984) states that spirituality should not be merely a magical intonation that absolves the guilt, shame and, most significantly, the responsibility for misguided

³⁶ Civility implies the quest for integrity, empathy, and hope.

³⁷ Community refers to integration, harmony, and wholeness.

³⁸ Character refers to a personal script within a larger socio-historical perspective.

³⁹ The crucified one refers to a religious deity in the Christian sense of the term.

selfish actions against the left out, left behind, and leftovers of our society. He states that it should rather be an authoritative source in decision-making that influences the attitudes and behaviours of people at work, especially in science, technology, and capital (see Fluker, 2003). Similarly, Jacques (1996) concludes that there is a firmly held universal truth that people want to work to their full capacity, and achieve their potential to the extent that their values are aligned with their role and work effort. Renesch (1992) supports this view and further advocates for a more values-based approach to business life, rather than the sole focus on 'better-than-average bottom-line results'. Organizations that have a goal beyond the 'average bottom-line results,' he argues, tend to take the spirituality of workers seriously.

Butts (1999) defines workplace spirituality as the application (within organizations) of positive values such as self-discipline, self-awareness, self-control, creativity (Goleman, 1998), empathy, truth, trust, freedom, justice, collective harmony, and higher purpose (Burack, 1999, p.330). Carlson and Perrewe (1995, p.833) confirm these values, affirming that an ethical work climate involves the legitimization of managerial actions "that are consistent with the standards and quality of the products, improved trust, greater organizational commitment and increased effectiveness." Feelings of respect and a deep sense of shared humanistic values in a company are thus linked with successful, healthy and productive workplaces (Rosen, 1992). Supporting this association of CPI with a values-based workplace, Vaill (2000) concludes that allowing people access to the spiritual dimension at their work not only improves their health, well-being, personal growth, and capacity for innovation (Neck & Milliman, 1994), but that it can also accelerate organizational change (Vaill, 2000).

In their work on the physiology of emotions, Childre and McCrathy (2001) also find a link between the workplace climate and the workers' spirituality and well-being. They conclude that positive feelings or emotions are the cornerstone of spirituality, identifying the heart as the place of spiritual influx and the source of wisdom (Childre & McCrathy, 2001). They identify the following key values as elements of workplace spirituality: gratitude, appreciation, compassion, and tolerance (Childre & McCrathy, 2001, p.13). These values affirm the qualities associated with long-term corporate

success (Collins & Porras, 1994). They are observed in organizations where there is a vision, a clear sense of deep purpose, and a desire to stand for something beyond mere profit (Collins & Porras, 1994). Cavanaugh (1999) cautions against a focus limited to interiority, highlighting broader ethical issues with which workplace spirituality must also engage. These issues include the social and moral impact of global markets, mergers, speculation, downsizing, advertisements and media (see also Williams, 1990). Furthermore, issues such as eco-spirituality, peace and better relations, belief in God, spiritual tools, listening, silence and solitude are also important in providing a context for spirituality in business (Cavanaugh and Bandsuch, 2002).

CPI thus embraces ethical questions that move beyond an individual's interiority, calling on that person to embody positive values within organizations. Figure 4 sums up the literature discussed thus far and depicts the researcher's sense of the relationship between CPI and work place spirituality (WPS).

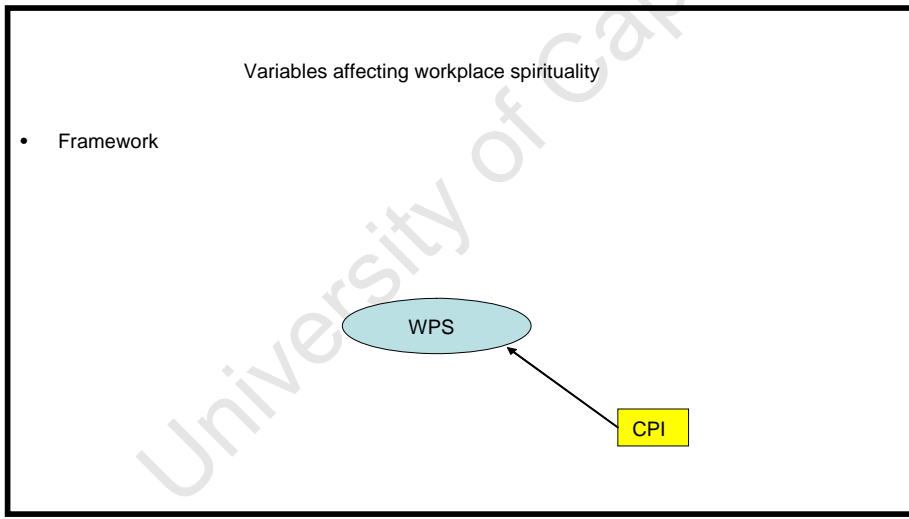


Figure 4: Relationship between WPS and connectedness to personal identity (CPI)

3.3.2 Workplace Spirituality as connected with well-being and mine safety (WS)

In an African worldview, safety and well-being – including illness and injury – are understood primarily in spiritual terms. Within these terms, Spirit itself is viewed as a potentially positive or negative force (Nurenberg, 2007). For Africans, the central spiritual tasks are maintaining a sense of safety in the community, and preserving the community from illness. These tasks are accomplished through ritual. Safety is closely related to well-being, which in turn reflects the presence of a positive spirit and/or the leading of a good spiritual life. In this section, the researcher juxtaposes this worldview, in which communal safety is *de facto* a spiritual issue, with industrial concepts of mine safety. He draws on Benefiel's (2003) concepts of "the spirit-friendly workplace" (Benefiel, 2003) to suggest that, in an African worldview that regards communal safety, health, and well-being as spiritual phenomena, the most important measure of "the spirit-friendly workplace" may in fact be workplace safety.

Badenhorst and Mostert (2004, S.13-10) define a mine as "any operation or activity for the purpose of mining and minerals on, in or under the earth, water or any residue deposit, whether underground or open, working or otherwise, and includ[ing] any operation or activity incidental thereto." Risk rather than safety is implied in this definition, especially with regard to underground mining. Krige's (2003) report on mine safety in South Africa concludes that the mines are not entirely safe. The workplace safety record of South African mines in 2005 includes a fatality rate of 0.56 deaths per thousand employees (DME, 2005). Rock falls remain the cause of approximately one-half of total mine accidents in South Africa, and falling from heights is one of the leading causes of industrial death and injury (DME, 2005).⁴⁰ Mining is indeed a risky business and nowhere more so than in South Africa, where a miner's risk of being killed at work is approximately three times greater than it is for his counterparts in Australia and the United States.

⁴⁰ DME is the South African Government Department of Minerals and Energy responsible, amongst other things, to offer crucial statistics on mine and rock-related fatalities.

The inherent risks of mining are magnified by the difficulties of implementing mine safety. The South African Mine Health and Safety Act of 1996 and the Mine Health and Safety Council articulate the goals of mining safety as follows:

2(a) protect the health and safety of persons of mines; 2(b) identify hazards and eliminate, control and minimize their risks relating to health and safety at mine; and 2(i) promote a culture of health and safety in the mining industry.

The Mine Inspectorate also recognizes factors such as noise, vibration, heat, cold, harmful chemicals, radioactive material, transport system and mobile machinery as well as flammable gas as possible occupational hazards (Walker, 2006; Krige, 2003). In addition to these factors, inconsistent application, infrastructural challenges, varying attitudinal levels in the delivery of safety procedures, and machine errors and failures all combine to make workplace safety in a mining context a complex undertaking (Lewis, 1996; Krige, 2003). B. Godsell (radiobroadcast, October 10, 2006)⁴¹, stated in a radiobroadcast, after a mine accident in South Africa, to indicate the complexity of workplace safety in this context:

“... we take into account several considerations, past risks, and anticipate future accidents. Obviously, this recent accident requires of us to learn from it and improve on our high quality safety net. The depth, physical stratum of rocks where mining occurs, and the lack of precision in anticipating rock falls alone makes safety a difficult undertaking in mining” (SAFM radio news, 2006 October).

Infrastructural safety concerns are not the only dangers faced by South African miners. Unsafe mine hostels, the volatile price of precious metals, hostile take-over bids of certain mines, mine automation, roof belting, and insecure job tenure also undermine a sense of safety in this context (Krige, 2003). In a country with high rates of unemployment, job tenure in particular becomes an important factor in a miner's sense of security. The effects of such insecure work environments have been studied

⁴¹ Bobby Godsell is a former CEO of Anglo Platinum Mines, and was also a participant in this research.

in the context of the crisis of American industrialism in the 1980s and 1990s: “many believe that the downsizing, re-engineering and lay-offs of the past decade have left the American workplace an environment where workers are demoralized and where there is a growing inequity in wages” (Hameld & Prahad, 1994, p.85; Brandt, 1996).

South African miners, who are often employed on a short-contract basis, are particularly vulnerable to these practices. The effects of job insecurity on a sense of safety in the mining workplace, and thus on the workplace spirituality of miners, are worthy of a study in themselves. These do not figure largely in the current study, the researcher wishes to draw attention to them here as possible undercurrents to more obvious aspects of worker safety and workplace spirituality in the mines.

Reichheld (1996) states that workplaces that are congruent with personal principles are sources of energy. The industrial standards reviewed above suggest that there is in fact a marked incongruence between the risky workplace of South African mining and the personal principles of South African miners, for whom safety is a primarily spiritual issue. While the industry and its regulatory bodies understand mine safety in terms of *geology* and *technology*, the miners themselves understand it in terms of *theology* and spirituality. Given this fundamental incongruence, as well as the inherent riskiness of mining itself, it will be difficult indeed for South African miners to experience their workplace as a spirit-friendly source of energy.

Figure 5 illustrates the relationships between WPS and the variables CPI and WS in the researcher’s cumulative construction of a framework to assess the WPS of the African spinal cord-injured miners.

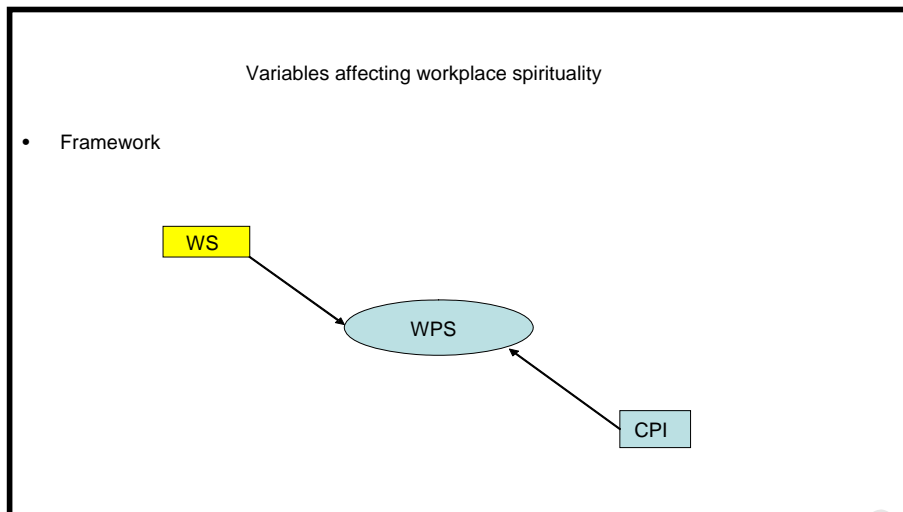


Figure 5: Relationship of WPS to workplace safety (WS). Workplace safety is indicated in yellow

3.3.3 Workplace Spirituality as connected with physical well-being

This section distinguishes physical well-being from feelings of well-being resulting from a safe working context. It concentrates on the individual's sense of personal safety. Injury, especially permanent injury, brings about deep reflection on one's pre-morbid condition, raising questions of self-esteem and self-perception. Western concepts of spirituality privilege self-actualization. African concepts of spirituality emphasize health and physical activity within the community. From both perspectives, physical well-being necessarily plays a vital role in the workplace spirituality of injured miners. The researcher begins by exploring the kinds of injuries sustained by miners in underground accidents. He goes on to show how these accidents affect the miners' self-perception and self-confidence, and how in turn these qualities affect the miners' spirituality. This evidence ultimately compels the researcher to advocate for the inclusion of physical well-being as a variable in his theoretical framework for workplace spirituality.

The World Health Organization (WHO) (1948) defines health as a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity. Spinal cord injuries affect miners in all three areas of physical, mental, and

social well-being. Damage to the spinal vertebrae (see appendices for picture of the spinal cord) causes the loss of proper functioning, for example, sensation and mobility (Ide & Ogata, 1995; Odendall, 1995; Romano & Lassiter, 1972). The injury may be in any part of the spinal cord between the base of the brain and the “tail,” an area of the body that has about 30 vertebrae (roots) covered in muscles and bundle of nerves (Katchadourian, 1985). The impact of spinal cord injury often leads to the development of pressure sores.⁴² A completely severed spinal cord at the lower part of the cord (T12/L1 and below) also negatively affects the insured’s sexual functioning (Katchadourian, 1985).

Following spinal cord injuries, only 5% of men are said to retain a natural unaided reproductive capacity (Ide & Ogata, 1995; Rutwoski, Middleton, Truman, Hagen, Ryan, 1995). Male infertility is thus experienced by 95% of men who have these injuries (Rutwoski et al., 1995, p.263; Katchadourion, 1985; Odendall, 1995; Romano & Lassiter, 1972). The impact of this physical injury is also psychogenic, in that it causes emotions such as fear, anger, social withdrawal, depression, embarrassment, anxiety and frustration (Ide & Ogata, 1995; Odendall, 1995). The impotence resulting from lower-level spinal cord injury (Ide & Ogata, 1995) is particularly humiliating. Most miners closely link their notions of masculinity, self-image and self-esteem with psychosexual functioning (Katchadourion, 1985; Ide & Oga, 1995). Spinal cord-injured miners thus not only contend with physical disabilities, such as bowel and bladder dysfunction, but also with compromised psychosexual functioning and a reduced status in their social context (Odendall, 1995; Ide & Ogata, 1995).

In addition to suffering the reduction of their physical, psychosexual, and social functioning, injured miners also lose their jobs. Miller and Miller (2002) assert that to be human is inseparable from the human enterprise in business (work). What then is the impact on an injured miner’s well-being when he is retrenched? Serious mine accidents not only sever the spinal cord, but also the miner’s connection to the enterprise of business. The loss of physical well-being in spinal cord-injured miners

⁴²Pressure sores are defined as “localized areas of tissue necrosis that develops when soft tissue is compressed between a bony prominence and the external surface for a prolonged period”.

thus affects their whole being – physical, mental, and spiritual. It requires workplace spirituality of a high order, along the lines of Kiefer’s “Metanoic principle,” i.e., seeking a purpose that is worthy of a worker’s highest personal ideals and commitment (Kiefer 1992; Thurman, 1984). A theoretical framework of workplace spirituality appropriate to African spinalcord-injured miners must investigate the relationship between physical well-being and workplace spirituality in the South African mining industry.

Figure 6 places physical well-being in relation to WPS, and the two other variables discussed thus far.

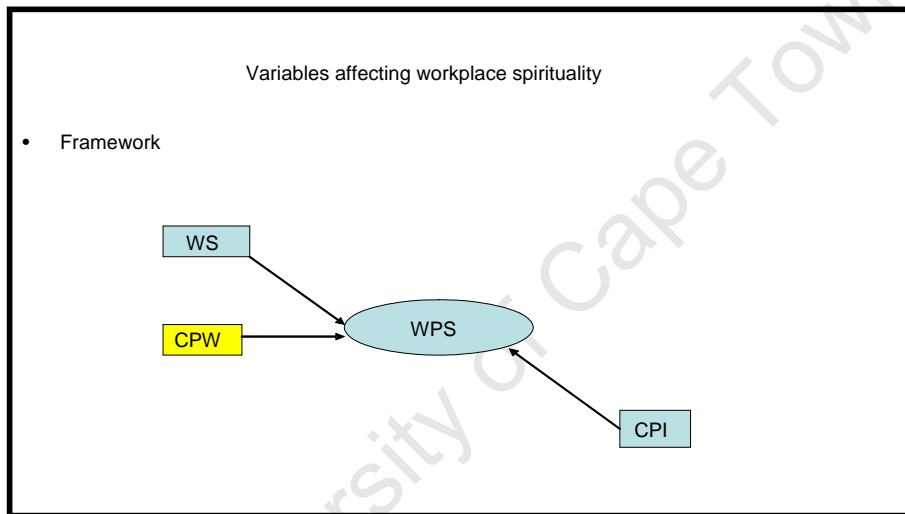


Figure 6: Relationship between WPS with physical well-being

3.3.4 Workplace Spirituality as connected to community-Ubuntu

Community and the communal value of seriti play important parts in defining African spirituality. The communal ethos of Ubuntu has been encapsulated in the phrase “umtu unguntu ngabantu,” meaning “I am because we are.” This ethos seeks to humanize every context, and to resist any tendency toward dehumanization. In terms of the current study, Ubuntu characterizes a spiritual journey that is not a lone search for meaning or idiosyncratic forms of expression, but rather, a communal journey whose fulfilment is located within the individual and his/her community. The researcher seeks to paint the Ubuntu ethic in broad strokes, and to present what may constitute some of its hallmarks. If the Ubuntu ethic is indeed central to community life, it should then form the foundation of the community understanding of spirituality. The researcher thus seeks to bring this central ethic of the African worldview into the discourse on workplace spirituality, and to explore how it can sharpen conceptual clarity in considering the workplace spirituality of African spinal cord-injured miners.

An emphasis on community is not the property of African spirituality alone, however. Research indicates that Western workplaces are increasingly being seen as extended families, and as places for feeling connected (Rosen, 1992; Reder, 1982). For many workers, the workplace provides the only consistent link to other people and the only context for fulfilling human needs for connection and contribution (Zohar & Marshall, 2004; Hackman & Oldham, 1976). Work itself is being re-discovered as a source of spiritual growth and connection to others (Kinjerski & Skrypnek, 2004; Neck & Milliman, 1994). If workplace is becoming a core context for spirituality, what then are the core facets of workplace spirituality, and how can the workplace community harness them?

In his study on African modes of leadership, April & Ephraim (2006) concludes that the core values of Ubuntu are humanity, dignity, compassion and communal relations. Godsell (2006) concurs with April and Ephraim (2006) in terms of what constitutes an ethical, Ubuntu organization, adding the element of stewardship of people, resources

and the environment. He emphasized that "... at the heart of the character of this company is the idea of being a good steward: that is, to take the resources we command and use them to create value – for our owners, our employees and the communities in which we operate. This aspiration to create value characterizes all aspects of our business. That means enhanced profitability and earnings, and growing the investment of our owners; the development of the skills, talents and experience of our employees; leaving communities better off for our presence; and working responsibly with the environment" (Anglo Gold Ashanti, 2006).

Mbigi (1997) articulates Botho-Ubuntu as the capacity in culture to express compassion, reciprocity, dignity, harmony and humanity in the interests of building and maintaining community with justice and mutual caring. Botho-Ubuntu is associated with the following key social values: survival, solidarity spirit, compassion, respect and dignity. Survival is understood as the resilience of the human spirit despite tumultuous times, upheld by one's community and spiritual solidarity. One transcends and survives difficult times because 'you know that you are because we are' (Mbigi, 1997, 2000, 2002; April & Ephraim, 2006). Botho-Ubuntu differs from concerns about individual well-being in that it is about our interconnectedness, our common humanity and our responsibility to each other as individuals within a community (Mtuze, 2003; Le Roux, 1993; Venter, 2004; Mbete, 2006). Ubuntu is our consciousness, our desire to affirm our fellow human beings, and to work and act towards each other with the common good in the forefront of our minds (Mbigi, 1997; Makgoba, 2008; Nussbaum, 2003). The hallmarks of Botho-Ubuntu are summarized in Table 10.

Table 10: The Hallmarks of Botho-Ubuntu (sources: Mbigi, 1997; Mtuze, 2003; Nussbaum, 2003; Venter, 2004; Tutu, 1999)

Key Components of Botho-Ubuntu
It is about listening to, and affirming, others in an atmosphere of trust, fairness, shared understanding, dignity and harmony in relationships
Ubuntu consciousness is about the desire to build a caring, sustainable, and just response in community
It is about common humanity, and the ethical call to embody a communal responsiveness in words and deeds
It is about evaluating power relations and ideologies, and sharing our wealth

Figure 7 depicts the relationship between workplace spirituality and connectedness to community, defined in this research as the Ubuntu ethic. The researcher’s framework now includes four interdependent variables that assist in understanding the proposed theoretical framework for the workplace spirituality of spinal cord-injured miners.

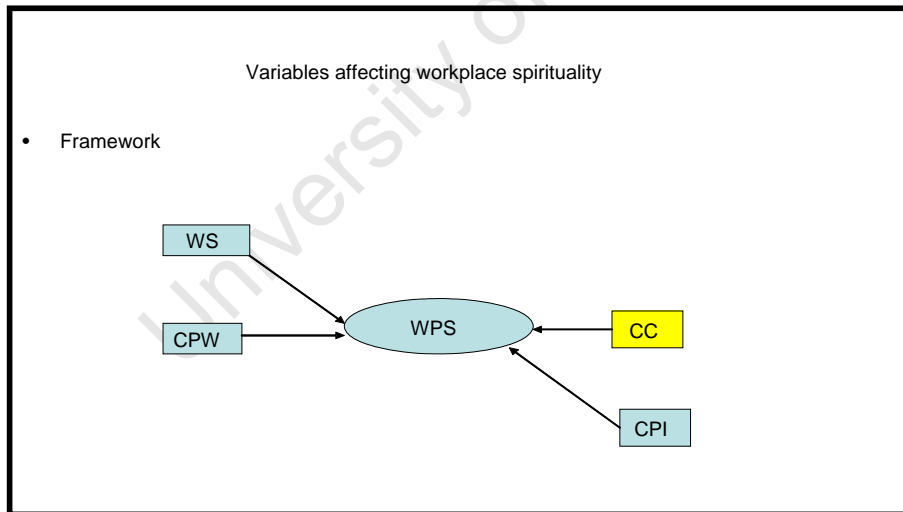


Figure 7: Relationship between WPS and CC

3.3.5 Workplace Spirituality as connected with God (religion and salience)

The literature reviewed has suggested that the relationship of religion to spirituality within a post-modern and religiously pluralistic society remains contentious. In this section on workplace spirituality as connected with God, the researcher has chosen not to dwell on this contentious topic for two reasons: (1) it is a Western phenomenon that has little, to no, relevance to the miners' context, which assumes a close relationship between spirituality and religion/God; and (2) the vexed question of the conflict between spirituality and religion has received sufficient attention elsewhere (Makgoba, 2008; Thurman, 1984; Flucker, 2003). Even within the Western context, where there is some resistance to the inclusion of religion in workplace spirituality (Boje, 2000; Carrette & King, 2004), there is an equally important acceptance that religion and a belief in God cannot be separated from spirituality (Mtuze, 2003; Delbecq, 2000; Thurman, 1984). "Religion" and/or "God" go under a variety of names and descriptions in this literature, including other-worldly (Kinjerski & Skrypnek, 2004), an ephemeral phenomenon (Dent, Higgins & Wharff, 2005), the crucified one (Thurman, 1984), belief in God and transcendence or salience of the practice of religion (Thurman, 1984; Flucker, 1989; Kellemen & Peltonen, 2005; Cavanaugh, 1999), and connection with a higher level of reality (Mtuze, 2003). Although varied, this terminology is nevertheless distinct from the language used by workers reporting negative attitudes to religion but positive attitudes to spirituality.⁴³

In the African context of the injured miners, the primary purpose of religion is the restoration of harmony – harmony within a sick or injured person, harmony within the family and wider community, and harmony with God (Olupona, 2000; Mtuze, 2003). Injury or diseases are understood as phenomena within a web of bruised relationships among the living, or between the living and the ancestors (Mosala & Tlagale, 1986). Healing is holistic, working toward the psychological and social reintegration of patient and community. It is possible because God, or a source of creation, assumes the role of prime actor (Mtuze, 2003). Even the herbs (*amayeza*) frequently used to

⁴³ Those rejecting religion but embracing spirituality defined the latter loosely as energy, meaning, knowing, search for purpose, or the desire to find ultimate purpose in life and live accordingly.

treat illness or injury is chosen not merely to cure the body, but also to heal the psychosocial, psychosexual and spiritual condition of the sufferer. Figure 8 demonstrates that most African miners regard themselves as people of faith for whom God and religion are important elements of self-understanding and spirituality. This new variable of connectedness to God (CG) is now placed in relation to the other interdependent variables presented thus far as elements of the proposed theoretical framework.

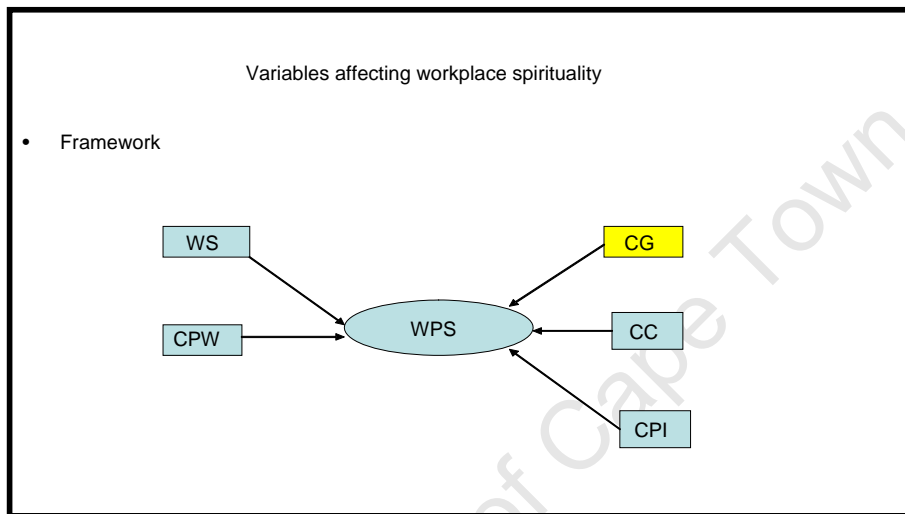


Figure 8: Relationship of connectedness to God (CG) to WPS

3.3.6 Workplace Spirituality as connected with meaning (locality)

The importance of meaningful work cannot be disputed (Mitroff, Denton & Ferguson, 1999; Zohar & Marshall, 2004; Gibbons, 2000; Kellemen & Peltonen, 2005). The literature also includes some cautions about the potentially alienating effects of workplace meaning-making that seeks to conceal the ruthless operations of capitalism (Boje, 2000), and ways in which attempts to encourage self-development and a sense of meaningfulness in the workplace can elicit unintended, unproductive, and irrational responses. Indeed, meaning is the one variable on which there is general agreement in all the literature reviewed.

Spirituality in general and workplace spirituality in particular are regarded as meaning-seeking or meaning-making. In Western conceptualizations, meaning is defined as a search for connections between personal values and work values that would allow employees to feel they are making a meaningful contribution in their working lives. Mitroff, Denton & Ferguson (1999) state that spirituality is most manifest at work as meaning-making. Thurman (1984) and Kellemen and Peltonen (2005) further support this assertion. Hackman and Oldham (1976, p. 256) define the importance of “experienced meaningfulness of work for personal and work outcomes” as “the degree to which the individual experiences the job as one which is generally meaningful, valuable and worthwhile”.

The connection between meaning-making and spirituality has a long tradition in Western thought. Plato’s Charmides (1887), written in the fourth century BCE, locates both the search for meaning and spiritual healing in a “place” he calls the soul:

“... therefore if the head and the body are to be well, you must begin by curing the soul; that is the first thing. And the cure, my dear youth, has to be effected by the use of certain charms, and these charms are fair words; and by them temperance is implanted in the soul, and where temperance is, there health is speedily imparted, not only to the head, but to the whole body” (Plato, 1453/1887, p.375).

Plato’s formulation is helpful in our contemporary search for meaning. In placing the search for meaning within the soul, he acknowledges the soul’s status as an undeniable, if intangible, “place” within all humans (Makgoba, 2005; Mitroff, Denton & Ferguson, 1999). Platonic concepts of the inner search for meaning and wholeness can be seen to underlie many contemporary Western discussions of workplace spirituality. Fox (1994, p.1-2), for instance, argues, “life and livelihood ought not to be separated but to flow from the same source, which is Spirit, for both life and livelihood are about Spirit. Spirit means life, and both life and livelihood are about living in depth, living with meaning, purpose, joy, and a sense of contributing to the

greater community [...] a spirituality of work is about bringing life and livelihood back together and Spirit with them.”

The inner search for meaning is appropriate to the African context of the injured miners also, where it can figure as their internal attempts to find meaning in their injuries. What distinguishes the African search for meaning from its Western counterpart, however, is that “place” as a literal, external context for healing, as well as an internal metaphor for the soul. In an African worldview, place or locality is the primary source of meaning or connectedness, anchoring both personal and communal identities, and serving as the literal centre for meaning-making (Makgoba, 2005). When Africans are challenged to make meaning out of difficult and life-changing experiences (such as spinal cord injury), their strongest impulse is to go to a literal, external place they call “home.” Yet most miners work at great distances from the place they regard as home. Their search for meaning is thus also a search for the external, physical locality inhabited by their communities and families, and watched over by their ancestral spirits. This literal, external location is as central to African meaning-making as the metaphorical location of the soul is to Plato.

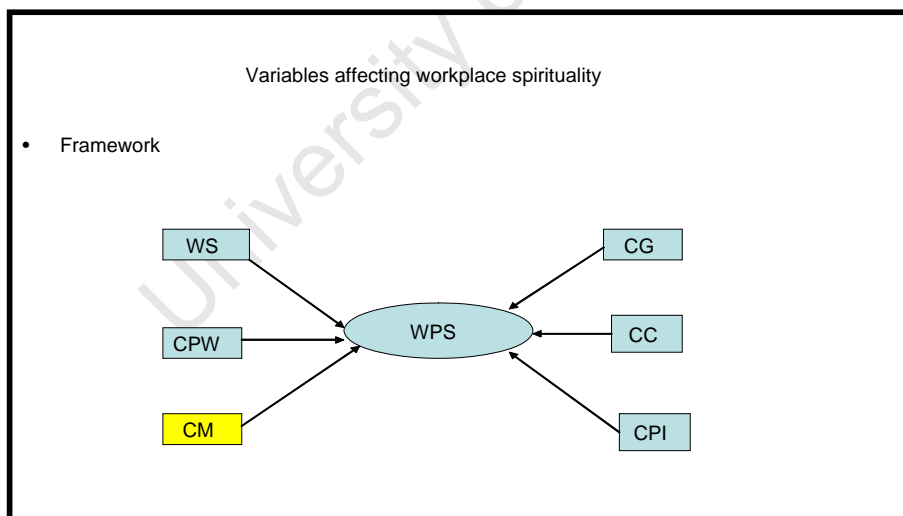


Figure 9: Relationship between WPS and connectedness to meaning (CM). This is the full diagram of the researcher’s developed theoretical framework

Table 11 provides a synthesis of the definitions of spirituality and workplace spirituality that inform the researcher’s theoretical framework.

Table 11: Select definitions of spirituality and workplace spirituality (sources: Vaill, 2000; Gibbons, 2000; Fluker, 2003)

Definitions of Spirituality and Workplace Spirituality
Spirituality is an essential part of every one of us, but is something that companies have traditionally not allowed employers to experience or express at work. Since it requires an awakening of the soul at the workplace, companies have been reticent to tread a path through an area previously considered the preserve of formal religion.
Spirituality is a fundamental form of resilience and, when embraced, serves as a modifiable resource that can be drawn upon during times of personal crisis and upheaval. Living a spiritual life is a stern choice, with responsibility to self and other. It is not a consoling retreat from the difficulties of existence, nor does it absolve one of accountability. It is an invitation to enter, by choice and fully awake, into that difficult existence.
Spirituality is also about people experiencing a sense of connectedness to one another, and to their workplace community. How do we reconcile this need for social and moral impact with the pressure of global markets, mergers, speculation, downsizing, adverts and media? Can or should workplaces be concerned about constructs such as eco-spirituality, peace and better relations, belief in God, spiritual tools, dialogue and listening, silence, stillness and solitude? Are these constructs important in providing a context for spirituality in business?
Spirituality demands a compassion in which one takes active steps to relieve the suffering of others. It therefore requires an orientation toward a self-sacrifice that seeks the common good
Workplace spirituality is a framework of organizational values evidenced in the culture that promotes employees’ experience of transcendence through the work process and facilitate [es] their sense of being connected to others in a way that provides feelings of completeness and joy.
Workplace spirituality is described intuitively in terms of practical and ethical utility; the former produces better work outputs, and the latter ensures that such work is held within a moral framework, [with] “non-spiritual” workplaces running the risk that morality is seen as a “private” preoccupation and therefore not integrated into work practices.
Understanding spirituality at work begins with acknowledging that people have both an inner and an outer life, and that the nourishment of the inner life can lead to a more meaningful and productive outer life.
Workplace spirituality is the feeling individuals have about the fundamental meaning of who they are, what they are doing, [and] the contributions they are making.

3.4 HYPOTHESES

The researcher has demonstrated that the WPS literature has hitherto offered no clear definitional framework to delineate the construct of spirituality for empirical research. He has also indicated that existing concepts of WPS are too broad for implementation clarity. In the absence of concepts and instruments suitable for empirical research in this field, particularly among the African subjects of this study, he has developed a framework capable of addressing empirical issues of correlation and/or measurement, causality, validity, and reliability, thus providing scientific clarity for WPS. This framework posits WPS as the recognition that all workers yearn for personal identity, safety and wellbeing, physical well-being, salience and meaningfulness in the context of community. It is presented in terms of the following set of six hypotheses, wherein the null hypothesis is represented by H_0 followed by the number of the hypothesis, while the alternative hypothesis is represented by the letter H and the subscript (hypothesis number) only.

3.4.1 The Six Hypotheses

- H₀₁:** There is no positive correlation between workplace safety and workplace spirituality.
- H₁:** There is a positive correlation between workplace safety and workplace spirituality.
- H₀₂:** There is no positive correlation between connectedness to God and workplace spirituality.
- H₂:** There is a positive correlation between connectedness to God and workplace spirituality.
- H₀₃:** There is no positive correlation between connectedness to community and workplace spirituality.
- H₃:** There is a positive correlation between connectedness to community and workplace spirituality.

- H₀₄:** There is no positive correlation between connectedness to personal identity in addition, workplace spirituality.
- H₄:** There is a positive correlation between connectedness to personal identity and workplace spirituality.
- H₀₅:** There is no positive correlation between connectedness to meaning and workplace spirituality.
- H₅:** There is a positive correlation between connectedness to meaning and workplace spirituality.
- H₀₆:** There is no positive correlation between connectedness to physical wellbeing in addition, workplace spirituality.
- H₆:** There is a positive correlation between connectedness to physical wellbeing and workplace spirituality.

3.4.2 Diagrammatic Representation of the Six Hypothesis

In Figure 10 below, the six hypotheses are now presented pictorially in the proposed theoretical framework.

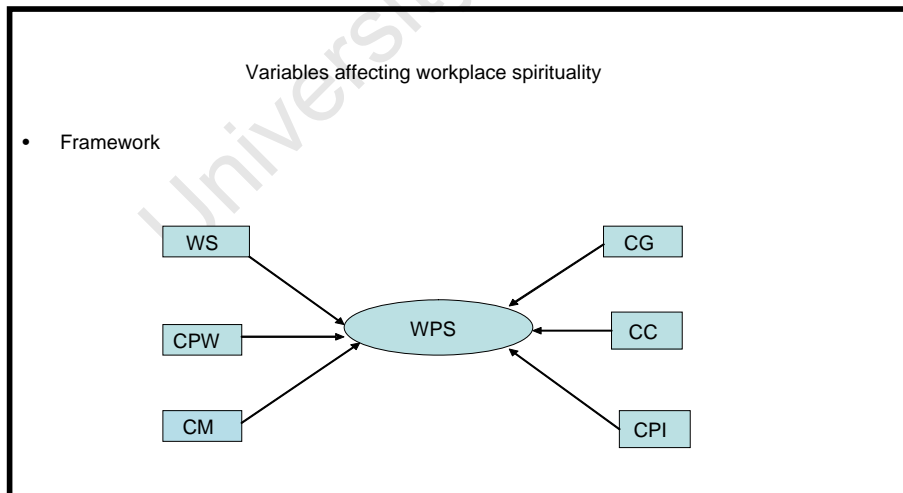


Figure 10: The six variables that form the basis of the hypotheses in this study

This chapter provided a descriptive account of workplace spirituality and its related components. For purposes of clarity and implementation, the researcher identified pertinent elements of workplace spirituality and recast them as the measurable variables of his theoretical framework. He is aware that his proposal to “measure” workplace spirituality runs the danger of reducing a complex phenomenon into the kind of positivist dualistic model that he has criticized from the outset, and that such a framework might be seen as compromising his stated commitment to an emancipatory approach. These methodological concerns also raise phenomenological and existential questions. Shall we presume to measure God? Can one empirically assess the life force within all matter? How does one quantify meaning? Having announced his intention to move beyond the empiricist philosophical stance that informed his earlier training, has the researcher nevertheless proposed an overly materialistic model that seeks to quantify what is essentially “ephemeral and intangible” (Dent, Higgins & Wharff, 2005, p.639)? Could his model be used to “tame” spirituality by organisations bent on the cynical exploitation of their employees’ spirituality for material gain (Dent, Higgins & Wharff 2005)?

These questions are hard ones and cannot be pushed aside in a world of grave material inequities under the simple guise of being scientific. Aristotle’s concept of *phronesis* is perhaps useful here. *Phronesis* is generally translated as prudence or practical wisdom. It implies both technical skill and moral or ethical judgment (Dent, Higgins and Wharff, 2005). In developing his theoretical model, the researcher seeks to combine technically rigorous socio-scientific analysis with a moral and ethical sensibility to the plight of the injured miners. His desire is to bring their longing into academic discourse, and thus before the eyes of those involved in critical management studies. In order to do so, he must balance instrumental rationality with value-rationality, because both are necessary to do justice to the spiritual longing of the injured miners.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 ASSUMPTIONS AND THEORETICAL CONSIDERATIONS

In chapter 3, the researcher considered various definitional issues of the phenomenon of workplace spirituality. These were reduced to six key variables that the researcher proposed to “measure,” though acknowledging the absurdity of purporting to measure the ephemeral. Nonetheless, motivated by Aristotle’s notion of phronesis (Dent, Higgins & Wharff, 2005), that is, the need to bring value rationality to bear upon instrumental rationality, the researcher proposes a mixed approach method in this research. The rationale for his choice will be discussed in this chapter.

The methodological assumptions in this research are rooted in grounded theory and in Habermas’ (1970, 1988) emancipatory approach. This combination equips the researcher with a methodology that is used to generate theory where little is already known, or to provide a fresh slant on existing knowledge. It will be applied in a mining workplace within a South African context and with spinal cord-injured miners. Goulding (1998) states that grounded theory is an interpretive tool whereby theory is obtained using logico-deductive methods. In grounded theory, theory is systematically obtained through “social research and is grounded in data” (Goulding, 1998, p.51). Following these principles in his study of spinal cord-injured African miners, the researcher, having obtained data from his “population,” seeks to generalise findings grounded in the data of the lived experience of injured miners.

Grounded theory is said to have developed during the 1960s and 1970s. Its main thrust was to bridge the gap between theoretically “uninformed” empirical research and empirically “uninformed” theory by grounding theory in data (Charmaz, 2000). Its impetus was to discredit extreme empiricism, or “grand theory,” a term coined by Mills (1959) to refer pejoratively to sociological theories couched in highly abstract terms. Mills (1959) and Habermas (1988), representing the Frankfurt School, similarly criticized abstracted empiricism or the process of accumulating quantitative data for its own sake. The main emphasis of grounded theory, as with many

qualitative methodologies, is the careful and systematic study of the relationship of the individual's experience to society and to history (Goulding, 1998; Glaser & Strauss, 1967; Charmaz, 2000). In other words, the key purpose of grounded theory is to generate new theory. In keeping with its grounded principles, the theory evolves during the research process itself and is a product of continuous interplay between data collection and analysis (Charmaz, 2000; Glaser, 1992; Glaser & Strauss, 1967; Strauss & Corbin, 1997).

Continuous interplay between data collection and analysis informs the current study, wherein the researcher proposes a methodology combining positivist quantitative data collection and analysis, with qualitative data collection and analysis. Before proceeding to elaborate this combined methodology, it will be well to give a brief descriptive account of positivist research in critical management studies, especially since this is not a field in which positivist and qualitative approaches are usually combined. A positivist perspective in the field of management aims to identify causal relationships that will enable management to become more scientific and better able to predict and control its environment. It is concerned to develop propositions supported by data and logic, and it is underpinned by experimental research designs (McAuley, Duberley & Johnson, 2007). In such an approach, theories are accepted or rejected based on their correspondence with the facts as seen in an objective world (McAuley, Duberley & Johnson, 2007).

A major criticism of positivist management research is that there has been a neglect of the need for relevance and an over-emphasis on issues of internal validity. In the messy and confusing management context that resists technical solution, an aloof, high ground and objective stance is not helpful to individuals and society. That is why there is more of a move to interpretative methods of inquiry as opposed to a narrower search for causal relationships. Prediction and control bear very little relation to everyday managerial work (McAuley, Duberley & Johnson, 2007). They are equally irrelevant in addressing the spiritual needs of spinal cord-injured miners.

In this chapter, the researcher restates the purpose of this study in order to create research questions or problems for investigation. Bearing in mind the limitations of a positivist approach, he analyses the proposed theoretical framework in the light of the hypotheses raised in the previous chapter.

4.2 PURPOSE OF THIS RESEARCH

The purpose of this research can be broadly summarized as follows:

- To validate the proposed theoretical framework of spirituality in the workplace, through data gathered from spinal cord-injured miners in the mining industry, and those involved in related fields.
- To identify each stakeholder-sector's unique constructs of spirituality, safety, values and their practice, and how they enable/support the conceptualization of spirituality in the workplace.
- To analyse the evidence, comparing each stakeholder-sector's responses between and across the parameters, to ascertain if there are factors that support the proposed theoretical framework, and which ones may be used to refine it.

4.3 THE PROBLEM

There is currently a gap between knowledge and praxis in the interface of workplace spirituality and the well-being of spinal cord-injured black miners. There is no clear definitional framework to delineate the construct of spirituality for empirical research. In Chapter 1, the researcher stated that this study would initially focus on finding and using appropriate resources that adequately promote spirituality. This discernment process helps to address the concern that the concept of spirituality in the workplace is too broad for implementation clarity. It generates the following questions: Can the suggested framework enable researchers and practitioners to address the gap identified by the researcher? Will it assist in resolving such empirical issues as the validity of the measurement instrument, reliability, correlation and/or causality? Moreover, will it thereby provide scientific clarity for concept of spirituality? The

researcher is moved to pose these questions by his deep-seated desire to address not only the inadequacy of resources in general, but also and more particularly the tragedy of underground and surface miners following their spinal cord injuries.

To address these conceptual issues, Figure 11 suggests a path that was used to link the literature reviewed in Chapter 2, the framework proposed in Chapter 3, the methodological concerns addressed in Chapter 4, and the data from the participants presented in Chapter 5. This path leads to the final interpretation and evaluation of the proposed theoretical framework in Chapter 6, and ultimately to the evaluation of the framework and the implications of the study in Chapter 7. The researcher interviewed 224 spinal cord-injured, Black, male South African mine workers about their interpretations, situated definitions, and applications of spirituality. Their responses were analysed in conjunction with the views of the mine managers, medical team members, indigenous healers, pastoral care workers and mine MD's or owners. This primary research moves the researcher to propose an alternative to current definitional and praxis issues in workplace spirituality.

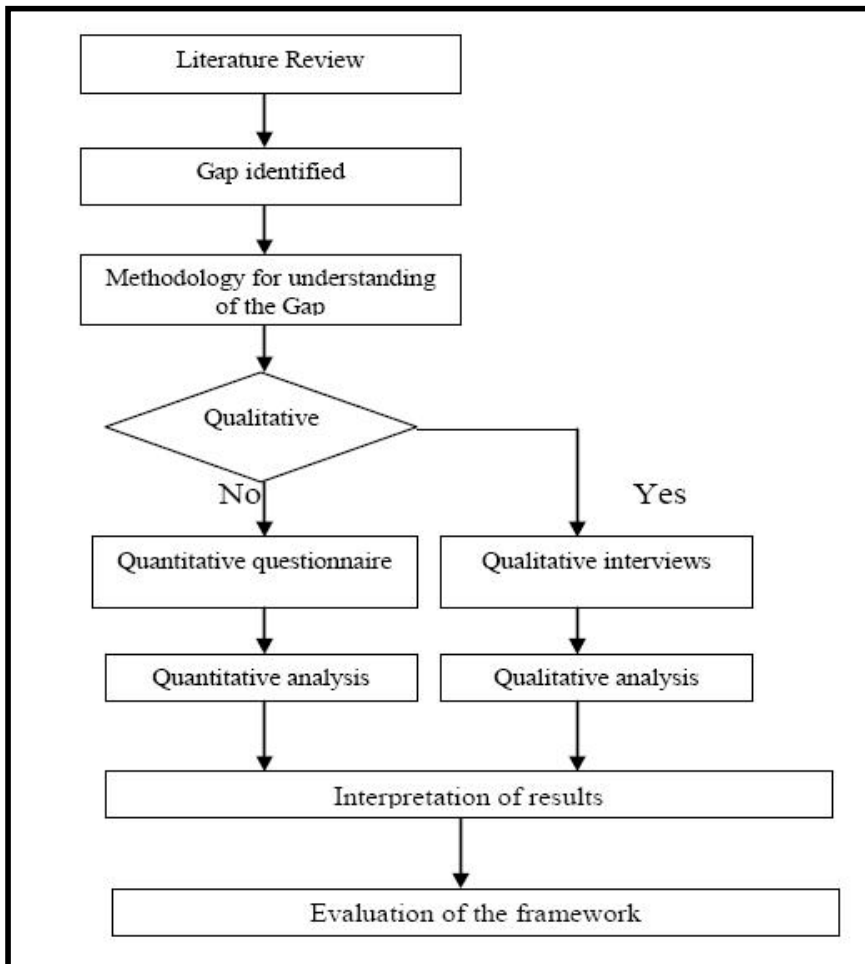


Figure 11: Chain of evidence (modified from Paré and Elam, 1997)

Researchers acknowledge the challenges of managing large volumes of qualitative and quantitative evidence. They nevertheless recognize the need to create well-constructed or “tested” analytic frameworks that can stand the test of rigour. Such frameworks include analytic pattern matching techniques, triangulation to gather evidence from multiple sources, longitudinal data gathering techniques when applicable, and the provision of a well-documented “chain of evidence” (Leonard-Barton, 1990; Parkhe, 1993; Stoecker, 1991). What then are the epistemological considerations that would lead to a rigorous investigation as outlined in the “chain of evidence”?

4.4 THE EPISTEMOLOGICAL CONSIDERATIONS

Social researchers of a wide range of philosophical orientations emphasize the importance of epistemological concerns, or the search for truth, in developing their research. The relationship of the researcher's reality to the investigative path, followed in the search of this truth, is the underpinning for all social research (April, 2004; Babbie, 2001; Creswell, 1994; Fontana & Frey, 2005; Denzin & Lincoln, 2005). The two well-established methodological approaches are the quantitative and the qualitative, with the quantitative approach being closely associated with a positivist philosophical timeline. This approach has been criticized by most post-positivist philosophers and researchers for its pretensions to neutrality and passivity in dealing with social research, stances which they have demonstrated to be impossible (Habermas, 1988; Foucault, 1988, 1997). The post-positivists regard qualitative approaches as more appropriate to social research, in that they allow access to the studied behaviour in its contexts without assuming a stance of scientific neutrality.

These epistemological concerns raise ontological questions as well. Questions regarding the nature of reality and human (anthropological) behaviour, and views of human reality, human consciousness, and human progress are crucial for social researchers (Babbie, 2001; Grinnell, 1993). These ontological questions enable researchers to identify discrepancies between reality and appearance in the search for truth. Is truth a single trait, for example, or multiple variants with a sense of alterity (Habermas, 1988; DeVillis, 2003)?

The researcher's search for conceptual clarity regarding workplace spirituality thus raises methodological, ontological, anthropological, and epistemological questions. Is there an orthodoxy or single truth, or can we contend with multiple views? If the latter is the case, how then do we clearly define spirituality in the workplace, and what methods and techniques are most appropriate to assist in gaining valid information and attaining clarity? The question of gaining valid information is to some extent addressed in the specially designed battery of instruments for data collection in the current research population. Charmaz (2000, p.511) reminds us, however, that "data

alone are insufficient; they must be telling and must answer theoretical questions.” The way that researchers interpret data is also significant, particularly when using a qualitative approach, which stresses that data analysis, can never be neutral or self-evident without interpretation. Nevertheless, data analysis should not merely reflect the researcher’s intuitive guesses or affect. Rather, it must be rooted in a strong empirical foundation.

Given the nature of the problem to be studied, the methodological underpinnings for this research were thus rooted in both empiricism and in grounded theory. In all the quantitative analysis, the researcher began with descriptive statistics in order to understand the measures of central tendencies and variances (Church & Waclawski, 1998). The descriptive statistics are important in summarizing key features of the data, for example, the averages (Berry & Rao, 1997). By beginning with the descriptive statistics, the researcher aimed to reduce the possibility of bias in analysing the data.

He used the popular statistical software package SPSS⁴⁴, which is specifically designed for use by social scientists (Acock, 2005). Quantitative data analysis began with descriptive analysis followed by Pearson correlations, in order to establish linear relationships between the variables. The Pearson correlation depends on linearity, which in turn provides a statistical framework for factor analysis (Berry & Rao, 1997; Babbie, 2001). Factor analysis preceded the regression analysis, as they are both consistent with the analyses that depend on linear relationships. The use of regression analysis in this research helped to confirm causality, following the establishment of positive relationships between variables in the correlation analysis. This process was followed to ensure consistency in data analysis. For the qualitative analysis, the researcher used Atlas ti software, which is based on the principles of grounded theory, namely, that knowledge is emergent and that it, is developed inductively from a complex corpus of data (Habermas, 1988; Miles & Huberman, 1994; April, 2004;

⁴⁴ SPSS- this statistical package is discussed more fully in the Tools and results sections of this research.

Andrews, 2006)⁴⁵. Both quantitative and qualitative approaches to data analysis were thus used in an effort to be pragmatic about the collected data and rigorous in its interrogation. Table 12 summarizes the uses of the qualitative and quantitative approaches applied in this research.

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⁴⁵ Grounded theory is based on the acknowledgement that knowledge is emergent and that information can come from various complex sources in the researcher's context.

Table 12: A summary of the qualitative and quantitative research approaches (sources: Denzin & Lincoln, 2005; Neumann, 1994; April 2004)

Quantitative Research	Qualitative Research
Use deductive reasoning: data is for hypothesis testing and formation	Use inductive reasoning: data is for insights and understanding patterns of behaviour
Etic perspective: researcher defines meaning	Emic perspective: respondents generate meaning
Nomothetic: objective measurement of social concepts, hypothesis testing and predictions	Idiographic: aims to understand meaning attached to every day existential phenomena
Reality is seen as objective	Reality is seen as subjective
Start with hypothesis testing	Capture data and discover meaning in data that has been collected
Seek to control the extraneous variables	Seek to understand the phenomenon
Concepts are distinct variables	Concepts are themes, motifs and categories
Observations are systematically captured in a standardized manner	Observations are determined by their richness and settings and modified to enrich understanding
Data is presented by means of statistical figures gained from the battery of tests used	Data is words, quotes and their analysis from documents and transcripts
The research design is standardized and can be replicated	The research design is flexible and unique, with no fixed steps; it evolves in the process and can't be replicated
Data is analysed through standardized statistical procedures	Data is coded or analysed by extracting themes
The units of analysis are variables which are atomistic	The unit of analysis is holistic and depicts relationships between contexts and variables

4.5 RATIONALE FOR CHOOSING BOTH QUALITATIVE AND QUANTITATIVE APPROACHES: A MIXED METHODOLOGY

Table 12 suggests how qualitative and quantitative approaches differ. Instead of conceptualizing them as mutually exclusive, however, this research sees them in a continuum, thus allowing for a “mixed method” approach that draws on the strengths of both. In this way, it was possible to map and locate the conceptualizations of spirituality and well-being of spinal cord-injured miners not exclusively in one approach, but in both (Cronbach & Meehl, 1955; DeVillis, 2003). The qualitative approach, in particular, assisted in exploring some understanding of what spirituality is, as well as perceptions of safety and values and types of faith traditions, although without a deeper discussion of orthodoxy. The quantitative approach was useful in operationalizing concepts such as spirituality at work, ethical values for care, and relationships between concepts, e.g., spirituality, well-being, God, safety, values, and meaning.

4.6 THE PILOT STUDY (RESEARCH STUDY)

An initial exploratory pilot study was conducted in 1996 and 1998 using spinal cord-injured miners’ clinical records, after permission was obtained from both the miners and the hospital. The outcomes of this pilot study were presented at staff training workshops and a national conference of the spinal cord injuries association (Makgoba & Dube, 1997). These outcomes and the anecdotal reports from the pilot study, although not used in the present study, motivated the researcher to investigate, in a larger sample, the possible impact of the African injured mine workers on our understanding of workplace spirituality.

Mouton and Marais (1990, p.43) state that the objective of exploratory studies is the investigation of a relatively unknown research area.

The goals of such research are:

- To gain new insights into the phenomenon;
- To undertake a preliminary investigation prior to a more structured study of the phenomenon;
- To explicate the central concepts and constructs ; and,
- To develop new hypotheses about an existing phenomenon.

The initial pilot study by Makgoba and Dube (1997) allowed the researcher to attain these goals, as well as to uncover generalizations and to develop possible hypotheses. It also highlighted the need for positivist and quantitative exploratory research on the role of spirituality in the rehabilitation of spinal cord-injured mineworkers (Makgoba & Dube, 1997). In the current study, the researcher hoped to investigate and test the hypotheses of the pilot study, by including a larger population and by broadening the methodology to include qualitative as well as quantitative data. Commonly agreed-upon methods of data collection for quantitative and qualitative analysis have been discussed earlier, as have their ideological underpinnings, whether positivist, which stresses quantitative analysis, or emancipatory, which privileges qualitative analysis and the case study. In this research, which made use of both approaches, SPSS, Excel and Atlas ti were used for analysis. The outcome of these analyses provided a framework from which the hypotheses could be tested, and from which generalisations could be drawn.

The methodological process followed in this research is in keeping with the information in Figure 2. It is expounded on in Figure 12. Figure 12 offers a framework for understanding the methodology flow used in the current study, which was initially conceptualized, but not used, in the pilot study. It presents two parallel and interrelated stages that led to the development of this study report. In brief, through a combination of direct involvement with spinal cord-injured miners, his previous work in the pilot study, and his review of the literature, the researcher identified a gap between knowledge and praxis, that is, between theoretically uninformed research and empirically uninformed theory. He realized that to bridge

this gap, he needed to develop a systematic method of research that would allow him to frame questions within a particular framework or set of boundaries. After the development of this framework, data would need to be collected for analysis. This analysis would make it possible to generalise for different contexts. Figure 12 presents the different stages of this process.

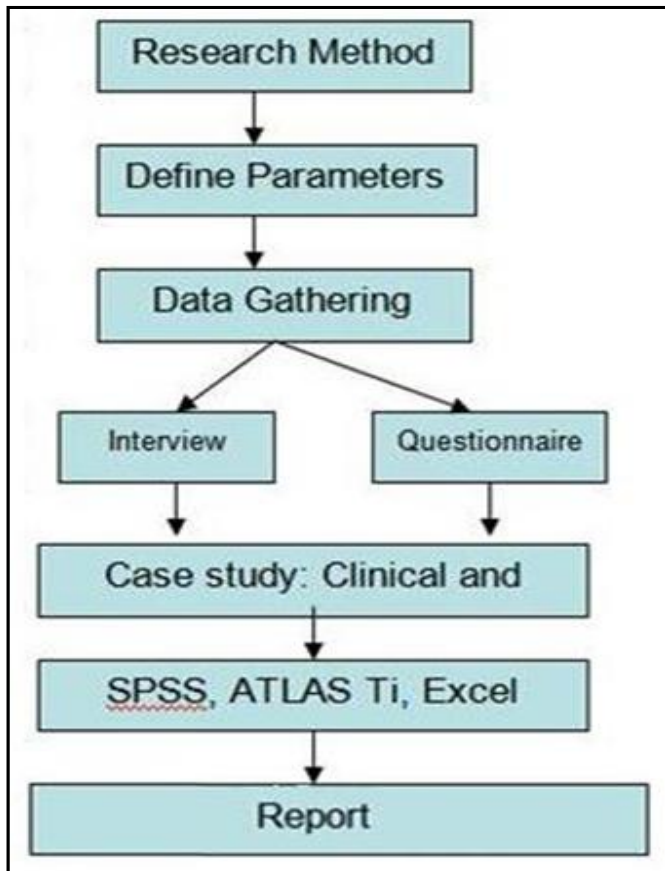


Figure 12: Methodological research process

In the following paragraphs, Figure 12 is discussed in depth, starting with the research method, and citing some of the important literature in the relevant areas of the figure.

4.7 RESEARCH METHOD

In this study, the traditional case study method (Yin, 1997; Creswell, 1994; Stake, 1995), the clinical case research study method or biomedical paradigm as it is sometimes called (Miller & Crabtree, 1999), and narrative inquiry were all used to gather data in an effort to address epistemological, ontological, anthropological and methodological considerations.

Each of these methods can be a stand-alone research method, and each has been developed over a period of many years. In this research, however, they are combined, in keeping with the spirit of critical theory, which encourages such a fusion of methods (Leonard-Barton, 1990; Berry & Rao, 1997; Creswell, 1994; Stoecker, 1991; Habermas, 1970). Furthermore, critical theory encourages researchers to be as broad as possible in data collection and to draw on a wide range of research tools, including: observations; formal interviews; semi-structured, unstructured and in-depth interviewing; personal and institutional documents; mass media analysis; archival research; the examination of official statistics; and the review of published literature (Habermas, 1988; Gummesson, 2000).

4.8 SELECTION OF THE “ECLECTIC” CASE STUDY METHOD

Denzin and Lincoln (2005) cite the testimonies of numerous authors to the usefulness of qualitative research. Creswell (1994) offers a useful table (included here as Table 13) that summarizes five qualitative traditions also informing this study. The table also justifies the basis for using the qualitative approach. The approaches it summarizes are not mutually exclusive, but should rather be understood systemically as a continuum (April, 2004; Yin, 1989). It shows how the five identified traditions treat data and its analysis. Although the table will not be discussed, its information is used in dealing with data collection and analysis in this study.

Table 13: The five traditions in qualitative research (sources: Patton, 1990; Creswell, 1994; Stake, 1995; Yin, 1999; April, 2004; Denzin & Lincoln, 2005)

Key Design Elements	Biography	Phenomenology	Grounded Theory	Ethnography	Case Study
Theory Used: Before and After	Both	Before Study	During and after	Before	Both
Focus of Study: Theme/Goals	Stories, life histories	Description, meaning, essence	Generate, develop and process propositions	Culture and behavioural themes	Comparisons of events, individuals across or within, and why and how questions
Data Collection					
Analysis Focus	Individual	Multiple individuals with experience on phenomenon	Multiple individuals participated on central phenomenon	Members of culture or reps of shared culture	Investing process, system or program or multiple individuals
Sample selection	PERSON Depends on availability critical case, politically NB	Criterion sample, people sharing same phenomenon	Homogeneous sample; theory based sample	Cultural group with one sample	Finding cases; similar; maximum variation
Information collected	Documents; archival material; journalistic-informal chats	Interviews; up to 10 people	Mostly interview with 20-30 people to build theory	Participant observations interviews; artefacts documents	Documents records; interviews; observations; artefacts
Common issues	Access to material; authenticity and variability	Bracketing one's personal interviews; logistics of interviewing	Interviewing issues, e.g. logistics, openness	Field issues, e.g. reflexivity, reciprocity, deception	Interviewing and observing similar to other traditions
Data Analysis					
Classifying	Identify stories, epiphanies, context materials	Identify lists of statements with meaning to individuals; group statements to meaning units	Engage in axial and open coding for context, strategies, consequences	Analyse data for themes and recurring patterns	Use categorical aggregation; establish patterns of categories
Interpreting	Theorize- developing patterns and meanings	Textural description of event; how it was experienced; its essence	Selective coding; develop conditional matrix	Interpret and make sense of findings	Use direct interpretation; develop naturalistic generalizations

4.9 DATA COLLECTION: DESCRIPTION OF SAMPLE POPULATION, TOOLS AND PROCEDURE

The data gathering process was helpful in defining the scope for this research. Three areas were identified through this process, namely: the appropriate research population to explore the identified problem, the unit of analysis to enable analytic continuity, and data collection tools constructed not only to gather data but also to help provide depth of analysis (April, 2004). It is important to discuss each of the above processes for each population group. Table 14, drawn from April (2004), provides a useful summary of frequently used data collection tools.

Table 14: Data collection tools (sources: April, 2004; Babbie, 2001; Mouton & Marais, 1990; Creswell, 1994; Patton, 1990; Yin, 1997)

Data Collection Tools	Strength/weakness	Application
Documents and Archival records	<p>Strengths: consistent replication</p> <p>Weakness: unknown authors may cause undetermined bias; collection may be selective, may be proprietary</p>	<p>Appropriate to corroborate or augment evidence</p> <p>Publicly available info makes evidence gathering more efficient, providing background</p> <p>Documents provide a means of enhancing interview discussions</p>
Interviews: One-on-one	<p>Strength: targeted focus on research area; can be scheduled; time managed; within real-setting dialogue with participants</p> <p>Weakness: structured, semi-structured questions may limit the creation of robust insights, while non-structured questions may provide eclectic and “shallow” responses; relies on participant’s recall; participants may tell researcher what they believe researcher wants to hear</p>	<p>Most common data collection tool used in business research under case study method</p> <p>Interview as tool can be combined with other tools such as documents and archival information</p> <p>Fits with business environment where time is scheduled into finite periods or appointments</p>
Interviews: Focus Groups	<p>Strength: facilitated interaction allows for data generated through group interaction; speedier results if skilfully moderated</p> <p>Weakness: requires finding the right people to participate; constructed social setting may introduce bias</p>	<p>Used extensively in marketing research</p> <p>Used as a post-survey tool to gain more insight into survey data</p> <p>Diagnose potential problems or contributions of social programs</p>

Data Collection Tools	Strength/weakness	Application
Observation: Direct or as a participant	<p>Strength: real settings in which observations are made as opposed to laboratories; where researcher is participant, the interpersonal dynamics can be highly insightful; deep; robust descriptions</p> <p>Weakness: time-consuming; may require “hanging out” at all times to be an insider; usually a single case, not able to be generalised, potential bias of “it takes one to know one” fallacy</p>	<p>Appropriate for in-depth studies on social groups or individuals within their own settings</p> <p>Highly insightful direct observations</p>
Participant Action Research	<p>Strength: empowered, democratizing research relationship; relies on local knowledge; enhances participants’ powers of observation, awareness, and self-reflection</p> <p>Weakness: highly eclectic; must expand what is considered data; difficult to generalize</p>	<p>Valuable in transitional “third world” setting, where people may have been marginalized.</p> <p>Professional groups such as teachers or hospital staff, where praxis develops new knowledge for improvement</p>
Physical Artefacts	<p>Strength: insightful cultural or technical functionality</p> <p>Weakness: may be perishable out of context, selective bias</p>	<p>Product functionality easy to see, especially when generated</p> <p>Objects such as awards hold social meaning for groups or individuals</p>
Audio-Visual Taping	<p>Strength: replicable and can be replayed with no loss of evidence; more robust data--both visual and auditory within camera frame</p> <p>Weakness: participants may “act” for the camera</p>	<p>Used to support other efforts; e.g. focus groups</p> <p>Can be highly effective in demonstration practice; e.g. classroom, hospital, etc</p> <p>Evaluation tool to determine how experts agree or disagree on same videoed event</p>

The material in Table 14 informed the researcher's choice of methods, and his understanding of the parameters of information-gathering. The researcher acted as a participant observer, with the spinal cord-injured miners as direct participants in the action research. He also had access to the spinal cord-injured miners’ hospital documents, and to other archival records supplied to the hospital by the mining recruitment office (TEBA). All this made the generation of data both possible and credible. The miners participated in the study because they knew the benefits of participation, such as gaining better knowledge of their disabilities and hoping that workplaces would better understand their plights. There was little audio-visual taping, except in the case of sangomas, who were audio-taped so that their responses could be replayed and typed. Most sangomas objected to the taping, however, finding

it both intrusive and inconsistent with the oral tradition within their worldview. The material in the table also informed the researcher's approach to data collection and his development of specifically constructed tools, such as questionnaires, scheduled interviews and focus groups with miners after the one-on-one interviews. The focus groups were not so much for gathering data, but rather for the forming of general impressions and the clarification of some terminology used by individual miners. Finally, the material in the table also informs the following theoretical discussion of the assumptions undergirding the interviews, and of the interpretation of data collected through some of the techniques it summarizes.

4.10 THE RESEARCH POPULATION UNDER REVIEW

Table 15 describes the population group that participated in this study as well as the tools that were used for gathering data. Its material will be discussed in *seriatim* in sections 4.10 to 4.16.

Table 15: The research population

Population group	Population size	Sampling method and Tools
Miners	224	Random, questionnaire, interviews, focus groups
Managers	20	Random, questionnaires
Captains of Industry	12	Random, emailed questionnaires
Medical and Allied	30	Random within each group, questionnaires
Pastors	45	Random within 2 dioceses, interviews, one-on-one and questionnaires
Sangomas	10	Random, in Eastern Cape, one-on-one interviews and one audio tape

The miners belonged to different mining houses under the auspices of Rand Mutual Assurance, and were housed at the Rand Mutual Hospital and Net Care Rehabilitation Centre. The hospital had more patients than were interviewed. A random sample of those with T12/L1 level of spinal cord injuries, from underground or surface gold mining, were interviewed and included in this study. The additional rationale for inclusion was the researcher's secondary interest in the relationship between this level of spinal cord injury and psycho-sexual functioning, an issue which is not the focus of this study. The procedure for data collection will be discussed below in a section that deals specifically with the miners.

The first criterion for the choice of managers was their involvement in the mining sector. Questionnaires were randomly posted to them in separate locations within South Africa, with no regard to the nature of the mines, whether gold, platinum, or other minerals. Only those who responded to the paper-and-pencil task, required of them in the questionnaire, were included in the final analysis. The managers are also discussed in a specific section below. The same procedure was followed for captains of industry and for the medical and allied professionals.

The pastors and sangomas, although randomly selected, were drawn from specific locations. The pastors were selected from two specific Anglican dioceses, namely, the Diocese of Zululand and the Diocese of Grahamstown⁴⁶. A random sample of clergy was selected from groups invited to consider potential ordination to the priesthood, and from those who were recently ordained and attending continuous learning programmes. Sangomas within the Makana Municipality of the Eastern Cape Province were randomly approached for inclusion in this study⁴⁷. The procedures for information gathering, the research populations, and the tools used to gather data are discussed below, beginning with the spinal cord-injured miners, and ending with the pastoral care professionals.

⁴⁶ A diocese is a geographical location of clustered Anglican parishes. Each parish is under the charge of a priest, and each diocese has a bishop as overseer. The Diocese of Grahamstown, for example, has one bishop, 60 parishes, and about 110 ordained priests and deacons.

⁴⁷ Geographic location of the researcher and availability of sangomas limited this research sample, but it should be noted that the miners included in the study come from a wide geographical range that includes many sangomas.

4.11 SPINAL CORD-INJURED BLACK MINERS

Two specifically constructed questionnaires (see Appendices 1 and 2) were used with spinal cord-injured miners. Questionnaire 1 sought to provide statistical protocols for the injured mine workers, including biographical information, the cause of injury, the level of injury, and the duration of injury, as well as some qualitative information on perceptions of mine safety, spirituality, workplace support, and self-image following the injury. It consisted of open-ended questions that could be analysed qualitatively. A total of 224 spinal cord-injured people were interviewed using Questionnaire 1 during therapy sessions with their permission. Of these, 195 were mineworkers injured either at the mines or travelling between home and the mines. The others were injured by stabbings, gun shots, or falls from heights. The criteria for inclusion or selection were not driven by the number of cases required for theory building, as is normally the case in qualitative research. Rather, they were based solely on whether the injured person was a mine worker.

Questionnaire 2 (Appendix 2) is based on Ide and Ogata (1995), and it sought to quantify the Activities of Daily Living (ADL). It includes 25 structured and closed questions and three possible abilities (answers) to describe the miners' physical functioning. These answers were rated as: 3 (physical activity is fully mastered), 2 (physical activity is average), 1 (physical activity involves struggle), and 0 (physical activity is completely compromised). The average of these scores was tallied to determine an approximate ADL score, which purports to identify the level of functionality of the spinal cord-injured person in daily physical activities.

There have been a number of criticisms of the ADL approach, including its negative assumptions about "normality" and human nature, and its pretence of neutrality in suggesting that human quantifying behaviour can be objectively measured. A further limitation of this procedure is the Halo effect when the researcher who records the cases also analyses their outcomes. The multiple roles of the researcher can, however, be justified from the perspective of critical theory, which requires a degree of "closeness" with those that are under investigation (Habermas, 1970, 1988). There are furthermore ethical issues involved in allowing other researchers to do therapeutic

interviews/clinical case studies without the prerequisite clinical skills and training, especially regarding issues such as the respect of confidentiality.

Each of the 224 spinal-cord injured patients was thus engaged individually by the researcher in at least four sessions. The unit of analysis for qualitative information was the individual patient, and that patient's responses were analysed together using statistical tools (Babbie, 2001; Patton, 1990; Yin, 1997). In addition to the individual encounters, the miners were further engaged by the researcher in four groups of seven or in focus groups to clarify certain terminology from the individual interviews, e.g., "umoya," "four-five," and other psycho-sexual terminology used in the mine hostels. In sum, the constructs that the two questionnaires sought to measure were the following: biographical data, perceptions and definitional issues of what constitutes a safe workplace, spirituality, levels of self-perception after the injury, and the respective roles of family, community, health professionals, and mine managers following injuries.

4.12 THE UBUNTU QUESTIONNAIRE FOR MINE MANAGERS

The Ubuntu questionnaire (Appendix 5) consists of a list of twenty statements specifically constructed by April and Ephraim (2006). It was sent by post with a self-addressed return envelope to 120 mine managers. These managers were chosen from those who had managed predominantly old order, Anglo-Saxon mining houses for a long time, predating South Africa's democracy. The same questionnaire was sent to 20 mine managers at what the Department of Minerals and Energy (DME) identified as Black Economic Empowerment (BEE) managed and owned mines.

The Ubuntu questionnaire was created by April and Ephraim (2006) to measure certain attributes associated with the African spiritual concept of Ubuntu. Ubuntu literally means, "I am who I am through my interconnectedness with others," calling on us to believe and feel that "Your pain is my pain, My wealth is your wealth, Your salvation is my salvation" (April and Ephraim, 2006). Respondents to the Ubuntu questionnaire were asked to rate given statements from 1-5 according to the degree to which they agreed or disagreed with them, with a rating of 1 indicating strong

disagreement, and a rating of 5 indicating strong agreement. The questionnaire also required biographical data such as age, gender, years of experience and the position or current/prior qualification, number of years in the organization/industry, and nationality of the respondents. The Ubuntu questionnaire was used by April and Ephraim (2006) with managers in South Africa, and showed high reliability and validity coefficients. It would seem from these coefficients that there was high internal consistency, and that the researcher could thus use the questionnaire as a valid tool in his own research.

The mine managers' responses to this valid and reliable tool were recorded and kept in files marked Mines 1st Batch and Mines 2nd Batch. The first Batch included all mine managers typed as traditional Anglo-Saxon, and Batch 2 included those typed as BEE. The initial unit of analysis was the individual manager. Managers' responses were subjected to statistical analysis for possible variance and reliability of the tool, in order to understand the relationships between the constructs and the individual level that the managers occupied (April and Ephraim, 2006). The constructs that the managers' questionnaire sought to measure were the following: interconnectedness with others, and attributes associated with the African spiritual concept of Ubuntu.

4.13 MEDICAL AND ALLIED PROFESSIONALS

A specifically constructed questionnaire consisting of ten questions was sent with a self-addressed stamped envelope to medical and allied professionals (Appendix 3). The process was as follows. First, a list of all public and private hospitals and rehabilitations centres in South Africa's nine provinces was obtained by internet from SASCA (South African Spinal Cord Association). The list included the following items: hospital name, contact number, province or city in which situated, and comments. The next step was to write to the hospitals and to make photocopies for all 23 institutions, i.e., 10 questionnaires for each of the 23 hospitals. Four hundred and sixty stamps were used in the first batch, in which ten questionnaires were sent to the following departments in each institution: the Matron (10), the Nursing Sister (10), the Psychologists (10), the Physiotherapist (20), the Occupational Therapist (20), the Medical Practitioner (10), the Orthopaedic Surgeon (10), and the Physician (10).

Each packet included a cover letter with the researcher's contact details and the cut-off date.

The questionnaire sought to measure the following constructs for medical and allied professionals: their perceptions of mine health safety, definitional issues of what the literature reviewed describes as "proxies of spirituality," biographical detail, and workplace values and ethics. Their responses were analysed individually and then through the use of a qualitative software analysis tool, Atlas ti, possible themes were extracted (Patton 1990; Yin 1984).

4.14 EXPERT OPINIONS: SANGOMAS, CAPTAINS OF INDUSTRY AND PASTORAL CARE PROFESSIONALS

Various experts associated with the mining industry were surveyed, either in one-to-one interviews or through a written questionnaire. The respondents were divided into the following broad categories: sangomas (10), captains of industry (12), and pastoral care professionals (45). Although medical and allied professionals (30) and mine managers (20) also belong in this category, they are discussed separately because they form a unit of analysis that is important and used for comparative purposes with the miners' responses.

4.15 SANGOMAS/AFRICAN TRADITIONAL HEALERS

Unstructured interviews were conducted on a one-to-one basis with the identified Sangomas. The interviews were then analysed using Atlas ti. The questions used in the interviews sought to measure the following constructs: the Sangomas' perceptions of workplace safety, their values and ethics, or "proxies of spirituality," and definitional issues of spirituality. Their responses were recorded for further analysis. Engaging Sangomas as research subjects raised some theoretical and methodological questions about the use of interviews, particularly regarding the qualitative use of conversations and interviews and discourse analysis (Strauss & Corbin, 1997; Miles & Huberman, 1994).

4.16 CAPTAINS IN THE MINING INDUSTRY

The “captains of industry” constituted a varied group of experts in the field of mining. They were interviewed individually, either face-to-face, telephonically, or through a questionnaire. Thirteen experts were identified, as shown in Table 16.

Table 16: Captains of industry—Expert information

Identity	Gender	Position	Company
001	Male	Safety Officer	NUM
002	Male	Director/Owner	ARM
003	Male	CEO	Chamber of Mines
004	Male	Mine Safety Director	DME
005	Male	CEO	Charter/SABC
006	Female	Director/Owner	Khumo-Bathong
007	Male	Retired CEO	Anglo-Ashanti
008	Male	Director/Owner	Izingwe
009	Male	CEO	BHP Billiton
010	Male	CEO	Busi. Leadership
011	Male	Former Gen Secretary	NUM
012	Female	Senior Social Worker	River Field Lodge
013	Male	BHP Billiton	Safety Directors

Table 16 shows the range of experts that were identified and interviewed. Three were interviewed face-to-face, three were interviewed telephonically, and six were interviewed through an open-ended questionnaire. Although the experts were fewer in number than participants in other groups, they were, by the nature of their executive positions, the most difficult to interview. A specifically open-ended questionnaire was devised for this group with three questions that allowed the researcher to probe attitudes to workplace spirituality and safety. The questions were: (1) What does spirituality at the workplace means for you? (2) How does your spirituality influence your everyday decision-making?, and (3) What are your perceptions of mine safety and what can be done to make mines safer? These responses were collected, and coded using the Atlas ti program.

4.17 PASTORAL CARE PROFESSIONALS

This group was distinct from the medical and allied professionals, in that it was specifically comprised of full-time pastoral care workers. Three categories of pastoral care workers were identified:

- Those with secular qualifications attending a selection conference to be formally accepted by the church as pastoral workers (18);
- Those who were recently ordained and were attending a continuing pastoral care formation programme (31); and,
- Those with five or more years in the active pastoral ministry (29). A mixed method of data collection, gathered mainly through focus groups, was used to collect the responses. These were recorded in the questionnaires and then coded using Atlas ti.

The questionnaire used with the pastoral care group sought to capture the following constructs, which are similar to those listed for the “captains of the industry” questionnaire, namely: (1) What does spirituality mean for you as a pastor (definitional issues)?, (2) How does your spirituality influence your everyday decision-making?, and (3) How do you nurture your spirituality (again, definitional matters as well as the use of spirituality)? The pastors’ questionnaire is attached as Appendix 3 of this thesis.

In summary, the predominant method of data gathering was one-to-one interviewing using specifically designed questionnaires (Fontana & Frey, 2000; Yin, 1989). Access to the type of participant required for expert opinion was difficult, which is a limitation of the current study. Although the expert opinion sample was smaller than others in this study, “we got in and got along” (Kirk & Miller, 1986, p.62; April 2004; Bouma & Atkinson, 1995; Seidman, 1998; Creswell, 1994). Although differing in some aspects, the instruments created for the various groups surveyed similar constructs. They all captured optional biographical information, understanding and/or definitional issues of spirituality, various proxies of what might be characterised as

workplace spirituality, and the values associated with spirituality in the contexts of the respondents.

4.18 THE DATA ANALYSIS METHODS

Tables 2 and 3 summarise the study's data collection methods, namely: one-on-one interviews, focus groups, and direct or participant observation. The theoretical justifications or traditions for collecting these data are also shown in these two tables, where they are identified as biography, phenomenology, grounded theory, and case study. Finally, Tables 2 and 3 outline the tools of analysis used to identify themes, to compile lists of statements with meaning to individuals and groups, and to establish patterns for categorical aggregation.

In addition to the material summarised in Tables 2 and 3, this study draws on qualitative analysis conducted using Atlas ti, a qualitative data analysis software program based on grounded theory. The software is said to be a powerful workbench for the qualitative analysis of large bodies of textual, graphical, audio and video data (Miles & Huberman, 1994). It enables systematic analysis of unstructured data that cannot be meaningfully analysed using formal statistical approaches (April, 2004). Practically in this research, data collected through various resources was first captured in a text bank. These are termed primary documents in the software program – these primary documents literally contained the research respondents' responses/quotations to be interpreted. A single primary document represented a single respondent's views and insights, and was labelled, e.g., P1 for one respondent, P2 for another respondent, P3 for yet another respondent, and so on.

These primary documents were then placed in hermeneutical units (HU) – the hermeneutical units being data structures for each research population, such as miners, managers, and other participant groups. Each hermeneutical unit was coded by the researcher in a creative, flexible and systemic way (these codes – basically names given to a quote, a sentence or a paragraph from a particular respondent – are termed primary codes). Segments of the primary document could capture an important qualitative description, for instance, proxies or definitional issues of workplace

spirituality in the current research project. The quotations in the primary documents were grouped into clusters for easier handling and comparison, thus creating a super code, or “code family/theme” (e.g., safety and spirituality). It was then possible to explore and compare and the hermeneutical units (HU). Appendix 9 provides excerpts of these themes from the qualitative data analysis program. Families were then used to analyse the interrelatedness of themes defined as spirituality, and its proxies among the current populations. The HU was thus a “dense, spider web” of primary data, associated memos and codes reflecting interrelations between codes and data. The program is also able to give an output of the frequency of the themes it identifies (see Appendix 9).

For quantitative analysis, the computer software program, SPSS, was used. This software allows for data analysis to produce descriptive statistics, means, standard range and median. The data can further be analysed to see if there were any relationships between the independent WPS variables and the dependent variables discussed in the proposed framework. This program further allows the same data to be used to evaluate whether the relationships thus established are of consequence in terms of their individual or group weighting.

The process was as follows. First, the data was extracted from the Excel database, used for the initial data preparation, including removal of values that could have been entered as text and consistence checking of the entire set of the data. In SPSS, the data was subjected to further data screening. Data screening now included deleting cases that had missing values of about fifty percent of the data from the respondents. Variables were formulated in accordance with the SPSS naming process in order to avoid entering long sentences as variables. The data types were also defined, e.g., the scale for entries with numeric figures. Categorical values were recorded numerically, e.g., 1 for male and 2 for female or 1 for yes and 2 for no. The data was then subjected to descriptive statistics where frequencies, means and standard deviations were obtained so that a statistical profile of the research population could be established. Correlation analysis was then conducted in order to establish the relationships between the underlying variables. These statistics enabled the researcher to investigate possible relationships between the variables proposed in the WPS

framework. Establishing relationships of variables was important for further analysis, as this would have indicated that the proposed variables did indeed define workplace spirituality. Alternatively, it might have established how these variables, individually or collectively, affected workplace spirituality.

In order to cluster the variables in these relationships, factor analysis was done. Factor analysis attempts to cluster variables into groups or factors that are manageable for further statistical analysis. It was very important in this study, because certain variables could not be directly assessed using one question or questionnaire, but came rather from multiple sources used to quantify the abstract concept called “spirituality.” After clustering, the variables that most defined WPS were further analysed using regression methods, based on the general regression equation of:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e$$

This regression analysis was done on the proposed framework to confirm whether or not the proposed variables adequately defined workplace spirituality in a mining workplace. To this end, the following variables from the proposed WPS framework were substituted in the equation: X_1 was CG, X_2 was CC, X_3 was CPI, X_4 was WS, X_5 was CPW, X_6 was CM and Y was WPS. The value ‘e’ was the error measurement and β_0 was the gradient.

4.19 THE PARADIGMATIC LOCATION: DIFFERENT PHILOSOPHICAL APPROACHES

One of the challenges of paradigmatic location in the data analysis stage is the possibility of multiple interpretations of a single source of data. There is no obvious remedy for this potential problem, and the literature continues to stress the importance of paradigmatic location, the growing multiplicity and variation of paradigms, and their hybrid nature (Denzin & Lincoln, 2005; Kincheloe & McLaren, 2005). For the purposes of this study, an awareness of the relevant philosophical positions provided a sufficient ground for qualitative analysis.

This chapter has explained the researcher's rationale for choosing a mixed method research methodology⁴⁸. This methodology is consistent with the researcher's desire to fuse empiricism and grounded theory, and his awareness of the philosophical underpinnings of critical theory social research. Drawing on grounded theory (Strauss & Corbin, 1997) concepts of knowledge as emergent⁴⁹, the researcher developed a pathway or chain of evidence⁵⁰ (Pare & Elam, 1997) within which he presented the stated aims of his research, and began to investigate the identified gap in the field of workplace spirituality, stated as follows: "There currently is a gap between knowledge and praxis in the interface of spirituality at the place of work and the well-being of spinal cord-injured Black miners. There is no clear definitional framework to delineate the construct of spirituality for empirical research. The concept of spirituality in the workplace is also too broad for implementation clarity." Various approaches to address this gap were then proposed and discussed.

The researcher also identified the statistical methods employed in this study: descriptive statistics providing an overview of the data, correlation analysis checking the relations between the items, factor analysis reducing the many variables into a few manageable factors, and regression analysis investigating the validity of these manageable factors relative to the proposed WPS framework. He also introduced Atlas ti, a tool for qualitative data analysis which is informed by grounded theory, which he used to discover the possible relationships and/or themes in the data. The results of this data collection and analysis are presented in the following chapter.

⁴⁸ In this research a combination of the quantitative and qualitative methods is called the mixed method.

⁴⁹ In their account of the application of grounded theory, they emphasize that knowledge is dynamic rather than static, and emerges from relationships.

⁵⁰ The chain of evidence is a theoretical framework used in the study to provide methodological sequence, and clarity of process.

CHAPTER FIVE: PRESENTATION AND DISCUSSION OF RESULTS

5.1 INTRODUCTION

In presenting results, the researcher is acutely aware of the context for his study of workplace spirituality, namely, the trauma experienced by African miners because of spinal cord injury. Spirituality has been aptly described as a fundamental form of resilience that serves as a modifiable resource that can be drawn upon during times of personal crisis (Angell, Dennis & Dumain, 1998). Moreover, as Webber (2006, p.7) reminds us, “ ... the spiritual life is a stern choice. It is not a consoling retreat from the difficulties of existence, but an invitation to enter fully into that difficult existence, and there apply the charity of God and bear the cost.”

These accounts of spirituality as a resource, and a life choice, suggest that it can, and must, bear the weight of the trauma experienced by the injured South African mine workers who are the subject of this study. Erasmus and Stacey (2005, p.97) have articulated similar expectations for the workplace: “Business is essentially a human enterprise, facing the same challenges of human relationships.” The researcher thus contends that the mining business should call upon the human qualities that form the essence of spirituality, thus engaging with spinal cord-injured miners in a fair, loving, caring, and compassionate manner (Visser, 2005). To do so is to acknowledge the essential humanity of the workers and the business enterprise together, and constitute workplace spirituality of a high order.

In order to rise to this level, workplace spirituality must first bridge the gap identified by the researcher between knowledge and praxis, that is, between theoretical concepts of workplace spirituality (whether positivist or emancipatory) and the actual well-being of spinal cord-injured Black miners. As a potentially effective means of bridging this gap, the researcher has proposed a new theoretical framework for workplace spirituality. This chapter presents the results of his investigation of the proposed theoretical framework. Using descriptive statistics, correlation analysis,

factor analysis, and regression analysis, the researcher assessed relationships among the variables in the proposed theoretical framework quantitatively. This investigation was then tested against qualitative analysis to validate the quantitative results.

5.2 THE PROPOSED COMPOSITE THEORETICAL FRAMEWORK

The proposed framework for workplace spirituality in the context of injured mine workers is defined by the following variables: God (religion and salience), meaning (as it relates to locality or continuity and discontinuity), physical well-being (referred to as ADL, or activities of daily living), relationship to community (Ubuntu ethic), workplace well-being and safety, and finally, issues connected to personal identity (values and ethics). Figure 13 depicts this proposed theoretical framework.

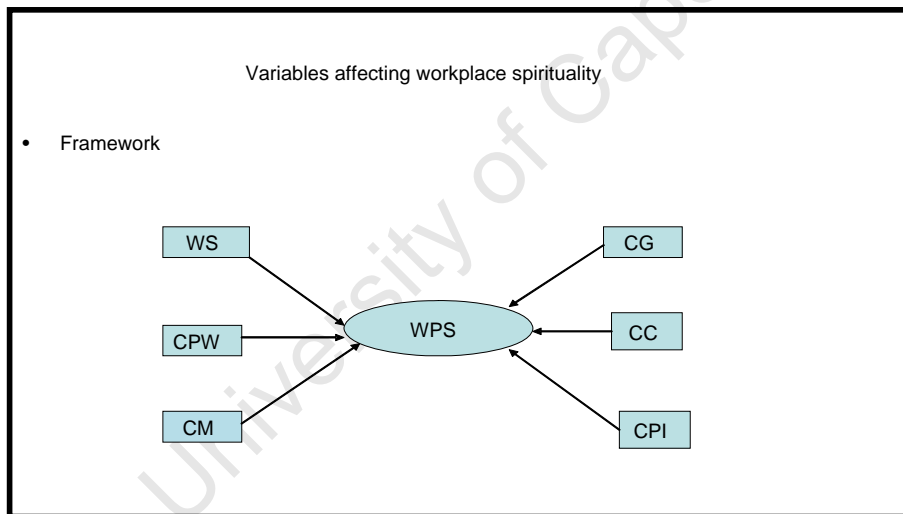


Figure 13: The proposed theoretical framework of (WPS)

Table 17 illustrates how the instruments were used to assess the different variables within each sector. The variables were, in turn, used to evaluate the validity and reliability of the proposed framework. The plus sign (+) indicates that the particular concept was directly assessed in the questionnaire or during the interviews. The minus sign (-) indicates that the particular concept was not directly assessed. Quantitative and qualitative results are presented in the sequence shown in the table.

Table 17: Research population and codes

<i>Coding</i>	<i>Miners</i>	<i>Managers</i>	<i>Captains</i>	<i>Pastoral</i>	<i>Medical and Allied</i>	<i>Sangomas</i>
<i>Definitions</i>	+	-	+	+	+	+
<i>Awareness of health issues</i>	+	-	-	-	+	+
<i>Safety perceptions</i>	+	-	+	-	+	-
<i>Material resources- meaning</i>	+		+	+	+	+
<i>Personal resources- Identity/values and ethics</i>	+	-	+	+	+	+
<i>Community values, especially Ubuntu</i>	+	<i>Questionnaire</i>	+	+	+	+
<i>Strategies for managing Life- physical health/ADL</i>	+	-	+	+	+	+
<i>Religion, God and salience</i>	+	-	+	+	+	+

In order to be methodical in the analysis and presentation of the data collected, the researcher developed a ‘chain of evidence’ (Paré & Elam, 1997) to provide a clear framework and structure. Quantitative analysis of the data was carried out using Microsoft Excel and SPSS (Statistical Package for Social Scientists). In analyzing the data qualitatively, Atlas ti, a qualitative data analysis software program based on grounded theory, was used. The ‘chain of evidence’ indicates how this data was processed as requiring either quantitative or qualitative analysis. The outcomes of these two analyses were then synthesized to evaluate the assumptions made about the proposed theoretical framework of workplace spirituality. For the sake of clarity, the sequence in the chain of evidence will be followed in the presentation of results in this chapter.

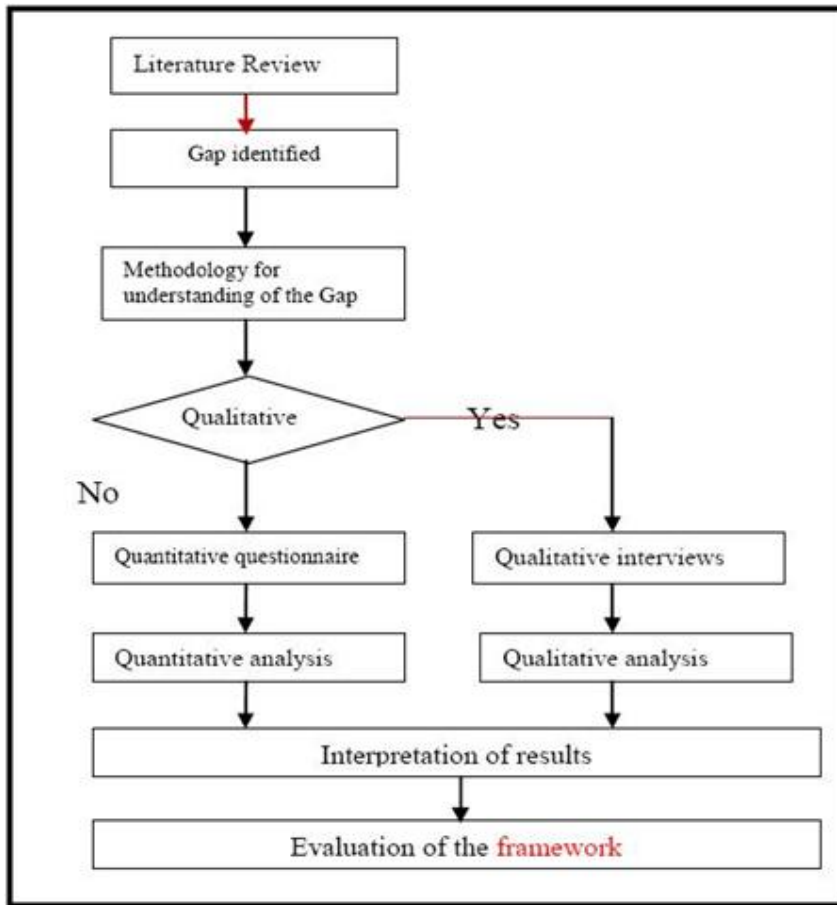


Figure 14: Chain of evidence for analysis (source: modified from Paré and Elam, 1997)

5.3 DESCRIPTIVE STATISTICS

The descriptive statistics provide background information on the population in the research. Table 18 shows a profile of those who participated in this study, that is, their mean age and experience, as well as the range of these factors. For captains of industry, the figures indicate their experience in leadership roles, which in some cases is not limited to the mining sector.

Table 18: Participants' biographical data

	<i>Miners</i>	<i>Managers</i>	<i>Captains owners/ Directors</i>	<i>Pastoral Care Workers</i>	<i>Medical and Allied</i>	<i>Sangomas indigenous healers</i>	<i>Total</i>
<i>N (Total)</i>	224	44	12	74	27	12	393
<i>Age Range</i>	23-57 yrs	30-65 yrs	39-60 yrs	26-70 yrs	22-57yrs	31-70 yrs	
<i>Mean Age</i>	27 yrs	41 yrs	50 yrs	51 yrs	39 yrs	50.6yrs	
<i>Experience Range/ injured</i>	2-17yrs	1- 42 yrs	10-35 yrs*	1-34 yrs	5 mos-26yrs	3 – 30yrs	
<i>Mean Experience</i>	12 yrs	4.7 yrs	20.3 yrs	13.8yrs	12.4yrs	13.1yrs	

Table 18 summarizes the demographics for the six research population groups of miners, managers, captains of industry or owners/directors, pastoral care workers, medical and allied professionals, and indigenous healers or sangomas. Miners had a mean value of experience of 12 years with a range between 2 and 26 years, a mean age of 30 years with an age range of 23 to 57 years, and a response rate of 224. Managers had a mean experience of 4.7 years ranging from one to 42 years, a mean age of 41 years with an age range of 23 to 65 years, and a response rate of 44. “Captains of industry” had a mean experience of 20.25 years with a range of 10 to 35 years, a mean age of 50 years with a range of 39 to 60 years, and a response rate of 12. Pastoral care workers recorded a mean experience of 13.8 years ranging from 1 to 34 years, a mean age of 50.5 years with a range of 26 to 70 years, and a total response of 74. Medical and allied professionals scored a mean of 12.41 years of experience ranging from 1 to 26 years, a mean age of 38.7 years ranging from 22 to 57 years, and a response rate of 27. Finally, the indigenous component had a mean experience of 13.1 years with a range from 3 to 30, a mean of 50.6 years of age within a range of 31 to 70 years, and a response rate of 12.

It can be seen that the most reliable data was from miners, pastoral care workers, and managers. The other population groups, that is, the Sangomas, medical and allied professionals, and the captains of industry, contributed more to the qualitative analysis than the quantitative. Quantitative analysis focused more on miners, pastoral care workers, and managers. The latter three populations were vital in testing hypotheses, as they yielded by far the most information. Information from the other groups was used as qualitative support for the quantitative analysis. Results from all six-population groups are presented serially in paragraphs 5.4 – 5.9.

5.4 RESULTS OF SPINAL CORD-INJURED MINERS

The results are presented in two sections: the quantitative and the qualitative.

5.4.1 Quantitative Section

This section proceeds from a descriptive account of the miners to a discussion of their quantitative results. Correlation results are presented first, followed by the factor analysis results and then the regression results. As the managers were the other sector that best yielded data for quantitative analysis, their results are discussed in conjunction with the miners', particularly regarding descriptive statistics, correlations, and factor analysis. The managers' regression results are provided but not discussed to the same extent as the results of the miners, for whom the researcher has developed his theoretical framework.

5.4.2 Miners

The descriptive results of the miners are illustrated in Table 19, which also reflects their means and standard deviations. A total of (N=224) miners participated in the research study. The means in Table 19 suggest that the items on the measurement instrument were balanced. The means were around 3 on a Likert-scale of one to five for the first eight variables, and one to three for the rest of the variables. The results showed that 46.65% of miners claimed to have accepted their injury, while 10% could not tell, and 10% stated that they still had not accepted their current disability

following a mine accident. The balance of the miners (33.35%) did not complete this question. In terms of current income, 67% indicated that they were currently receiving income; 8% were not receiving any income, and 5% were not sure. With regard to a sense of self or self-acceptance, 46% recorded that their sense of self did not change following the accident. Acknowledging that they were disabled, they still had a positive sense of themselves. 14% responded that they were not sure, while 18% agreed that they had a poor sense of self following the injury.

When asked whether they found their employer useful after their injury, 60% of the injured miners agreed that their employers were useful, 12% were not sure, and 8% felt that their employers were not useful. The balance (20%) did not respond to the question regarding employer usefulness. On community participation, 34% agreed to be actively involved in their localities, 23% were unsure and answered that they did not know, and 23% were not involved in community activities. In response to the question about religious and cultural activities, 38% agreed that they engaged in such activities, 20% said they did not know, and 22% stated that they did not have any inclination to be involved in religious and cultural activities. In terms of leisure activities, 14% reported active engagement, 17% were not sure, and 28% denied any participation in leisure activities.

The question on family relationships showed that 51% of the miners regarded these as vital, 7% were not sure, and 19% did not believe family relationships were important. In response to the question about their perceptions of mine safety, 4% indicated they did not know about it, 10% agreed to knowing or having some knowledge about a safety regime, and 68% were unaware. On the role of religion in healing, 0.4% was not sure, 72% believed it had a significant role, and 8% disagreed that religion played a role in healing. In terms of the level and extent of their injuries, 18% of the miners indicated that they had incomplete spinal cord injury, 53% indicated that they had completely severed their spine during mine accidents, and 11% admitted that they were not aware of the level and extent of their injury.

In response to the question about psychosexual concerns, 26% stated that they did not openly talk about sexual concerns, 53% agreed to talk openly about such concerns,

while about 0.3% said that they were not sure. Regarding their hierarchy of needs as spinal cord-injured miners, 45% indicated that their need for family was important, 14% gave spirituality the same rating, 23% rated psychosexual concerns as important, and 9% rated general concerns as important. Only 4% rated their need for money as important. Finally, in terms of satisfaction with community plans, 27% stated that they were satisfied, 35% were not satisfied, and 17% were not sure.

Table 19 illustrates these results and the miners abbreviated variables, including the means as well as the standard deviations. The abbreviated variables were measured on a Likert scale of 1 to 5. The means reveal that the items were well formulated and that no bias was recorded. The lowest mean was 2.2986 for leisure activities (LA), and the highest was 3.8423 for employer usefulness (EU). The standard deviations were also within acceptable limits.

Table 19: Miners' Descriptive Statistics

<i>Variable</i>	<i>Abbreviation</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Injury acceptance</i>	<i>IA</i>	<i>3.2055</i>	<i>1.13686</i>
<i>Income currently</i>	<i>IC</i>	<i>1.9644</i>	<i>.41033</i>
<i>Self acceptance</i>	<i>SA</i>	<i>3.2715</i>	<i>1.11541</i>
<i>Employer usefulness</i>	<i>EU</i>	<i>3.8423</i>	<i>1.08357</i>
<i>Community participation</i>	<i>CP</i>	<i>3.0225</i>	<i>1.12336</i>
<i>Religious/cultural activities</i>	<i>RCA</i>	<i>3.0856</i>	<i>1.10403</i>
<i>Leisure activities</i>	<i>LA</i>	<i>2.2986</i>	<i>1.08353</i>
<i>Family relationships</i>	<i>FR</i>	<i>3.3088</i>	<i>1.18695</i>
<i>Perception of Mine safety</i>	<i>PMS</i>	<i>1.21</i>	<i>.506</i>
<i>Role of religion in healing</i>	<i>RRH</i>	<i>1.90</i>	<i>.314</i>
<i>Role of spirituality in healing</i>	<i>RSH</i>	<i>1.97</i>	<i>.199</i>
<i>Level of spine injury</i>	<i>LSI</i>	<i>1.91</i>	<i>.588</i>
<i>Activities of Daily Living scale</i>	<i>ADL</i>	<i>60.3575</i>	<i>21.94319</i>
<i>Do they openly talk about sexual concerns?</i>	<i>SC</i>	<i>1.67</i>	<i>.482</i>
<i>What do they need the most?</i>	<i>MN</i>	<i>1.99</i>	<i>.750</i>
<i>Ranking the 3 most key needs</i>	<i>R3MN</i>	<i>2.00</i>	<i>1.382</i>
<i>Satisfaction with community plans</i>	<i>SCP</i>	<i>2.6667</i>	<i>1.19451</i>

5.4.2.1 Correlation Analysis of Miners

The correlation test used in this research was the Pearson correlation, based on a linear relationship of variables. This was chosen because, in subsequent analyses of the same data, the study uses a linear regression method (Cronbach, & Meehl, 1955; Berry & Rao, 1997). This choice of linearity is consistent with how the researcher has defined the variables that are purported to have a causal relationship with the proposed theoretical framework for workplace spirituality. The Pearson correlation is also appropriate for use with variables defined as scale or continuous, as is the case in this research (Cronbach & Meehl, 1955; Berry & Rao, 1997).

The miners' correlation results are presented in the following section to ascertain whether the variables of the proposed theoretical framework for workplace spirituality have any relationship with each other, as they are hypothesized to do.

The correlations among the variables IA, SA, EU, CP, RCA, LA and FR were significant and positive, with the highest score of 0.761 for the correlation between community participation (CP) and religious and cultural acts (RCA). The lowest correlation in this category was 0.23, between leisure activities (LA) and family relationships (FR). All correlations were measured at a significance level of 0.01.

The results also revealed that there was no correlation at all between age and the rest of the variables in consideration. In some cases, negative correlations were recorded. For example, the miners' ranking of their three most important needs (R3MN) had a significant negative correlation with IA, SA, CP, and RCA. At the same time, it had a positive correlation with MN. Satisfaction with community plans was high and positive and correlated significantly with injury acceptance, current income, self-acceptance, employee usefulness, community participation, religious and cultural activities, family relationships, and activities of daily living. Satisfaction with community plans, however, had a significant negative correlation with level of spine injury.

The high correlation in the group variables is a clear indication that these variables measure a particular factor, which we take in this study to be workplace spirituality. Further investigations will need to be conducted, however, as will be shown in regression analysis.

Table 20: Miners' correlations

<i>CORRELATIONS</i>																		
	<i>Age</i>	<i>IA</i>	<i>IC</i>	<i>SA</i>	<i>EU</i>	<i>CP</i>	<i>RCA</i>	<i>LA</i>	<i>FR</i>	<i>PMS</i>	<i>RRH</i>	<i>RSH</i>	<i>LSI</i>	<i>ADL</i>	<i>SC</i>	<i>MN</i>	<i>R3MN</i>	<i>SCP</i>
<i>Age</i>	<i>1.000</i>																	
<i>IA</i>	<i>.054</i>	<i>1.000</i>																
<i>IC</i>	<i>.063</i>	<i>.130</i>	<i>1.000</i>															
<i>SA</i>	<i>.051</i>	<i>.485*</i> *	<i>.322*</i> *	<i>1.000</i>														
<i>EU</i>	<i>-.056</i>	<i>.391*</i> *	<i>.192*</i> *	<i>.531*</i> *	<i>1.000</i>													
<i>CP</i>	<i>-.100</i>	<i>.583*</i> *	<i>.193*</i> *	<i>.455**</i>	<i>.337*</i> *	<i>1.000</i>												
<i>RCA</i>	<i>-.028</i>	<i>.583*</i> *	<i>.203*</i> *	<i>.421**</i>	<i>.318*</i> *	<i>.761*</i> *	<i>1.000</i>											
<i>LA</i>	<i>-.033</i>	<i>.390*</i> *	<i>.209*</i> *	<i>.355**</i>	<i>.179*</i> *	<i>.550*</i> *	<i>.494*</i> *	<i>1.000</i>										
<i>FR</i>	<i>.025</i>	<i>.384*</i> *	<i>.082</i>	<i>.337**</i>	<i>.289*</i> *	<i>.353*</i> *	<i>.393*</i> *	<i>.230*</i> *	<i>1.000</i>									
<i>PMS</i>	<i>.031</i>	<i>.083</i>	<i>-.072</i>	<i>.030</i>	<i>-.060</i>	<i>.163*</i>	<i>.154*</i>	<i>.186*</i> *	<i>.065</i>	<i>1.000</i>								

<i>CORRELATIONS cont.</i>																		
	<i>Age</i>	<i>IA</i>	<i>IC</i>	<i>SA</i>	<i>EU</i>	<i>CP</i>	<i>RCA</i>	<i>LA</i>	<i>FR</i>	<i>PMS</i>	<i>RRH</i>	<i>RSH</i>	<i>LSI</i>	<i>ADL</i>	<i>SC</i>	<i>MN</i>	<i>R3MN</i>	<i>SCP</i>
<i>RRH</i>	.014	.172*	.007	.141*	.059	.226*	.274*	.116	.144*	-.025	1.000							
<i>RSH</i>	-.040	.008	-.069	-.002	.061	.105	.075	.044	.100	-.028	.383*	1.000						
<i>LSI</i>	.037	- .139*	-.051	-.069	-.096	-.037	-.035	.019	-.021	.006	-.025	-.025	1.000					
<i>ADL</i>	-.077	.248*	.263*	.146*	.087	.165*	.190*	.027	.028	-.064	-.009	.024	-.091	1.000				
<i>SC</i>	-.068	.101	-.077	.218**	.164*	.099	.062	.157*	.356*	-.088	.050	.031	-.074	-.032	1.000			
<i>MN</i>	.021	- .156*	- .190*	- .144*	- .169*	-.113	-.109	.052	-.095	.194*	-.084	-.033	.068	- .194*	- .157*	1.000		
<i>R3MN</i>	-.038	- .162*	-.079	- .154*	- .186*	-.064	- .140*	.046	-.083	.054	-.044	.031	.021	-.104	-.005	.228*	1.000	
<i>SCP</i>	-.105	.329*	.252*	.262**	.214*	.447*	.471*	.514*	.243*	.085	.067	.107	-.118	.165*	.109	-.074	.010	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

In the correlations table, the high correlation between RCA and IA, SA, EU, CP, FR, and SCP is of particular importance. Based on the literature review and qualitative analysis, it can be concluded that there are strong relationships between these variables and spirituality as perceived by the miners. Additionally, the high correlation among the variables is indicative of the fact that they are likely to measure a similar construct. It can be thus inferred that salience, which is defined as the practice of religion, is significantly influenced by these variables. The highest correlation was in fact between RCA and CP at 0.761. This revealed that religion and cultural activities are very much related to community practices. An interesting result was also reflected in the high correlation of RCA and SCP at 0.471, which indicates that religion and cultural activities are linked to satisfaction with community plans. This is consistent with the findings in the qualitative analysis. It is also noteworthy that IC, which indicated whether a miner was currently receiving income, was also highly related to self-acceptance. Community practice (CP) was understandably positive and highly correlated to SCP with the value of 0.447. Although not very significant, satisfaction with community plans (SCP) was positively related with injury acceptance, with the value of 0.329 measured at 0.01 levels. Furthermore, SCP was highly and positively related to leisure activities (LA), with a correlation value of 0.514 also measured at the precision level of 0.01.

5.5 DISCUSSION OF THE MINERS' CORRELATIONS

In investigating whether the data fitted the envisaged framework, three procedures were used. The first was correlation analysis, which was used to investigate whether there is a relationship among variables (Church & Waclawski, 1998; Berry & Rao, 1997). This analysis made possible an investigation of causal effects between the variables (Cronbach & Meehl, 1955; Berry & Rao, 1997), which was applied specifically and exclusively to two of the measurement instruments in this study, namely, the miners and the managers. These were the only two population groups in the research that generated sufficient quantitative data from the questionnaires. The data from the other instruments was used more for inference and qualitative analysis.

The results of the correlations revealed that there were positive and significant relationships between the variables in the miners' instrument, with exceptionally high values between IA, IC, SA, EU, CP, RCA, LA, FR, and SCP measured on the same Likert-scale ranging from 1 to 5. Community participation (CP) showed its highest positive correlation with Religious and cultural activities (RCA) (0.76 measured at 0.01 significance level), suggesting that there is a strong linear relationship between how miners perceived the role of religious activities and the relationships that fostered their participation in community matters. This finding is consistent with concepts of African spirituality, where the sacred is not understood as separate from the secular, because all the rhythms of daily life are regarded as spiritual (Mtuzze, 2003; Mbigi, 1997; Ndiaye, 1999; Mbete, 2006). It also supports the notion of a spirituality that is not atomistic, but rather transformative and related to the whole of life.

There were positive and significant correlations between the following variables: the highest values were: CP: RCA at 0.761, CP: IA at 0.583, and RCA: IA at 0.583. The middle values were: CP: LA at 0.550, RCA: LA at 0.494, and IA: SA at 0.485. The lowest values that were still positive and significant were FR: RCA at 0.393, EU: IA at 0.391, and LA: IA at 0.390. All these correlations were measured at the significance level of 0.01. The lowest correlation was between ADL and IC: 0.263 at 0.01 significance level. These relationships and others, based on what is recorded in section 5.5.1.1 of the Miners' correlations, are discussed and explained in the ensuing paragraphs.

There is a positive and high correlation between community participation (CP) and injury acceptance (IA): 0.583 at 0.01 significance level. This linear relationship suggests that injured mine workers would more readily accept their injury if they were allowed to participate in, felt connected to, and perceived themselves as accepted by, their community. This finding supports the notion that when the miners' felt connected with the generous and caring spirit of their communities – a spirit that is in direct contrast to the spirit of capitalism – they accepted their permanent injury better. There is a positive and high correlation between religious and cultural activities (RCA) and injury acceptance (IA) (0.583 at the 0.01 significance level, suggesting a possible linear relationship between miners' levels of self-acceptance after their spinal

cord injuries and their involvement in religious and cultural activities. This finding is congruent with the notion of the role that religion plays in the miners' perception of healing.

There is a positive and high correlation between satisfaction with community plans (SCP) and leisure activities (LA) (0.514 at significance level 0.01), suggesting that injured miners participated in leisure activities if they were satisfied with community plans.

There is a high and positive correlation between community participation (CP) and leisure activities (LA) (0.550 at 0.01 significance level), suggesting that where the community allowed them to participate, the injured miners valued their leisure. Involvement in leisure activities is critical for the full integration of the injured miners because studies have shown that those who do not participate have a recurrence of pressure sores⁵¹. The high and positive correlation between community participation and leisure activities reinforces the importance and validity of the Ubuntu concept. Further statistical tests, however, will be required to prove the causation effects that may exist between them.

There is a high and positive relationship between religious and cultural activities (RCA) and leisure activities (LA) (0.494 at significance level 0.01), suggesting that religious and cultural activities were significant for the spinal cord-injured miners. This may support the notion of religion as an important factor for establishing connectedness with others, and for creating space for meaningful relationships.

There is a high and positive relationship between injury acceptance (IA) and self-acceptance (SA) (0.485 at significance level 0.01), suggesting that a positive sense of self or self-actualization plays a significant role in helping the miners to internalize their injured state.

⁵¹ Pressure sores are ulcers formed at the pressure points of the body, especially amongst spinal-cord injured miners who sleep or sit for extended periods. These ulcers often require considerable time to heal.

There is a high and positive relationship between satisfaction with community plans (SCP) and community participation (CP) (0.447 at 0.01 significance level), suggesting that miners readily participated when their communities allowed them to be involved in community planning.

There is a moderate and positive relationship between family relationships (FR) and religious and cultural activities (RCA) (0.393 at 0.01 significance level), suggesting a moderate influence of family relations on the participation of injured miners in religious and cultural activities.

There is a moderate and positive relationship between employer usefulness (EU) and injury acceptance (IA) (0.391 at 0.01 significance level), suggesting that where the employer was perceived as helpful after the injury, the miners more readily accepted their injuries. This is congruent with the notion that an organization with perceived shared values (values-based) is more likely to foster loyalty than one driven exclusively by profits (money-ism).

There is a moderate and positive relationship between leisure activities (LA) and injury acceptance (IA) (0.390 at 0.01 significance level), suggesting that those miners who had difficulties in accepting their current injury participated less in leisure activities.

The lowest relationship at a positive level was between activities of daily living (ADL) and income currently (IC) (0.263 at significance level 0.01), suggesting that the miners were aware of the impact of their disability on the level of their current income. This finding highlights the harmfulness of the Compensation Act of South Africa, which requires that levels of income drop two months after injury if the injured are in rehabilitation and not at work. This counter-productive legislative requirement is a source of emotional stress for most miners.

There is a low and negative relationship (-0.194 at 0.01 significance level) between the factor described as 'most needs' (MN), which attempts to identify most needs or

requirements for activities of daily living (ADL). This finding suggests that, in their injured condition, the miners' perceived most of their needs as unmet.

There is a low and positive relationship between perceptions of mine safety (PMS), the miners' perceptions of safety at the mines, and leisure activities (LA) (0.186 at 0.01 significance level), suggesting that if mines are unsafe, the miners are less likely to be involved in leisure activities.

5.6 DIAGNOSTICS AND RELIABILITY: MINERS' INSTRUMENT

The diagnostic analysis of the miners' measurement instruments was performed in order to test for consistency (Church & Waclawski, 1998; Berry, 1993). A further inspection was carried out to remove redundant and unreliable pieces of data, including useless outliers⁵². In cases where 50% of the data was missing, the missing values were discarded. The Cronbach alpha was used to validate item groups, and to check if they showed internal consistency. The criteria for inclusion in the final analysis were determined by Cronbach alphas of about 60% or higher (Church & Waclawski, 1998; Cronbach & Meehl, 1955).

As a group, the values recorded in the miners' instrument showed a Cronbach's alpha of 0.84 for items measured on the same Likert-scale. This revealed that the miners' measurement instrument was highly acceptable and useful for this research. In testing the hypotheses of the proposed theoretical framework, the miners' instrument and data were of primary importance. The other instruments were supportive or complementary, and were mainly used to cross-validate the miners' data.

In the descriptive analysis of the miners' data, summarised in Table 19, the mean values on the variables IA, IC, SA, EU, CP, RCA, LA, FR, and SCP were about

⁵² Useless outliers refer to the value that lies outside the mean average and that would skew the outcomes if not eliminated from the analysis (Church & Waclawski 1998; Cronbach, 1955).

average⁵³. This reveals that there was less bias in the data, confirmed by the high Cronbach alpha group value. The standard deviations on these items were also within acceptable ranges.

5.7 DISCUSSION OF MANAGERS' CORRELATIONS

The correlations on the managers' instrument can be divided into three categories. Category 1 includes those that were highly correlated and positive: S15 and S6 at a value of 0.832; S5 and S13 at 0.82; S13, S14, and S20 at 0.708 and 0.703 respectively; S19 and S13 at 0.743; and S14 and S15 at 0.532. Category 2 includes those that were moderately and positively correlated: S13 and S14 at 0.789; S14 and S5 at 0.706; S15 and S5 at 0.812; S12 and S3 at 0.550; S12 and S8 at 0.563; and S14 and S9 at 0.581. Category 3 includes those that were negative and poorly correlated (S1 and S2).

Category 1 discussion of variables

The high value between S5 and S13 reveals that the organisation as a whole is united when employees do indeed trust the leadership. S14 also correlated highly with S5 at a value of 0.71, implying that when employees generally value the personality of the organization, they are likely to consider the company to be a united organization⁵⁴. It can be deduced that when employees value the company personality, they are more likely to follow management directives, as indicated by the high correlation between S13 and S14. The high correlation between S13 and S19 (0.743) indicates that following management directives relates strongly and positively to unity when employees help one another in a spirit of unity. In addition, S20 and S19 were also highly correlated, suggesting that unity among workers influences employer-employee relations based on humanity, dignity, and compassion. It also follows that S20 (relationships based on humanity, dignity, and compassion) are affected by and, in turn, affect employees and organizational values (S14), as is indicated by a high

⁵³ IA = Injury acceptance; IC = Income currently; SA = Self acceptance; EU = Employer usefulness; CP = Community participation; RCA = Religious/cultural acts; LA = Leisure activities; FR = Family relationships; and SCP = Satisfaction with community plans.

⁵⁴ This is the nature and ethos of a company.

correlation of 0.703 between the two. S20 can thus be determined by trust in relationship, or vice versa.

We believe that the trends revealed by the interconnections between these variables clearly indicate that mine managers understand that a human-centric approach to worker relations is central to the Ubuntu concept. Again, it must be emphasised that the questionnaire evaluated the managers' understanding of, and agreement with the Ubuntu ethic in principle, rather than their self-assessment in terms of applying its values in the mining workplace. Although relationships could thus be established between the aforementioned variables, the results did not yield compelling evidence that causation effects exist between the variables. Factor analyses were therefore conducted to establish if the underlying variables could in fact be defined by a small set of variables that can be easily explained. These correlation analyses provided some clues about the variances in the responses; they also identified those variables that correlated poorly with the rest, so that they could be removed.

Category 2 discussion of variables

The relationship between S12 and S3 suggests that mine managers are aware that employees can respect them when they demonstrate respect towards them. The relationship of S12 and S8 further suggests that the managers viewed freedom of expression as a necessary condition for employee responsibility⁵⁵. The relationship of S14 and S9 further shows that where employees had no fear of retribution they upheld the organizational values readily.

Category 3 discussion of variables

The managers did not perceive a relationship between S4 and S16, i.e., between their understanding of the Ubuntu mode of leadership and their commitment to exercising it. There is thus a strong possibility that, although the mine managers gave themselves high ratings in terms of understanding the Ubuntu attributes, in practice, they were not using them. Managers noted that tension was a reality when they exercised the Ubuntu management attributes in their work environments (S10 and

⁵⁵ April and April (2007) offer a distinction between responsibility and accountability of ethical leaders.

S20). They also anticipated S10 and S19, i.e., those tensions exist as a reality within their organization and its perceived unity.

5.8 DIAGNOSTIC AND RELIABILITY: MANAGERS' INSTRUMENT

The managers' instrument was the second most important quantitative measure directly addressing the miners' immediate concerns. It was also validated, the results showing that only one factor was below the acceptable value at 0.43 Cronbach's alpha. The rest of the factors were above the Cronbach alpha of 0.60, with the highest at 0.83. The same instrument was used in another study by April and Ephraim (2006), and their measurement on its consistency is very close with the measurements in this study, suggesting a possible convergent validity. There was, however, one factor with a Cronbach alpha value of 0.43. Some of the reasons for this low value could be attributed to the fact that respondents may not have understood the questions correctly, or that they had divergent views, suggesting that the question was not suitable for such a group.

5.9 FACTOR ANALYSIS

Although concepts of factor analysis are often heuristic, they are also useful in reducing variables into a few sets of factors that can easily be understood and interpreted (Church & Wacawski, 1998). In this study, a component factor analysis was used, and a varimax rotation strategy was employed to explicate the relationships between the low variables and their factorial representative (Berry, 1993).

Factor analysis attempts to reduce the number of variables to a smaller set of factors that may then be used to describe the construct at hand. For example, in the miners' responses, a particular variable may have varied components with linear relationships. In factor analysis, these are reduced to one variable that best represents the others. The factors that have Eigen values of 1 or above are retained for analysis, and those with less than 1 are discarded. These factors are shown in Graph 1 below. Within the components, commonalities with higher values are used to select the variables of the

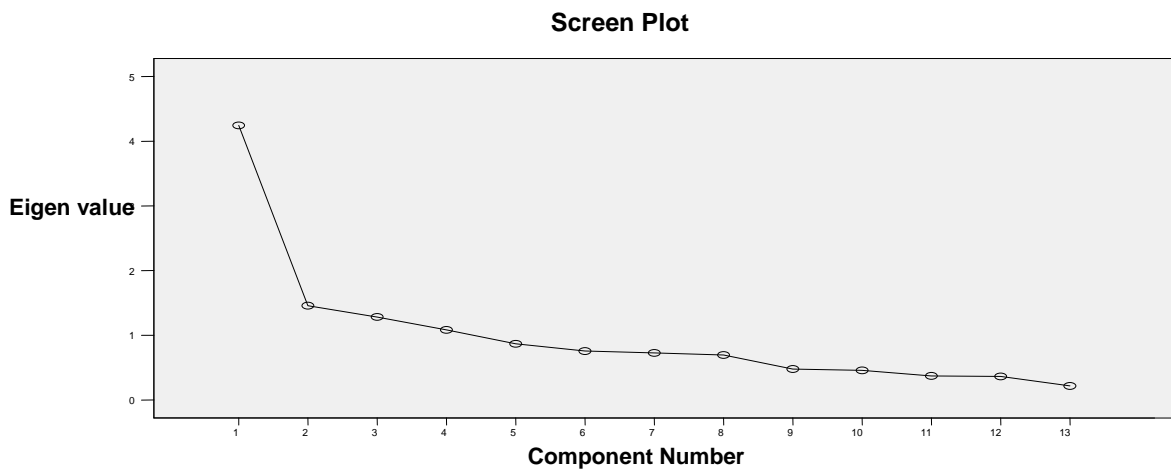
particular factor. The miners' and the managers' tables in Chapter 5 show some of the results of identifying factors and commonalities. Two tables are shown for this analysis: the un-rotated and the rotated. Because the un-rotated results may not be clear enough, the rotated results show refined and clearer commonalities. The results, as in the case of correlations, are confined to miners and managers, and are presented below.

Table 21 illustrates the factors associated with the variables they represent. These factors were further evaluated based on their Eigen values to determine which were appropriate for further analysis. Graph 1, which follows Table 21, shows the screen plot of the Eigen values.

Table 21: Rotated factor components

<i>Variables</i>	<i>Components</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>Community participation</i>	.675	.488	.127	.168
<i>Religious/cultural acts</i>	.666	.466	.150	.204
<i>Role of religion in healing</i>	.109	.132	-.043	.795
<i>Role of spirituality in healing</i>	.009	-.032	-.004	.828
<i>Perception of Mine safety</i>	.608	-.165	-.377	-.182
<i>Activities of Daily Living scale</i>	.094	.001	.748	.045
<i>Satisfaction with community plans</i>	.644	.135	.373	.117
<i>Family relationships</i>	.226	.594	-.134	.143
<i>Leisure activities</i>	.736	.224	.096	.018
<i>Employer usefulness</i>	-.025	.809	.119	-.005
<i>Income currently</i>	.101	.169	.709	-.132
<i>Self acceptance</i>	.207	.752	.223	-.051
<i>Injury acceptance</i>	.448	.607	.138	.071

Graph 1: Screen plot of Eigen values



This graph suggests that only four components had Eigen values greater than one. These components were retained for further analysis and the rest were discarded. The first column reveals that the following components are defined by one factor: community participation with 0.84, religious and cultural acts with 0.83, satisfaction with community plans with 0.64, family relationships with 0.53, leisure activities with 0.67, employer usefulness with 0.56, self-acceptance with 0.70, and injury acceptance with 0.76. The defining factor is called Factor 1 in this analysis.

Based on the communalities (variable values) in Factor 1, community participation best represents the rest of the variables, as its communality is significantly higher than the rest. Factor 2 is well represented by two variables: the role of religion (0.65), and the role of spirituality in healing (0.66). Of these two variables, the role of spirituality in healing has more influence and better represents Factor 2. The third factor does not have variables that stand out as representative of a common factor. It is worth noting, however, that the activity of daily living has values that are close in the three factors, indicating that it can be an influencer variable as Factor 3. Current income has values that are also close to the other two components, with values of 0.35 for the first, 0.26 for the second, and 0.32 for the fourth.

5.9.1 The Discussion of the Miners' Factor Analysis

Rotated results used for analysis and discussion are presented in Table 22. These results show that the miners' data can be reduced to four main components or factors. These components consist of variables that, when ranked in terms of their loading, show commonalities with higher, middle, and lower values, respectively. Commonalities with higher values were combined in order to define a specific factor, e.g., Factors 1 – 4, as in Table 22.

Table 22: Miners' factors with higher commonalities

Factors	Commonalities
Factor 1	CP (.0675); RCA (.666); PMS (.608); SCP (0.644);LA (.0736)
Factor 2	FR (0.594); EU (0.809); SA (0.752);IA(0.607)
Factor 3	ADL (0.748); IC(0.709)
Factor 4	RRH (0.795); RSH (0.828)

After the four main factors were identified, the highest commonality within a particular factor was chosen to represent the rest of the variables. For example in Factor 1, "leisure activity" (LA) at 0.736 determined the rest of variables. In Factor 2, "employer usefulness" (EU) at 0.809 represented the other variables. For Factor 3, "activities of daily living" (ADL) at 0.748 had the highest commonality and was thus chosen to represent the other variables. For Factor 4, the "role of spirituality in healing" (RSH) at 0.828 was chosen to represent the other variables.

These findings on the miners' measurement instrument indicated that, of the thirteen variables considered to play a role in workplace spirituality, four components were the most useful for conceptualizing workplace spirituality in the South African mining context: engagement in leisure activities (LA), perceptions of employer usefulness (EU), activities of daily living (ADL), and the perceived role of spirituality in healing (RSH). After identifying these key factors, the researcher investigated possible links between them. There was a relationship between Factors 1 and 2 on CP and RCA, with the commonalities 0.675, 0.488, 0.666, and 0.466, and also with IA, with commonalities of 0.448 and 0.607 (see Table 22). There was a relationship between Factors 1 and 3 on SCP with commonalities of 0.644, and 0.373. There was a weak,

but positive, relationship between Factor 1 and Factor 4 with commonalities of 0.226 and 0.143.

Factors 1 to 4 are thus interrelated, even as they independently define workplace spirituality. “Leisure activities” scored highest on the commonalities, which showed that it best represented religious and cultural acts, perceptions of mining safety, satisfaction with community plans, and community participation with an Eigen value of 4.244. This confirmed the similarities in the cohesion of these variables. “Employer usefulness” is the best variable to represent self-acceptance, injury acceptance, and family relationships, with an Eigen value of 1.458. “Activities of daily living” accounts for the “income currently earned” variable with an Eigen value of 1.282. The “role of spirituality” defined the “role of religion and healing” with an Eigen value of 1.083. These assertions account for about 62% of the information in the data; the other 38% is not explained.

The results of the factor analysis of the miners’ results are consistent with some of the findings in the correlation analyses, where EU also correlated highly with SA and IA, and moderately with FR. In addition, LA had high relationships with CP, RCA and SCP, while being moderately related with PMS, in the correlation analyses. ADL recorded high correlations with IC, and RSH scored a high correlation with RRH. These outcomes will later be analysed using regression analysis to establish if the identified factors have a relationship with the proposed theoretical framework.

5.10 MANAGERS’ RESPONSES

There were 46 responses to the 150 questionnaires sent to the mine managers. The questionnaire used to collect the managers’ responses is called the Ubuntu questionnaire, devised by Professor Kurt April and Neville Ephraim of the University of Cape Town’s Graduate School Of Business (April & Ephraim, 2006). The questionnaire has a set of twenty constructs, each linked to a particular aspect of the African mode of leadership. The managers were requested to rate each statement according to its usefulness or relevance within their own mining house. A rating of 5 meant strong agreement with the statement, 4 meant agreement, 3 meant a neutral

response, 2 meant disagreement, and 1 meant strong disagreement. Strong agreement and agreement (5, 4) are positively correlated to the implementation of African modes of leadership, and disagreement and strong disagreement (1, 2) are negatively correlated to the implementation of modes of African leadership within the organization (April and Ephraim, 2006). This is shown in the correlation analysis of the managers' responses in Table 24.

5.10.1 Manager's Descriptive Statistics

The instrument used to capture data from the managers had the variables indicated in Table 23 with their corresponding abbreviations. The means reveal that items were in the acceptable range, with a high mean of 4.0465 and a low mean of 2.9459. Items around 3.00 indicate better measurements according to the weighting on the Likert-scale of 5 points. Those above and around 4.00 and less than 3.00 are slightly biased towards the ratings of 4 and 5, or 2 and 1 on the Likert-scale. It can easily be observed that items from S1 to S7 had high means, showing that they were positively biased, whereas items from S8 to S2 had lower means, with the exceptions of S17, S11, S15 and S18 which were relatively moderate.

Table 23: Descriptive of Ubuntu questionnaire

<i>Variable</i>	<i>Abbreviation</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Profit, wealth, bonus sharing</i>	<i>S1</i>	<i>4.0465</i>	<i>.92462</i>
<i>Freedom of expression</i>	<i>S2</i>	<i>3.8140</i>	<i>1.05234</i>
<i>Leaders earn respect</i>	<i>S3</i>	<i>3.7436</i>	<i>.96567</i>
<i>Leaders' commitment</i>	<i>S4</i>	<i>3.8718</i>	<i>.86388</i>
<i>Unity</i>	<i>S5</i>	<i>3.8718</i>	<i>1.05580</i>
<i>Leadership and organizational values</i>	<i>S6</i>	<i>3.9487</i>	<i>1.12270</i>
<i>Communication</i>	<i>S7</i>	<i>3.9231</i>	<i>.83932</i>
<i>Employee Responsibility</i>	<i>S8</i>	<i>3.4595</i>	<i>1.04335</i>
<i>No Employee retribution</i>	<i>S9</i>	<i>3.4054</i>	<i>.92675</i>
<i>Tension a reality of staff/employers</i>	<i>S10</i>	<i>3.4054</i>	<i>1.01268</i>
<i>Participative open dialogue</i>	<i>S11</i>	<i>3.7297</i>	<i>.83827</i>
<i>Freedom of expression</i>	<i>S12</i>	<i>3.0270</i>	<i>1.44312</i>
<i>Trust in Relationships</i>	<i>S13</i>	<i>3.2162</i>	<i>1.03105</i>
<i>Employee and Organizational values</i>	<i>S14</i>	<i>2.9459</i>	<i>.97028</i>
<i>Leadership attitudes</i>	<i>S15</i>	<i>3.7027</i>	<i>1.15145</i>
<i>Leadership commitment</i>	<i>S16</i>	<i>3.5946</i>	<i>.98487</i>
<i>Leadership humility</i>	<i>S17</i>	<i>3.9189</i>	<i>.86212</i>
<i>Consensus maturity and reconciliatory skill</i>	<i>S18</i>	<i>3.7027</i>	<i>.96796</i>
<i>Unity</i>	<i>S19</i>	<i>3.5405</i>	<i>.93079</i>
<i>Relationships</i>	<i>S20</i>	<i>3.5946</i>	<i>1.18929</i>

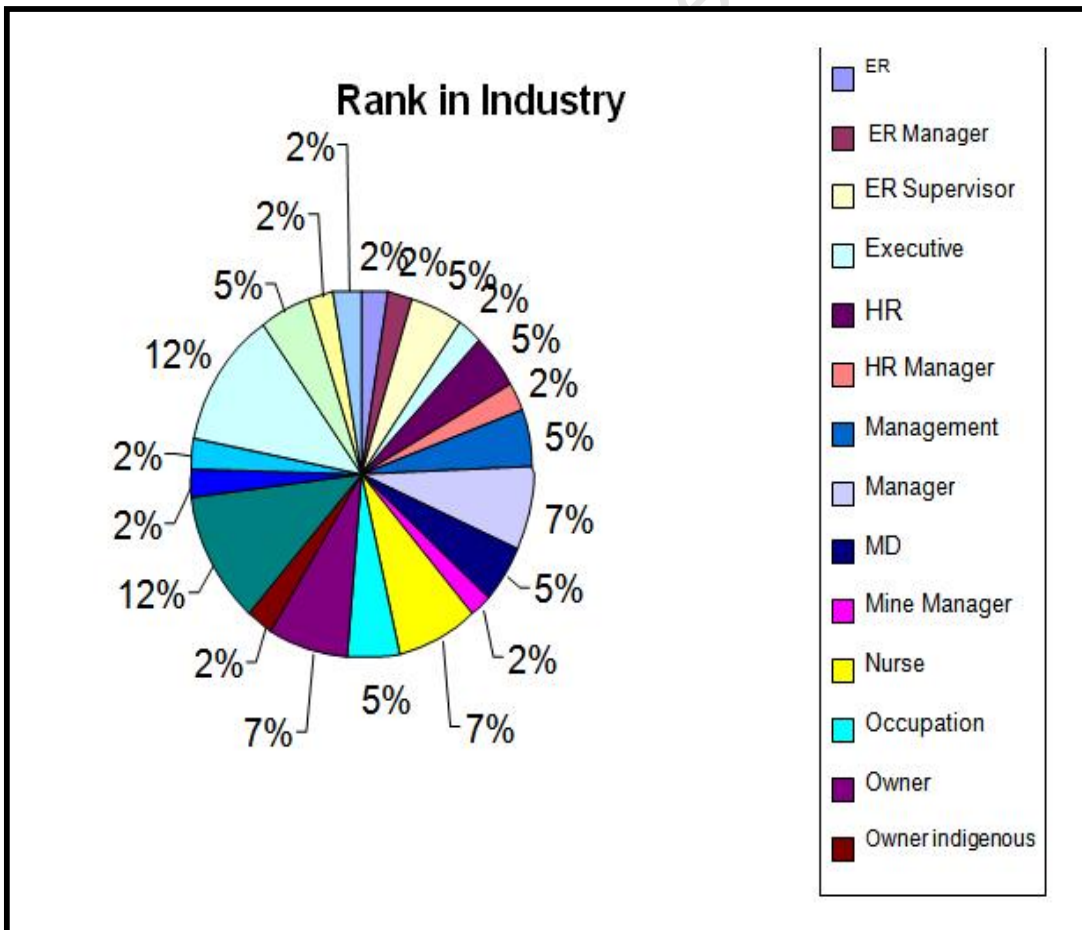
F1, with a mean of 4.0465, was the most highly rated factor, followed by S6 with a mean of 3.9487, S7 with a mean of 3.9231, and S17 with a mean of 3.9189. These values are the closest to the mean of 4. According to April and Ephraim (2006), they have a high correlation with the implementation of African modes of leadership. The lowest value 3.0270, freedom of expression (S12), employee and organizational value, 2.9459, (S14), and trust in relationships (S13), 3.2162, do not significantly

correlate with the implementation of African modes of leadership. Others are relatively close to the mean of 4, but need to be investigated in greater detail.

5.10.2 Demographics of Managers

Graph 2 illustrates the number of years and the experience of the managers, depicted below as rank in industry and the size of population in these ranks. Most experienced managers had worked for a mean of 12.5 years. The ranking in industry of the respondents is also shown in Graph 2. The highest percentage was 12 and the lowest, 2. These results show that respondents were chosen from different departments and from different hierarchical levels.

Graph 2: Pie chart of rank in industry and the size of population in these ranks



5.10.3 Reliability and Correlation Analyses of Managers

The raw data was captured from the Microsoft Excel computer software into SPSS, and was processed mostly by multivariate analysis techniques (Ellison, 1983). Acronyms were used to abbreviate the variables in the measurement instruments and the full meaning was put next to the demographics table above. For example, the miners' variables S1, S2, S3, S7 and S8 were used to represent items on factor F4, while S2, S8, S12 and S17 represented those of factor F5. On the other hand, S9, S11, S14, S15 and S15 were variables of F3, whereas S9, S12, S14 and S16 were for F2. The last set of items consisted of S4, S5, S6, S7, S11, S12, S13, S16, S17, S18, S19 and S20, which were F1.

Reliability analyses were conducted to test the validity and internal consistency in the group variables or factors on the managers' measurement instrument. The Cronbach's alpha for F4 recorded a lower value of 0.437 than the others, revealing that its variables were not well represented by this particular factor. This could be due to the fact that certain of its component variables measured other constructs that do not affect F4. Factor 5 had a Cronbach's alpha of 0.65, while F3 had 0.723. Factor 2 showed a Cronbach's alpha of 0.767, and Factor 1 had a higher value of 0.855. These values reveal that, apart from F4, the rest of the factors were adequately measured, supporting the statistical view that an internal consistency of 0.60 and higher indicates a reliable measure on the construct (Cronbach & Meehl, 1955).

5.10.3.1 Correlation within items or groups for managers

Correlations are aimed at investigating whether the relationships among the variables can help to understand the causal effects that variables have on each other. They can also reveal if certain variables are likely or not to be important influencers of a particular factor, either in the context in which they are used or the work environment under consideration (Church & Waclawski, 1998). Such variables (especially with correlations of less than 0.30) are ultimately declared redundant and discarded.

The correlations among the F4 variables were moderate, with the highest of 0.513 at a significance level of 0.01 between S2 and S3, and the lowest of -0.038 between S3 and S8. Strong negative correlations were also recorded between S1 and S7 with -0.161, as well as between S2 and S8 with -0.164. Finally, a weak and negative correlation between S3 and S8 of -0.038 was also noted. Factor 5 had relatively high correlations, with the highest at 0.563 at a precision level of 0.01 between S8 and S12, and lowest at -0.38 between S2 and S8. Factor 3 variables were well correlated, except for S14 and S18, which had a value of -0.18.

The highest value was measured between S9 and S14 with a grade of 0.581 at a significance level of 0.01. Factor 2 variables had high correlations, with the highest value of 0.635 measured at a significant level of 0.01 between S9 and S12. The lowest measure was between S14 and S16 of 0.151. Correlations among F1 variables were high, but with negative values as well. High values of 0.705 between S19 and S20, 0.708 between S13 and S20, 0.743 between S13 and S19, 0.671 between S11 and S16, 0.683 between S5 and S6, 0.834 between S6 and S7, and 0.822 between S5 and S13 were in the most significantly correlated range. The lowest correlation was between S4 and S7 of -0.007, as well as S4 and S7 with -0.014. Strong negative correlations were recorded between S4 and S16 of -0.478, at 0.01 significance levels. Variable S4 had the lowest and most negative correlation compared to any of the other variables in the F1 data set. The other negative correlation was recorded between S16 and S20 with a value of -0.120.

Table 24 shows the inter-item correlations. These seek to reveal the relationships between the item variables in the manager's responses.

Table 24: Inter-item correlations (managers)

	<i>S1</i>	<i>S2</i>	<i>S3</i>	<i>S4</i>	<i>S5</i>	<i>S6</i>	<i>S7</i>	<i>S8</i>	<i>S9</i>	<i>S10</i>	<i>S11</i>	<i>S12</i>	<i>S13</i>	<i>S14</i>	<i>S15</i>	<i>S16</i>	<i>S17</i>	<i>S18</i>	<i>S19</i>	<i>S20</i>	<i>Age</i>	
<i>S1</i>	1.000																					
<i>S2</i>	.180	1.000																				
<i>S3</i>	.036	.513**	1.000																			
<i>S4</i>	.163	.315	.433**	1.000																		
<i>S5</i>	.055	.304	.432**	.501**	1.000																	
<i>S6</i>	.001	.080	.424**	-.007	.683**	1.000																
<i>S7</i>	-.161	.130	.462**	-.014	.583**	.834**	1.000															
<i>S8</i>	.291	-.164	-.038	.009	.302	.351*	.104	1.000														
<i>S9</i>	-.050	-.113	.365*	.001	.388*	.629**	.633**	.549**	1.000													
<i>S10</i>	-.246	.046	.306	-.092	.127	.259	.039	-.155	.175	1.000												
<i>S11</i>	-.113	.455**	.679**	-.050	.234	.498**	.584**	-.013	.288	.100	1.000											
<i>S12</i>	.182	.265	.550**	-.062	.251	.515**	.314	.563**	.635**	.429**	.465**	1.000										
<i>S13</i>	.119	.379*	.413*	.337*	.822**	.548**	.364*	.447**	.313	.073	.423**	.407*	1.000									
<i>S14</i>	.298	.250	.418*	.443**	.706**	.580**	.393*	.656**	.581**	-.062	.255	.557**	.789**	1.000								
<i>S15</i>	-.083	.195	.415*	.232	.812**	.832**	.815**	.163	.376*	.011	.461**	.155	.617**	.532**	1.000							
<i>S16</i>	-.071	.107	.369*	.478**	.181	.636**	.647**	.105	.337*	.197	.671**	.477**	.308	.151	.430**	1.000						
<i>S17</i>	-.104	-.046	.234	-.305	.137	.191	.215	.135	.320	.230	.161	.337*	.333*	.161	.115	.582**	1.000					
<i>S18</i>	-.219	-.054	.088	-.339*	.331*	.403*	.536**	-.164	.138	-.044	.241	-.133	.289	-.018	.517**	.628**	.669**	1.000				
<i>S19</i>	.204	.075	.012	.091	.597**	.482**	.368*	.567**	.286	-.357*	.228	.154	.743**	.648**	.647**	.276	.298	.430**	1.000			
<i>S20</i>	.210	.237	.258	.526**	.559**	.153	.130	.557**	.254	-.413*	.166	.168	.708**	.703**	.396*	-.120	.103	.013	.705**	1.000		
<i>Age</i>	-.017	-.344*	-.056	-.070	-.288	-.201	-.124	.230	.315	-.194	-.161	.086	-.219	-.013	-.306	-.042	.256	.001	-.039	.031	1.000	

As can be noted from the correlation results, the significantly correlated items in the factors correspond with the internal consistency of the measurements. For example, F4 had low-level reliability, and also revealed low correlation between its variables. Factor1, on the other hand, showed the highest levels of correlation between its variables and a high, and reliable, internal consistency measurement. The problem of multi-collinearity (meaning that there was no correlation with a value of 0.90 or above) did not arise, as all the correlation values in the managers' instrument were less than 0.90.

The highest correlations reported were between S15 and S6 at 0.832, S13 and S5 at 0.822, S15 and S5 at 0.812, and S19 and S13 at about 0.743. Higher values were also recorded between S14 and S5 of 0.706, and between S6 and S5 of 0.683. The rest are as follows: S11 and S3 with 0.679, S16 and S11 with 0.671, S16 and S7 with 0.646, and S16 and S6 with the value of 0.636. This reveals that the highest correlations were reported between S5 and S15. It can therefore be deduced that unity, trust in relationships, leadership attitudes, leadership organizational values, and leadership attitudes are all very highly positively related variables and may have a cause-and-effect relationship or measure the same thing. This high level of correlation is followed by a set of correlations between unity and employee and organizational values, unity and trust in relationships, participative open dialogue and leaders earn respect, and unity and leadership and organizational values. Leadership commitment, participative open dialogue, leadership commitment, and communication are also significantly related.

In contrast to these positive correlations, "Profit, wealth, bonus and sharing" is negatively correlated to the following: communication, tension a reality of staff, participative open dialogue, and consensus maturity and reconciliatory skill. Freedom of expression is also negatively correlated with employee responsibility, and with no employee retribution. In addition, the results revealed that leaders' commitment is also negatively correlated to leadership humility, consensus maturity and reconciliatory skill. Another negative correlation was recorded between "Tension a reality of staff/employee" and "Unity and relationships." Finally, leadership commitment and relationships are also negatively correlated. It is also worth noting

that S1, S2, S4, S8 seem to have negative relationships with values that are significantly higher than them, such as S7, S16, S18, in that order.

Inter-factor correlations represent the relationships between the underlying factors after irrelevant items with low correlations have been removed and the remaining items averaged. This is also termed “item parcelling.” Table 25 illustrates that all the factors were highly correlated at the precision level of 0.01. F1 and F3 were high and positively (excessively) correlated, an indication that they could be measuring the same phenomenon. The rest were significantly and normally correlated with the highest value of 0.84 between F3 and F2, and the lowest value of 0.38 between F5 and F3. Factor 3 was the most highly correlated to the other variables.

Table 25: Correlations between factors

		<i>F1</i>	<i>F2</i>	<i>F3</i>	<i>F4</i>	<i>F5</i>
<i>F1</i>	<i>Pearson Correlation</i>	<i>1</i>				
	<i>Covariance</i>	<i>.660</i>				
<i>F2</i>	<i>Pearson Correlation</i>	<i>.782**</i>	<i>1</i>			
	<i>Covariance</i>	<i>.581</i>	<i>.836</i>			
<i>F3</i>	<i>Pearson Correlation</i>	<i>.956**</i>	<i>.841**</i>	<i>1</i>		
	<i>Covariance</i>	<i>.629</i>	<i>.623</i>	<i>.656</i>		
<i>F4</i>	<i>Pearson Correlation</i>	<i>.479**</i>	<i>.593**</i>	<i>.477**</i>	<i>1</i>	
	<i>Covariance</i>	<i>.206</i>	<i>.286</i>	<i>.204</i>	<i>.279</i>	
<i>F5</i>	<i>Pearson Correlation</i>	<i>.398**</i>	<i>.680**</i>	<i>.387**</i>	<i>.785**</i>	<i>1</i>
	<i>Covariance</i>	<i>.231</i>	<i>.444</i>	<i>.224</i>	<i>.296</i>	<i>.509</i>

****.** Correlation is significant at the 0.01 level (2-tailed).

Table 26: Rotated factor analysis for mine managers

	<i>Component</i>						
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
<i>Profit, wealth, bonus sharing</i>	.140	-.216	-.108	.132	.648	-.232	-.135
<i>Freedom of expression</i>	.227	-.084	-.044	.779	.093	-.006	-.349
<i>Leaders earn respect</i>	.269	.279	-.012	.807	-.078	.281	.183
<i>Leaders' commitment</i>	.666	-.131	-.568	.285	-.232	-.004	.066
<i>Unity</i>	.810	.459	.025	.091	-.060	.155	-.188
<i>Leadership and organizational values</i>	.282	.881	.153	.066	.147	.219	-.076
<i>Communication</i>	.153	.911	.176	.216	-.109	-.034	.046
<i>Employee Responsibility</i>	.416	.202	.003	-.269	.730	.020	.312
<i>No Employee retribution</i>	.225	.614	.040	.003	.249	.265	.567
<i>Tension a reality of staff/employers</i>	-.109	.072	.080	.086	-.092	.946	-.119
<i>Participative open dialogue</i>	-.021	.508	.214	.729	.091	-.043	-.027
<i>Freedom of expression</i>	.107	.299	.107	.372	.620	.512	.260
<i>Trust in Relationships</i>	.815	.228	.271	.225	.218	.104	-.150
<i>Employee and Organizational values</i>	.750	.327	-.064	.146	.430	.076	.145
<i>Leadership attitudes</i>	.521	.755	.130	.114	-.140	-.080	-.219
<i>Leadership commitment</i>	-.165	.565	.676	.309	.178	.082	-.024
<i>Leadership humility</i>	.182	-.025	.873	.076	-.001	.245	.296
<i>Consensus maturity and reconciliatory skill</i>	.134	.352	.810	-.035	-.348	-.164	-.067
<i>Unity</i>	.680	.309	.364	-.123	.300	-.354	-.074
<i>Relationships</i>	.837	-.004	-.028	.133	.217	-.309	.159
<i>Managers declared Age</i>	-.086	-.149	.112	-.100	.031	-.141	.885

From Table 26, we see that trust in relationships with 0.81, relationships with 0.83, unity with 0.68, leadership attitudes with 0.52, employee and organizational values

with 0.75, unity with 0.81, and leaders' commitment with 0.66, can be represented by one factor. Clearly, relationships would significantly represent the other values on this continuum. For Factor 2, the following can also be represented by a single factor, probably communication: communication with 0.91, leadership and organizational values scoring 0.88, no employee retribution with 0.61, participative dialogue with 0.51, leadership attitude with 0.76, and leadership commitment with 0.56. Factor 3 would encompass leadership humility with 0.87, leadership commitment with 0.68, and consensus maturity and reconciliation skill with 0.81. Of these variables, leadership humility is the most important and would best represent this factor. For Factor 4, leaders earn respect is the most suitable representative of the relevant variables, which are: freedom of expression with 0.78, leaders earn respect with 0.81, and participative open dialogue with 0.73. Factor 5 is best represented by the employee's responsibility factor, which is joined by freedom of expression, and profit, wealth, bonus sharing as variables. Factor 6 would include the variables tension a reality of staff/employers at 0.95, and freedom of expression at 51, with the former as the defining factor. Finally, Factor 7 comprises managers declared age at 0.89, and no employee retribution at 0.57, best represented by managers declared age.

5.11 A DISCUSSION OF THE MANAGERS' FACTOR ANALYSIS

The managers' measurement instrument consisted of 20 items, all of which were considered in the factor analysis. Seven out of the twenty emerged as main components, which are shown in Table 26. The variable represented as S20 represents "trust in relationship", "unity" was S19, "employee and organizational values" was S14, and "leadership attitude" was (S15). The analysis of these results further showed that "communication" (S7) stood out to represent "leadership and organizational values" (S6), "number of employee attrition" (S9), "participative open dialogue" (S11), "leadership attitude" (S15), and "leadership commitment" (S16). "Leadership humility" (S17) represented "consensus maturity and reconciliatory skill" (S18), and "leadership commitment (S16)". "Leadership earns respect" (S3) represented "freedom of expression" (S12) (Freedom to review organization policies) and "participatory open dialogue" (S11). "Employee responsibility" (S8) represented "freedom of expression" (S2) and "profit, wealth, bonus and sharing" (S1), while the "tension a reality of staff" (S10) variable represented "freedom of expression" (S2). These results are represented in Table 26. All these variances accounted for 90% of the information in the data. This left only 10% of the information unaccounted for.

An earlier investigation on African modes of leadership by April and Ephraim (2006) had recorded four factors that were reached by combining variables with close scores in more than one group or factor. Strong groups similar to these in the current research emerged in April and Ephraim's (2006) study. "Relationships" (S20) represented was the representative factor for the first group in both studies, with significant commonality values of 0.79 and 0.84 in the current study. While "communication" was in the "relationship" factor group in April and Ephraim's (2006) survey, in the current study it represented Factor 2, with S7, S6, S9, S11, S15, and S16. "Leadership earns respect" was considered a representative factor for "freedom of expression" (S12) in both studies, as was "Employee responsibility" for "freedom of expression" and "profit, bonus and sharing".

"Trust in relationships" (S20) was an expression of "employer/employee relations" that are based on humanity, dignity, compassion and communal relations. It is about

personal values that people in workplace develop, or wish to possess. It is an expression of the fact that an organization fosters a commitment among its members to help one another in a spirit of unity, rather than being focused primarily on individual self-determination. This depends very much on the attitude of executive management, and on the ways in which their actions reflect the organization's state of unity.

Management communicating *with*, rather than *to*, employees in an inclusive and transparent manner, thereby creating "trust and shared understanding" (S7), is seen as a way executives personify the positive values of an organization. It also serves as a strong indicator that employees need not fear retribution for comments made in open forums. In such organizations, management practices reflect a participative and open approach, resolving conflicts through skilful mediation and dialogue (April, 1999) until agreements are reached. These practices are clearly related to management attitudes, and reflect the state of unity of an organization. Employees perceive leadership commitment in terms of leadership's demonstrated desire to meet promises in a caring and sustainable manner.

"Leadership humility" (S17) means that leaders and managers assume their places in the hierarchical power structure with humility. This behaviour is seen as a demonstration that leaders and managers in the organization are guided by consensus, maturity and reconciliatory skill. It also indicates that leadership commitment does indeed stem from the desire to meet promises in a caring and sustainable manner.

"Leadership earns respect" (S3) refers to the fact that leaders in an organization earn, rather than command, the respect of their followers. This is in line with the view that positive leadership and management practices reflect a participative and open approach, in which conflicts are resolved through skilful mediation and dialogue until agreement is reached. It also highlights the fact that everyone in an organization has the right to review (or question) policies and procedures.

"Employee's responsibility" (S8) means that employees are collectively responsible for ensuring that company policies and procedures are followed. This variable plays a

strong role in defusing tension between management and employees (S10: tension a reality). When collective responsibility is absent, an organization becomes a fertile seedbed for tension. But tension can be avoided when individuals are free to express opinions and dissention, and management communicates with, rather than to, employees in an inclusive and transparent manner, creating trust and shared understanding.

Correlations on the factors revealed that they are highly related, with the highest score of 0.96 between F1 and F3, and the lowest score of 0.48 between F1 and F4. This indicates that most of the factors can be explained by fewer factors. Indeed, the main aim of factoring variables is to reduce the number to the fewer stand most enlightening constructs. High correlations between all factors indicate a good possibility of representing them all by a single higher factor, which is essentially the Ubuntu concept.

5.12 COMPARISON ANALYSIS ON THE UBUNTU MEASURE

The study conducted by April and Ephraim (2006) on the *Attributes of Ubuntu of Managers* seems to support the outcomes of this investigation. A comparison analysis of the Ubuntu measure reveals that the results were not very different. The only variable on this instrument that had significant negative correlations with the rest of the variables (S10) was also consistent with the findings by April and Ephraim (2006). There was, however, higher correlation values recorded in the current study than in the study conducted by April and Ephraim (2006). The highest value in the current study was over 0.70, while the highest on the April and Ephraim (2006) instrument was less than 0.60. These results are shown in the managers' correlation tables in Appendix 10.

In sum, these outcomes indicate that managers, particularly within the mining industry, should focus on the following key factors in order to manage with the Ubuntu ethic: Factor 1 – personal values, Factor 2 – communication, Factor 3 – leadership humility, Factor 4 – leadership and respect, Factor 5 – employee responsibility, and Factor 6 – no retribution when employees are honest with

management and the implementation of organizational values. It is important to bear in mind that these factors do not directly contribute to the evaluation of the framework, but rather indicate how the mine managers evaluated themselves in terms of Ubuntu managerial praxis.

5.13 REGRESSION ANALYSIS

The main purpose of the correlation investigations was to establish some linear relationships between variables. Such relationships normally provide the basis of analysis that stands on its own. In order to ascertain whether a particular variable has a causal effect on another, however, and to what extent this influence can be accounted for, more concrete evidence is required. Correlation does not necessarily mean causation (Spearman, 1987, 1927). Regression analysis provides further information on the validity of the claims in the hypothesis and hence helps to determine whether a variable can be accepted or removed. Regression analyses were conducted on the miners' measurement instrument to investigate determining factors for workplace spirituality. Different combinations of variables related to workplace spirituality (the dependent variable) were considered along with predictor variables that relate to the factors known to influence the dependent variable.

The results of the regression analyses revealed that the variables previously identified as influencing workplace spirituality are highly significant and valid. This is first demonstrated by the big R statistic, which shows the variances between all the predictor variables and the dependent variable. On the miners instrument, the recorded R of 0.79 with R square of 0.634 showed that as much as 79% of the variance in the predictor variables was determined by the dependent variable "Religious and cultural activities," a highly significant finding in a study on the importance of workplace spirituality.

The F statistic of 58 was a significant indicator of the reason that each predictor variable was indeed contributing to the dependant variable. The t statistics were also significant, notably 10.531 for community participation (CP), 2.621 for Role of religion in healing (RRH), 3.277 for Satisfaction with community (SC 0), 1.136 for

Self acceptance (SA), and 0.769 for Employer usefulness (EU). The Tables of regression analysis for different items on the miners' and managers' data are shown in Table 27.

Table 27: Tables showing results of regression analysis.

<i>Model Summary</i>				
<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
<i>1</i>	<i>.519^a</i>	<i>.270</i>	<i>.259</i>	<i>.96838</i>

a. Predictors: (Constant), Family relationships, Leisure activities, Community participation

<i>ANOVA^b</i>						
<i>Model</i>		<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
<i>1</i>	<i>Regression</i>	<i>73.064</i>	<i>3</i>	<i>24.355</i>	<i>25.971</i>	<i>.000^a</i>
	<i>Residual</i>	<i>197.866</i>	<i>211</i>	<i>.938</i>		
	<i>Total</i>	<i>270.930</i>	<i>214</i>			

a. Predictors: (Constant), Family relationships, Leisure activities, Community participation

b. Dependent Variable: Self-acceptance

<i>Coefficients^a</i>						
<i>Model</i>		<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	<i>T</i>	<i>Sig.</i>
		<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
<i>1</i>	<i>(Constant)</i>	<i>1.339</i>	<i>.234</i>		<i>5.722</i>	<i>.000</i>
	<i>Community participation</i>	<i>.337</i>	<i>.073</i>	<i>.337</i>	<i>4.596</i>	<i>.000</i>
	<i>Leisure activities</i>	<i>.136</i>	<i>.073</i>	<i>.131</i>	<i>1.863</i>	<i>.064</i>
	<i>Family relationships</i>	<i>.175</i>	<i>.060</i>	<i>.186</i>	<i>2.942</i>	<i>.004</i>

a. Dependent Variable: self-acceptance

<i>Model Summary</i>				
<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
<i>1</i>	<i>.790^a</i>	<i>.624</i>	<i>.613</i>	<i>.68737</i>

a. Predictors: (Constant), Satisfaction with community plans, Role of religion in healing, Employer usefulness, Leisure activities, Self acceptance, Community participation

5.13.1 Hypothesis Testing

From the results in the qualitative and quantitative analysis, there is sufficient evidence to suggest that the proposed conceptual model is valid. First, the high correlations among the miners' variables, measured at 0.01 level of precision, clearly indicate that they affect workplace spirituality. Further analysis involving regression models reveals that the six factors contribute significantly to workplace spirituality. This is indicated by the relatively high values of the t statistics (t statistics of greater than 1.96 and less than -1.96 are considered significant). It should also be noted that "spirituality" and "religious and cultural activities" underpin workplace spirituality, a finding that will be more fully demonstrated later in the thesis. A second observation is that the variables "community participation" and "religion in healing" are seen to define one factor, as was also noted in the factor analysis. It can be observed that the other components of the model are indirectly determined by the factors in the regression model. In addition, correlations indicated directly how the variables in the model appeared to be positively related. Most importantly, it is evident that, although the six factors are not all reflected in the regression model, they are all represented by the current independent factors in the regression model. This can be checked in the correlation and factor analysis parts and confirmed later in the qualitative analyses.

The proposed hypotheses were evaluated using the regression equation presented in chapter four and based on the proposed framework, that is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e.$$
 Table 28 contains statistical information as evidence that hypothesis testing was done to evaluate: (a) the validity of the proposed framework, and (b) whether the factors identified in factor analysis were related to the proposed independent variables. The regression analysis tables summarized in Table 28 thus play an important role in demonstrating the statistical validity of the proposed model. The analysis was performed by taking all the variables in the miners' questionnaire and testing their relationships to the individual components of the proposed framework. For example, the column marked model (variables) consists of items from the miners' questionnaire that, when clustered through factor analysis, revealed that the variables in the model were defined by a combination of these items.

Table 28: Regression analysis of miners

Coefficients ^{a,b}								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.378	.647		-.585	.559		
	Injury acceptance	.129	.060	.131	2.173	.031	.581	1.722
	Income currently	.051	.143	.018	.354	.724	.824	1.213
	Employer usefulness	.020	.055	.018	.358	.720	.855	1.170
	Community participation	.473	.062	.487	7.606	.000	.513	1.948
	Leisure activities	.028	.056	.030	.504	.615	.596	1.679
	Perception on Mine safety	.110	.100	.053	1.097	.274	.906	1.104
	Role of religion in healing	.635	.176	.187	3.616	.000	.785	1.274
	Role of spirituality in healing	-.459	.253	-.094	-1.815	.071	.777	1.287
	Level of spine injury	.010	.083	.006	.119	.906	.909	1.100
	Family relationships	.088	.047	.095	1.891	.060	.836	1.196
	Satisfaction with community plans	.134	.048	.154	2.772	.006	.683	1.464
	Miners Number	.000	.001	.029	.590	.556	.850	1.176
	Activities of Daily Living scale	.004	.002	.078	1.525	.129	.800	1.250

In Table 28, workplace safety is defined by the variable “perception of mine safety.” The coefficient was 0.11, and the statistic was 1.097 at a significant value of 0.274. This would seem to suggest that this variable is not valid, as the t statistic is less than the recommended 1.96. In Appendix 14, however (“Evidence of hypothesis testing of miners’ variables”), this variable had a higher t value of 1.847 when weighted with “satisfaction with community plan.” The H_{01} was therefore rejected, i.e., there is no positive relationship between workplace safety and workplace spirituality. The H_1 was accepted, i.e., there is a positive relationship between workplace safety and workplace spirituality.

The “connection to God” variable in the above table was defined by “roles of religion in healing” and “religion in spirituality.” The coefficients of these variables were 0.635 and -0.459, respectively. Their t values were 3.616 and -1.815 respectively, and their sig values are 0.00 and 0.07 respectively. This suggests that there is a positive relationship between a connection to God and workplace spirituality. We thus reject H_{02} hypothesis, that there is no positive relationship between connection to God and workplace spirituality, and we accept H_2 , as there is enough evidence to suggest that there is a positive relationship between connection to God and workplace spirituality.

The connection to community variable was defined by “community participation” and “satisfaction with community plans.” The coefficients of these variables were 0.473 and 0.134, respectively. Their t values were 7.606 and 2.772, respectively, and their sig values are 0.00 and 0.06, respectively. This suggests that there is a positive relationship between “connection to community” and workplace spirituality. The null hypothesis H_{03} , with its assumption that there is no positive relationship between connection to community and workplace spirituality, is thus rejected, and we accept the alternative hypothesis H_3 , which states that there is a positive relationship between connection to community and workplace spirituality.

The personal identity variable in the table was defined by “injury acceptance” and “activities of daily living.” The coefficients of these variables were 0.129 and 0.004, respectively. Their t values were 2.173 and 1.525, respectively, and their sig values are 0.31 and 0.800, respectively. This suggests that there is a positive relationship

between connection to personal identity. There was, however, enough information from “injury acceptance” to formulate the conclusion that there is a positive relationship between connection to personal identity and workplace spirituality. We therefore accept the alternative H_4 hypothesis, rejecting the null hypothesis H_{04} that there is no positive relationship between connection to personal identity and workplace spirituality.

The “connection to meaning” variable in the table was defined by the following items: income currently, employer usefulness, leisure activities, and family. Of the four, only the “family” item showed any relationships with meaning, having a coefficient of 0.088, a t value of 1.891, and a significance value of .0600 (the coefficients of the first three items were 0.051, 0.020 and 0.028, respectively, with respective t values of 0.354, 0.358 and 0.504, and respective significance values of 0.724, 0.720 and 0.615). This suggests a positive relationship between “connection to meaning” (as reflected by family relationships) and workplace spirituality. The null hypothesis H_{05} , stating that there is no positive relationship between connection to meaning and workplace spirituality, is thus rejected, and the alternative H_5 , claiming there is a positive relationship between connected to meaning and workplace spirituality, is accepted.

The “physical wellbeing” variable in the table was defined by “injury acceptance” and “activities of daily living”. The coefficients of these variables were 0.129 and 0.004 respectively. Their t values were 2.173 and 1.525, respectively, and their significance values are 0.031 and 0.129, respectively. This suggests that there is a positive relationship between “connection to injury acceptance” and workplace spirituality. The ADL variable did not contribute much to this relationship. There was, however, enough information from “injury acceptance” to formulate the conclusion that there is a positive relationship between “connection to physical well-being” and workplace spirituality. We therefore accept H_6 , supporting the positive relationship between “connection to physical well-being” and workplace spirituality⁵⁶.

⁵⁶ Additional information on the hypothesis testing and regression tables can be found in Appendix 14, “Evidence of hypothesis testing on miners’ variables.”

Based on the above conclusions, it can be concluded that the regression equation for WPS is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e$$

Where Y is WPS, X₁ to X₆ are the variables as depicted in Figure 10 of the research. Thus the equation in the current study is WPS = -0.378 + 0.11X₁ + 0.63X₂ + 0.47X₃ + 0.129X₄ + 0.0051X₅ + 0.129X₆ + e, where X₁ = WS, X₂= CG, X₃= CC, X₄ = CPI, X₅= CM and X₆ = CPW and e is the error measurement, i.e.,

$$Y = -0.378 + 0.11X_1 + 0.63X_2 + 0.47X_3 + 0.129X_4 + 0.0051X_5 + 0.129X_6 + e$$

According to the coefficients that determine the variability in the dependent variable Y (WPS), it can be noted that X₂ (connection to God), followed by X₃ (connection to community) causes the highest levels of variability in the regression equation. This is affected to a lesser degree by X₄ (personal identity), X₆ (physical wellbeing), and X₁ (workplace safety). The list levels of variability were associated with meaning. When this information is considered against the backdrop of the R (coefficient of determination), which was significantly high, it can be safely deduced that the proposed framework is valid.

5.13.2 Regression Analysis – The Interpretation

Regression analysis seeks to discover whether there are causal relationships between the underlying variables. In the current research, the regression analysis sought to identify any causal relationships that might exist between the variables that constitute the proposed WPS framework. Regression analysis assumes that we have reached a stage at which the model or proposed WPS framework can be assessed. This assessment will determine its validity, along with that of the other analyses, including correlation and factor analysis (Church & Waclawski, 1998; Berry & Rao, 1997).

The Problem

There is currently a gap between knowledge and praxis in the interface of workplace spirituality and the well-being of spinal cord-injured Black miners. There is no clear definitional framework to delineate the construct of spirituality for empirical research, as current concepts of workplace spirituality are too broad for implementation clarity. Can the researcher's proposed theoretical framework for workplace spirituality enable researchers and practitioners to address this identified gap? That is, can it assist in resolving the empirical issues of causality, correlation and/or measurement, validity, and reliability, and thereby provide scientific clarity for this key concept? The proposed framework is depicted in Figure 15. The regression analysis follows.

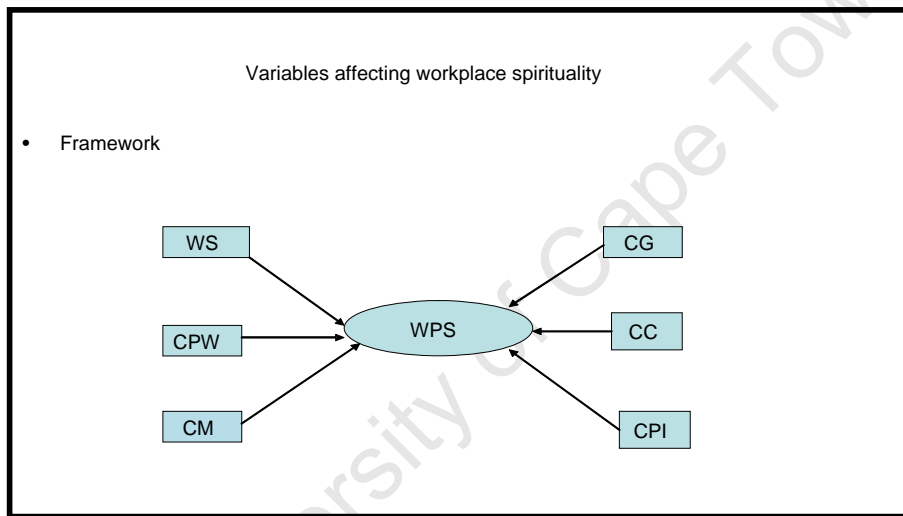


Figure 15: Depicting the proposed WPS framework

WPS = workplace spirituality, CG = connectedness to God, CC = connectedness to community, CPI = connectedness to personal identity, WS = workplace safety, CPW = connectedness to physical well-being, and CM represents connectedness to meaning.

5.14 DISCUSSION: MINERS' REGRESSION ANALYSIS

For the miners' data, regression analysis was used to seek the variance in the indicator variables and how they influenced the dependent variable. In this case, the independent variables are the factors CG, CC, CPI, WS, CPW, and CM. The dependent variable is the construct WPS. The results presented in Chapter 5 show that the *t-statistics* values are relatively high for the independent variables, suggesting that the independent variables are highly significant. It must be acknowledged, however, that although the correlation analyses suggest high relationships between the variables, they do not automatically imply causality between them. The regression analyses were thus conducted to complete the statistical analysis of the hypotheses. The results of this completed analysis demonstrated the importance of these variables to workplace spirituality.

The analysis began by establishing relationships between the variables and proceeded eventually to checking how significant the variables were in causing the variability in the dependent variable (Church & Waclawski 1998; Berry & Rao, 1997). Much of the information in determining the claims we have made in the hypothesis were thus accounted for, in part from the (R)⁵⁷ statistic in the regression equation, which can assist in such prediction. The complex nature of workplace spirituality and its wide range of definitions made it difficult to assess it using a single tool. In this research, acknowledging the different perspectives within which this construct is defined, five questionnaires from a varied research population from were used to accumulate data. These five questionnaires assessed various aspects of constituted workplace spirituality, as depicted in the Figure 10. These varied tools and populations provided the insights from which inferences could be established. In particular, the miners' instrument was used to determine the workplace spirituality construct (WPS) quantitatively, while the managers' instrument was designed to help generalize some aspects of the findings within a broader context. The rest of the instruments were used to generate qualitative information that was in turn used to support the outcomes of the miners' and managers' quantitative results. The multiple regression test of the

⁵⁷ The R statistic is called the coefficient of determination. This implies that the R determines the validity of the model.

miners' results indicated no multi-colinearity among the variables⁵⁸. Regression analysis of the managers' results, however, identified two independent variables that had a strong relationship, thus suggesting that there is multi-colinearity. This finding did not affect the outcomes, however, as the framework was analyzed primarily in terms of the outcomes of the miners' data, with the managers' data serving to cross-validate the overall outcome rather than to determine the framework.

5.14.1 Further Discussion of the Regression Analysis for Miners'

Responses

In the regression analysis, religious and cultural acts were identified as the most relevant variable associated with workplace spirituality, as was initially conceptualized in the proposed theoretical framework. This finding is consistent with the location of spirituality in religion and the practice of religion (salience) in definitions provided by the majority of the respondents. This outcome was also evident in the correlation and factor analyses, wherein the following variables correlated highly with RCA: CP, EU, SA, IC, IA, FR, LA, RRH, ADL, and SCP. When reduced to factors, RCA was defined by the following factors: CP, SCP, PMS, LA. The latter are referred to as Factor 1 in Table 26 of the rotated Miners' analysis. Factor 1 components appear to be closely related to the components suggested in the proposed theoretical framework, i.e., WS related to PMS; and CG related to RRH and RCA.

Most respondents indicated that God was seen in the practice of religion (salience). CPI (values and ethics, referred to as personal identity) is related to FR (family values) and EU (employer usefulness), and CC is related to CP, FR, and LA, which are factors that determined community or Ubuntu ethics. These relationships were further corroborated by the outcomes of S20 in Factor 1 of the managers' factor analysis results, which had the highest commonality value of 0.837 (at 0.01 significance level). In sum, the regression analyses seem to support the contention

⁵⁸ The multi-colinearity refers to strong, but not perfect, linear relationships among the independent variables.

that the proposed framework can be accounted for using Factor 1 outcomes. The table of the results is shown in Appendix 13.

The other variables in the instrument were also examined to determine whether they had causal relationships with the proposed theoretical framework for workplace spirituality. The table on correlations suggested a relationship between RCA (religious and cultural activities) and SA (self-acceptance) that was confirmed in the regression analysis, where SA as a dependent variable had a causal relationship with CP, LA and FR. (R= 0.519, with an F statistic of 25.971 at 0.00 significance level. The t statistics were 4.596, 1.863, and 2.942 respectively.) In the factor analysis, SA (Factor 2) was constituted by the following variables: IA, EU, FR, RCA, and CP. This finding is consistent with the regression analysis and supports the proposed framework, as these particular factors are closely associated with CM, representing workplace spirituality as connected to meaning. Although the correlation and factor analyses seemed to suggest high and positive relationships between other combinations of variables, the regression analysis did not indicate any additional causal relationships.

In summary, the *t-statistics* show that the most influential variable in the proposed theoretical framework for workplace spirituality is SCP (satisfaction with community plans), which is in turn a direct expression of CC (workplace spirituality as connected to community/Ubuntu values) in the proposed framework. The role of religion in healing (RRH) was also significant, and can be linked to CG (spirituality as connected to God). CP (community participation) also had a high t value, which can be linked to CM (spirituality as connected to meaning), suggesting that post-injury involvement in community activities creates more meaning for the spinal cord-injured miners.

There were additional factors that moderately accounted for the hypotheses developed for the proposed framework: SA (self-acceptance) represented by CP (community participation), and EU (employer usefulness), expressed in the regression formula CPW. Subsequent investigations can be conducted to determine the extent to which these variables have an impact on WPS. The statistics further showed that the variance in the framework accounted for by the independent variables was significant,

with a coefficient variance of $R = 0.79$. The F statistic of 58.55 is also highly significant, with the generally higher values of $t \geq 1.96$. The significant values of less than 0.05 for the variables CP (community participation), RRH (role of religion in healing), and SC (openly talk about sexual concerns), are also very good indicators.

Overall, based on the miners' instrument and its outcomes, the results were in line with the factor analysis. Factor analysis revealed that community participation (CP) was an important component in determining religious and cultural acts (RCA), perceptions of mine safety (PMS), satisfaction with community plans (SCP), and leisure activities (LA). It can be clearly seen that, although LA, EU, and SA did not have a direct and significant relationship with workplace spirituality, they were nevertheless strong influencer factors. Furthermore, the role of spirituality in healing (RSH) was identified in the factor analysis as representing the role of religion in healing (RRH). Meaning (CM) is seen to reflect the importance miners placed on activities of daily living (ADL) and leisure activities (LA). These results suggest that the proposed model is accounted for fully in Factors 1 and 2, but not significantly accounted for in Factors 3 and 4 (see Table 26 of the rotated factors analysis). It can thus be concluded that, based on the regression analysis, the proposed theoretical framework sheds some light on critical factors 1 and 2 defining workplace spirituality. These quantitative results will now be evaluated in conjunction with the Atlas ti qualitative results, based on what the respondents themselves stated.

5.15 QUALITATIVE ANALYSIS SECTION

The qualitative responses of the miners were initially typed into a Microsoft Word document. They were then captured in an Atlas ti text bank, where they were converted into primary codes for the miners, and into family codes, or themes, that were processed as a hermeneutical unit (HU). The HU provides data structure for each project in the Atlas ti, allowing it to be compared and explored in a creative, flexible way that is nevertheless systematic. In this research, the HU provided structure to each of the research populations, namely: Miners, Managers, Captains, Medical and Allied, Pastors, and Sangomas. Each group's qualitative responses were presented as a HU consisting of interrelated themes, depicted as primary documents

(P1, P2, P3, P4, etc.). These primary documents were used to provide meaning on particular issues, for example, quotations or themes regarding the definition or content of workplace spirituality and/or workplace safety. Quotations, which are segments of the primary documents, capture important qualitative descriptions, proxies, or definitions of workplace spirituality pertinent to the current research. These quotations ranged from a word, sentence or paragraph to an entire file of codes. They were used as classification devices at different levels of abstraction and for comparison purposes. The primary documents were also formed into clusters for easier handling, thus creating a super code, or “family.” Families were used to analyze the interrelatedness among themes of what the current populations defined as spirituality and its proxies. In the next sections, starting with the Miners, samples of the outcomes of the qualitative results generated by the Atlas ti are presented. The rest of the responses from the Atlas ti can be found in Appendix 15.

5.15.1 Miners

Table 29 shows the descriptive data of mine workers, grouped according to their declared locality. All the miners (N=224) were interviewed using a specifically designed questionnaire. Their responses were typed using a Microsoft Word program document, and were then separated into seven tables, which classified information on the basis of its suitability for quantitative or qualitative analysis. The information requiring qualitative analysis was converted into plain text with page breaks and then saved in a text bank and assigned a name as a primary document. This information document was then loaded into Atlas ti to be converted initially into free codes, and then into family units or themes.

Table 29: Mine Workers and Locality

<i>Swaziland</i>	<i>South Africa</i>	<i>Lesotho</i>	<i>Botswana</i>	<i>Mozambique</i>	<i>Namibia</i>	<i>No detail</i>
<i>15</i>	<i>110</i>	<i>41</i>	<i>6</i>	<i>37</i>	<i>2</i>	<i>10</i>

Table 29 presents an example of the output of the Atlas ti analytical process. It summarizes how the miners and the medical and allied group defined workplace

safety (or the proxies thereof) for their contexts. These responses were captured from free codes that were later captured again to be analyzed as family units, or themes. The table indicates the frequency of themes connected to safety at the mines for each group's cumulated data. Most of the miners (N=22), for example, felt that poor training in safety procedures caused the mines to be unsafe. The small sample of medics interviewed (N= 4), however, felt that the mines were unsafe as a result of the miners' personal values (or lack thereof), or of poor legislation around mine safety.

Table 30: Safety perceptions of miners and medics

<i>Codes-Primary-Documents-Table</i>			
<i>PRIMARY DOCS CODES</i>	<i>P1 (Miners)</i>	<i>P2 (Medics)</i>	<i>Totals</i>
<i>Affective issues</i>	<i>17</i>	<i>0</i>	<i>17</i>
<i>HIV-related safety</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>Human error</i>	<i>8</i>	<i>0</i>	<i>8</i>
<i>I do not know</i>	<i>20</i>	<i>1</i>	<i>21</i>
<i>Impact on individual</i>	<i>13</i>	<i>0</i>	<i>13</i>
<i>Just accept no 100%</i>	<i>13</i>	<i>0</i>	<i>13</i>
<i>Legislation</i>	<i>4</i>	<i>4</i>	<i>8</i>
<i>Mechanization Error</i>	<i>20</i>	<i>0</i>	<i>20</i>
<i>Money-ism</i>	<i>15</i>	<i>0</i>	<i>15</i>
<i>Nature of mines</i>	<i>21</i>	<i>0</i>	<i>21</i>
<i>Other forces/spirits</i>	<i>21</i>	<i>0</i>	<i>21</i>
<i>Training needs</i>	<i>22</i>	<i>0</i>	<i>22</i>
<i>Values/Personal identity</i>	<i>11</i>	<i>4</i>	<i>15</i>
<i>Total</i>	<i>204</i>	<i>10</i>	<i>214</i>

P1, the primary document with the miners' responses, indicated that twenty-two (22) respondents felt that safety is influenced by the degree of training of miners and underground staff. Twenty-one (21) said that lack of safety was in the nature of the mining business, e.g., "it is a deeply risky business," or, "if you go into the centre of the earth, you tamper with the rhythm of spiritual forces some say." Twenty (20)

believed that faulty mechanization and the unmet need for additional mechanization were causes for concern. The same number indicated that they did not know what comprised safety in underground mines. A significant number (17) were either too distraught to comment, or unable to elaborate a response beyond “I am devastated.” Fifteen (15) felt that the pursuit of money at the expense of individual safety was the cause of fatalities. Thirteen (13) either said that the cause did not matter, or that it was now too late to ask such questions, asserting that one needed to accept that no place is 100% percent safe. The same number commented on their devastation. A small number (4) believed that safety legislation was lax and needed to be enforced to curb the incidence of fatalities.

Appendix 9 presents the definitional issues around spirituality and health, and around the usefulness of spirituality. Appendix 9, based on the Atlas Ti, further captures all the research population groups, (N= 224) miners, managers, pastors, healers and allocate to each a primary computer space or page called a primary document 1 or 2 or as P1, P2, P3, and P4, respectively. Each group's responses on how to define spirituality and its uses are put into primary codes. These codes are counted to arrive at the frequencies, and then themes are grouped and analyzed in terms of how they affect spirituality. Where the miners' (P1) responses were looked at separately and ranked using the frequency of a particular free code, the following framework emerges: Salience, that is, the practice of religion (47), Meaning (45), Connection to God (34), Physical wellbeing (23). These are followed by workplace safety, spirits or Holy Spirit (12), Community (10), and Personal Identity (6).

When the total responses are ranked in the following combinations of primary documents, (Miners)+(Pastors), and (CLERGY)+(Medics and allied)+(indigenous healers), the following framework emerges: Spirituality is connected with Salience (101), God (96), Personal Identity (63), Community values or Ubuntu (58), Physical wellbeing (42), Meaning (34), Spirit (22), and Workplace safety (16).

There is thus general agreement on the connection of spirituality with salience. In addition, there also seems to be a convergence of the possible constructs, although differently weighted, on what may constitute spirituality at the workplace.

The spinal cord-injured miners gave high rankings for connection to spirituality to the following variables (in order of frequency): salience, meaning, God, and physical wellbeing. Taken together, all the primary documents yielded the following ranking of variables connected to spirituality: salience, God, community, physical identity, and physical wellbeing.

5.15.2 Miners' Hierarchy of Needs Questions

This section describes the miners' responses to questions about how they ranked their particular needs following their injuries. These four questions (27, 28, 30 and 31) were designed following Maslow to establish a hierarchy of needs (Maslow 1970). They were preceded by a set of questions that sought to assess the miners' levels of satisfaction (18 – 24, 26 and 29). The responses to this second set of questions are discussed in Section 5.12 on the miners' quantitative results.

The following four questions below, were used to establish the miners' hierarchy of needs. With the exception of question 27, which was open-ended, the questions were close-ended or multiple choice.

Questions used to establish a hierarchy of miners' needs

Question 27

Do you talk about your psychosexual needs? To whom?

Question 28

Rank your psychosexual activities from the list provided, or add any other.

Question 30

What do you request from the medical staff or your TEBA office?

Question 31

Indicate from the list provided any three most important life areas following your injury.

Question 27

Do you talk about your psychosexual needs? To whom?

Answers

74 out of 224 said that they did not speak to anyone about their psychosexual concerns following their spinal cord injuries. 20 out of 224 said they spoke to hospital staff. 60 out of 224 said they spoke to their spouses/partners. 57 out of 224 said they spoke to friends (mainly fellow patients). 42 out of 224 said they felt it was personal and shameful to talk about their compromised psychosexual concerns to anyone, some adding that they were brought in this belief.

It can be concluded from these responses that friends and spouses (57+42), who are the injured community members, are key in addressing this need to talk.

Question 28

Rank your psychosexual activities from the list provided, or add any other

Answers

103 out 224 reported that they had no sexual life following their spinal cord injuries; 12 out 224 reported that their only psychosexual activity was kissing; and the rest reported that they try various things, but that this is the most painful aspect of their injury.

It can be deduced from these responses that psychosexual concerns constitute a major need for spinal cord injured miners.

Question 30

What do you request from the medical staff or your TEBA office?

Answers

There were four categories of response to this question:

1. Need latest information about my disability: 93 responses
2. Need psychosexual counseling: 90 responses

3. Need emotional support: 38 responses
4. Need contact with own community: 30 responses

It can be deduced from these responses that physical health and psychosexual concerns are major needs for spinal cord injured patients.

Question 31

Indicate from the list provided any three most important life areas following your injury.

Answers

In response to Question 31 above, the following five categories emerged. These categories are referred to as the miners' hierarchy of needs.

1. Family relationships: 101 rated this as their primary need.
2. Spiritual needs: 33 rated this as their primary need.
3. Sexual needs: None rated this as their primary need.
4. Money/employment needs: 9 rated this as their primary need.
5. Health needs: 30 rated this as their primary need.

In question 31, only the responses ranked as number one were included for discussion. All five responses summarized above appeared in most patients' first three choices. In the analysis, however, the researcher sought to establish which of these five the miners regarded as their primary need. Their need to be in community; i.e., back with their families and out of rehabilitation, was greater than their spiritual, health, money, or sexual needs. This finding may be inconsistent with Maslow's hierarchy of needs, and warrants further investigation.

5.16 MINERS' QUANTITATIVE RESPONSES

The four questions designed to establish a hierarchy of miners' needs was preceded by a set of questions that sought to assess the miners' levels of satisfaction (18 – 24, 26 and 29). Responses to these questions were quantified to develop a preliminary analysis of miners' needs. The following section gives the full text of the eight

questions used to assess the miners' levels of satisfaction. Table 31 summarizes the results used to develop a preliminary analysis of miners' needs.

Questions assessing miners' levels of satisfaction

Question 18

Are you satisfied with the current situation concerning your handicap?

Question 20

Are you satisfied with your current situation concerning employment?

Question 21

Are you satisfied with your social life, including friends / volunteer activity?

Question 22

Are you satisfied with your social life, including friends / volunteer activity?

Question 23

Are you satisfied with your cultural situation including religion / art / school / spiritual life?

Question 24

Are you satisfied with your leisure activity including sports / travelling / hobby?

Question 26

Are you satisfied with your family relationships?

Question 29

Are you satisfied with your sexual life?

Table 31: Preliminary Analysis of Miners' Needs

	<i>F1</i> 18	<i>FX</i>	<i>F2</i> 20	<i>FX</i>	<i>F3</i> 21	<i>FX</i>	<i>F3</i> 22	<i>FX</i>	<i>F4</i> 23	<i>FX</i>	<i>F5</i> 24	<i>FX</i>	<i>F6</i> 26	<i>FX</i>	<i>F7</i> 29	<i>FX</i>
<i>X=5</i>	4	20	8	40	60	300	8	40	6	30	2	10	10	50	6	30
<i>X=4</i>	125	500	123	492	106	424	86	344	96	384	38	148	134	536	71	284
<i>X=3</i>	31	93	38	114	32	96	63	189	55	165	45	135	18	54	16	48
<i>X=2</i>	28	56	28	56	7	14	33	66	31	62	73	146	22	44	52	104
<i>X=1</i>	30	30	28	28	16	16	32	32	29	29	62	62	31	31	65	65
<i>Sum</i>		699		830		850		635		570		503		715		531

X=1-5 indicates the ratings given on the questionnaire, with 5 being the highest score and representing strong agreement, and 1 being the lowest score and representing strong disagreement. F1-5 represents the totaled frequency of the x. FX represents frequency multiplied by the score (x). The Sum is the total of FX within particular questions.

The miners' quantitative scores on questions 18 – 29 were collated into the total FX for each question, and their means were computed. Graph 3 shows the frequencies and means of miners' responses to questions 18-29, and Table 32 quantifies the miners' descriptive account of their needs.

Graph 3: Bar Graph of Frequencies and Means of Miners responses to questions 18 – 29

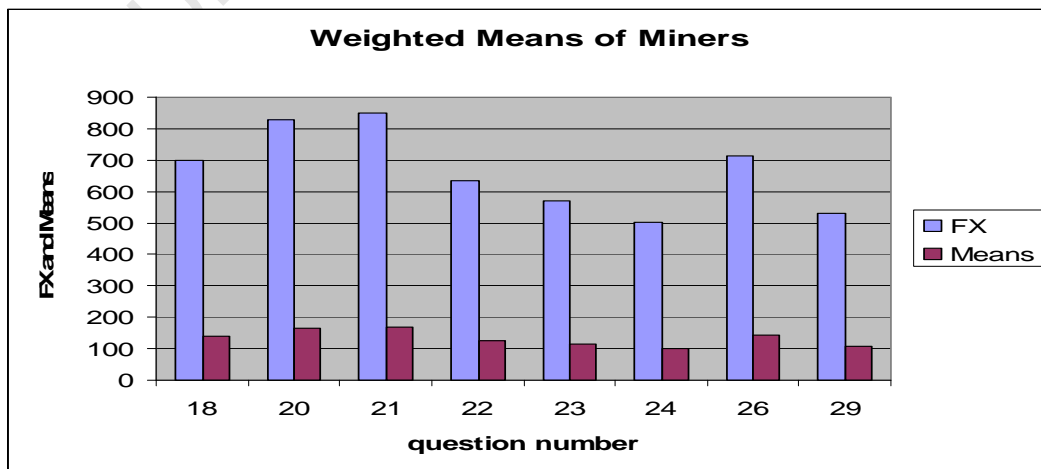


Table 32: Miners' descriptive account of their needs

	<i>18</i>	<i>20</i>	<i>21</i>	<i>22</i>	<i>23</i>	<i>24</i>	<i>26</i>	<i>29</i>
<i>FX</i>	<i>699</i>	<i>830</i>	<i>850</i>	<i>635</i>	<i>570</i>	<i>503</i>	<i>715</i>	<i>531</i>
<i>Means</i>	<i>139.8</i>	<i>166</i>	<i>170</i>	<i>127</i>	<i>114</i>	<i>100.6</i>	<i>143</i>	<i>106.2</i>

Table 32 and Graph 3 show the following hierarchy of means of responses to the questions that sought to assess the miners' levels of satisfaction (18 – 24, 26 and 29): 21 >20>26>18>22>23>29>24. This hierarchy of means suggests that more spinal cord injured workers said they were assisted by their employers during their injury (21) and were happy about their current employment situation (20), but that they were also concerned about their spiritual life (23) and leisure activities (24).

5.17 MINE MANAGERS' QUALITATIVE

Out of 120 mine managers who were mailed a questionnaire, (N=39) responded. Although they were initially divided into those operating in a traditionally Anglo-Saxon environment on the one hand, and those operating in the context of Black Economic Empowerment (BEE) on the other, their responses were analyzed together. All the results were assessed quantitatively.

5.18 CAPTAINS OF INDUSTRY

Table 33 presents the Atlas ti analysis of all the codes or groups in the study. The captains' column (P4) shows that this group loaded higher frequencies on community, law, profit/ moneyism and personal identity (values). The two most important variables for the captains were connection with community, and personal identity (values), with a score of 23 in each case. These leading variables were followed by money-ism, and multiple factors, with a score of 11 in each case. Last among the higher frequencies were connection with God, and legal/union, each with a score of 10. The remaining totals were moderate, including registration/legal training, and personal matter.

Table 33: Captains of Industry Definitions and Applications (Atlas Ti)

<i>PRIMARY DOCS CODES</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>Total</i>
<i>Connection with God</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>3</i>	<i>3</i>	<i>2</i>	<i>10</i>
<i>Connection with community</i>	<i>1</i>	<i>3</i>	<i>3</i>	<i>9</i>	<i>3</i>	<i>4</i>	<i>23</i>
<i>Health Issues</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>1</i>
<i>Legal/Union</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>7</i>	<i>0</i>	<i>1</i>	<i>10</i>
<i>Legislation/legal</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>5</i>	<i>1</i>	<i>2</i>	<i>9</i>
<i>Meaning</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>4</i>
<i>Mechanization errors</i>	<i>3</i>	<i>1</i>	<i>1</i>	<i>3</i>	<i>0</i>	<i>2</i>	<i>10</i>
<i>Money-ism</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>7</i>	<i>1</i>	<i>2</i>	<i>11</i>
<i>Multiple factors</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>5</i>	<i>1</i>	<i>3</i>	<i>11</i>
<i>Nature of business</i>	<i>1</i>	<i>2</i>	<i>0</i>	<i>6</i>	<i>0</i>	<i>1</i>	<i>10</i>
<i>Nature/humility</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>
<i>No response</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>
<i>Not safe</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>
<i>Personal ID (values)</i>	<i>2</i>	<i>2</i>	<i>3</i>	<i>9</i>	<i>3</i>	<i>4</i>	<i>23</i>
<i>Personal matter</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>5</i>	<i>0</i>	<i>0</i>	<i>6</i>
<i>Religion</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>7</i>
<i>Safety at work</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>5</i>	<i>0</i>	<i>0</i>	<i>5</i>
<i>Training</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>7</i>
<i>Unsafe</i>							
<i>Total</i>	<i>15</i>	<i>10</i>	<i>11</i>	<i>72</i>	<i>20</i>	<i>26</i>	<i>154</i>

Overall, the captains' qualitative responses support the variables in the proposed framework for workplace spirituality, while also indicating that there are variables not included in the proposed framework that can also help define this construct.

5.19 PASTORAL CARE WORKERS (CLERGY)

Three categories of pastoral care workers were identified (N=78), namely, those with secular qualifications and experience who were seeking to be formally accepted by

the church as future clergy, i.e., “ordinands” (18); those who had recently been ordained and were attending a continuing pastoral care formation programme (31); and those with five or more years in the active pastoral ministry (29). Data was collected using focus groups formed after either a retreat or training. The pastoral care workers were also asked to complete individual questionnaires in their focus groups. The focus group interviews can be broadly divided into two large questions: (1) What is spirituality in the context of your “workplace,” i.e., the pastoral vocation, and, (2) How do you apply and nurture spirituality?

Atlas ti analysis of the pastoral care workers’ responses is presented in Table 34, with P1 representing those seeking to be accepted by the church as future clergy, P2 representing those who had been recently ordained, and P3 representing those with five or more years in the active pastoral ministry.

Table 34: Definition of spirituality by pastoral care specialists

<i>Primary docs codes</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>Total</i>
<i>Bible and prayer</i>	<i>11</i>	<i>6</i>	<i>5</i>	<i>31</i>
<i>Christian spiritual practices</i>	<i>9</i>	<i>2</i>	<i>6</i>	<i>19</i>
<i>Community Ubuntu values</i>	<i>13</i>	<i>6</i>	<i>20</i>	<i>56</i>
<i>Connectedness</i>	<i>2</i>	<i>4</i>	<i>2</i>	<i>10</i>
<i>Connection to dreams</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>6</i>
<i>Creation</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>3</i>
<i>God connection</i>	<i>21</i>	<i>9</i>	<i>11</i>	<i>95</i>
<i>Meaning</i>	<i>14</i>	<i>4</i>	<i>4</i>	<i>34</i>
<i>Meditation/reflection</i>	<i>7</i>	<i>0</i>	<i>3</i>	<i>13</i>
<i>Personal Identity</i>	<i>0</i>	<i>0</i>	<i>17</i>	<i>57</i>
<i>Physical wellbeing</i>	<i>0</i>	<i>0</i>	<i>6</i>	<i>42</i>
<i>Qamata</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>
<i>Set-apartness</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>
<i>Spirit/Holy Spirit</i>	<i>4</i>	<i>3</i>	<i>3</i>	<i>22</i>
<i>Transformation</i>	<i>6</i>	<i>0</i>	<i>0</i>	<i>6</i>

Table 34 indicates that pastoral care workers understand spirituality primarily in terms of the following three variables: (1) Connection to God, where P1 has a score of 21, P3 has a score of 11, and P2 has a score of 9; (2) Meaning, where P1 has a score of 14, and P2 and P3 both have scores of 4; and, (3) Community values, where P3 has a score of 20, P1 has a score of 13, and P2 has a score of 6. These leading variables are followed by Bible and prayer, where P1 has a score of 11, P2 has a score of 6, and P3 has a score of 5; and by Christian spiritual practices, where P1 has a score of 9, P3 has a score of 6, and P2 has a score of 2. Pastoral care workers accorded less importance to the variables Connected with transformation, which has a moderate score of 6 for P1, Personal wellbeing, which has a score of 6 for P3, and Personal identity, which has a score of 17 for P3.

The qualitative responses of the pastoral care workers support the proposed theoretical framework for workplace spirituality, although their rating of personal identity was low. Considered as a group, these responses support the quantitative results and affirm the relevance of the proposed variables for defining workplace spirituality in the context of pastoral care workers.

5.20 MEDICAL AND ALLIED

The medical and allied group consisted of a typical spinal rehabilitation team; i.e., a doctor, orthopedic surgeons, medical officers, nurses, physiotherapists, occupational therapists and social workers. Twenty (20) treatment centres were identified in South Africa. These identified centres dealt with spinal cord injuries, although not exclusively with mine patients. One hundred and twenty (120) questionnaires were sent to this group with instructions and a self-addressed stamped envelope to be completed and sent back to the researcher. Only thirty-four (N=34) responded. Nine (9) wrote back to say that as they did not deal with mine patients, they did not want to participate in the study. Five (5) returned blank questionnaires. Four (4) sent email responses to say they had received the questionnaire and would respond, but did not ultimately do so, despite follow up attempts. A further twenty (20) questionnaires were distributed at the Spinal Cord Congress in Durban, but these were not returned.

The results are thus based on a small sample, and a further study could explore the impact of a larger sample than this one. Table 35 shows the frequency count of patient care values according to the sample that responded in this category. It also shows this group's perceptions of safety as compared to those of the injured miners. Table 34, Safety Perceptions of Miners and medics, illustrates the analysis of the miners' perceptions of safety. It is presented to facilitate comparison of the medics' perceptions with those of the miners.

Table 35: Safety perceptions of miners and medics

<i>Primary docs codes</i>	<i>1(Miners)</i>	<i>2 (Medics)</i>	<i>Total</i>
<i>Affective issues</i>	<i>17</i>	<i>0</i>	<i>17</i>
<i>HIV-related safety</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>Human error</i>	<i>8</i>	<i>3</i>	<i>11</i>
<i>I do not know</i>	<i>20</i>	<i>6</i>	<i>26</i>
<i>Impact on individuals</i>	<i>13</i>	<i>2</i>	<i>15</i>
<i>Just accept no 100%</i>	<i>13</i>	<i>1</i>	<i>14</i>
<i>Legislation</i>	<i>4</i>	<i>7</i>	<i>11</i>
<i>Mechanization error</i>	<i>20</i>	<i>2</i>	<i>22</i>
<i>Money-ism</i>	<i>15</i>	<i>1</i>	<i>16</i>
<i>Nature of mines business</i>	<i>21</i>	<i>3</i>	<i>24</i>
<i>Other forces/spirits</i>	<i>21</i>	<i>0</i>	<i>21</i>
<i>Training needs</i>	<i>15</i>	<i>1</i>	<i>16</i>
<i>Unsafe compounds/en</i>	<i>22</i>	<i>0</i>	<i>2</i>
<i>Values/Personal identity</i>	<i>11</i>	<i>7</i>	<i>18</i>
<i>Totals</i>	<i>204</i>	<i>33</i>	<i>237</i>

Table 35 shows the factors affecting safety most highly rated by the injured miners as: compound/hostel areas (22), other forces or spirits (21), the nature of the business (21), and mechanization errors (20). The next group of factors, with ratings ranging from 17 to 11, are: “money-ism” (15), the lack of appropriate values and morals such as honesty (11), and lack of training (13). Others in this group felt that no work place

is wholly safe and that the injured must accept their “fate.” The same number described the pain and personal impact of the injury on themselves or family and a significant number (17) were too devastated and tearful to explain their current affect or their perception.

This qualitative input further supports the outcome of the quantitative results and the proposed theoretical framework, suggesting that workplace spirituality may be connected to workplace safety, meaning, religion, personal values, and community. The sample size, however, is too small to generalize. A follow-up study might be carried out to test the validity of this claim.

The medical and allied group was also requested to list some of the values they regarded as critical in patient care following spinal cord injuries, as well as the values or ethical considerations they uphold in patient care. These responses were solicited in order to flesh out the “personal identity” variable, which this research equates with values and ethical considerations. The researcher thus sought to establish the proxies of this variable for medical and allied workers by asking them about the values they regard as central to patient care. Their responses are recorded in Table 36 as frequencies, ratios, and percentages.

Table 36: Patient care values

<i>Values</i>	<i>Frequency(F)</i>	<i>Ratio of F</i>	<i>Percentages</i>
<i>Honesty</i>	<i>16</i>	<i>0.055</i>	<i>5.594</i>
<i>Empathy</i>	<i>37</i>	<i>0.129</i>	<i>12.937</i>
<i>Benefice</i>	<i>2</i>	<i>0.006</i>	<i>0.699</i>
<i>Respect</i>	<i>42</i>	<i>0.146</i>	<i>14.685</i>
<i>Sacredness/sanctity</i>	<i>43</i>	<i>0.150</i>	<i>15.035</i>
<i>Tolerance</i>	<i>43</i>	<i>0.150</i>	<i>15.035</i>
<i>Loyalty</i>	<i>16</i>	<i>0.055</i>	<i>5.594</i>
<i>Equality</i>	<i>18</i>	<i>0.0629</i>	<i>6.293</i>
<i>Pragmatism</i>	<i>15</i>	<i>0.0524</i>	<i>5.245</i>
<i>Love/compassion</i>	<i>12</i>	<i>0.0419</i>	<i>4.196</i>
<i>Justice</i>	<i>35</i>	<i>0.1223</i>	<i>12.237</i>
<i>Confidentiality</i>	<i>7</i>	<i>0.0245</i>	<i>2.446</i>
<i>Total</i>	<i>286</i>	<i>1.000</i>	<i>100</i>

The frequencies given in Table 36 indicate that the medical and allied group considered the sacredness or sanctity of life, tolerance, and respect for the patient to be the most important values in patient care. Justice and empathy followed these. The last category, though it was ranked poorly, included values of honesty, loyalty, equality, pragmatism, compassion and love. The lowest scores were for benefice and confidentiality.

5.21 INDIGENOUS HEALERS/ SANGOMAS

Seven (7) Sangomas (or indigenous healers) were interviewed using an open-ended questionnaire specifically constructed for this research. Some of the Sangomas declined to be interviewed by the researcher because of his status as a clergyman. Thami Mageza was thus recruited and trained in administration of the questionnaire and in data collection. She used one-on-one interviews with the Sangomas,⁵⁹ whose

⁵⁹ The following account indicates how Ms. Mageza approached her subjects: "I spoke to Sis Nomhle about the research I was doing and she gave me contact details of 3 Sangomas. I went there, but on my

responses were recorded on the questionnaire, typed, and then stored as a text bank for Atlas ti analysis. Table 37 offers a qualitative analysis of the themes of the Sangomas' responses (column P10) in relation to those of other respondents in the research.

Table 37: Spirituality and health definitions

<i>Primary docs code</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>7</i>	<i>10</i>	<i>11</i>	<i>Total</i>
<i>African tradition</i>	0	0	0	0	4	37	0	41
<i>Bible and prayer</i>	11	6	5	3	0	6	0	31
<i>Can't explain (meaning)</i>	0	0	0	0	0	34	0	34
<i>Christian spiritual</i>	9	2	6	0	0	2	0	19
<i>Community-Ubuntu value</i>	13	6	20	6	1	10	0	56
<i>Connectedness</i>	2	4	2	0	0	2	0	10
<i>Connection with dream</i>	1	0	0	0	5	0	0	6
<i>Creation</i>	0	2	0	1	0	0	0	3
<i>Dance</i>	0	0	0	0	2	0	0	2
<i>God connection</i>	21	9	11	14	6	34	0	95
<i>Meaning</i>	14	4	4	1	0	11	0	34
<i>Meditation/reflection</i>	7	0	3	0	1	2	0	13
<i>Others</i>	5	0	0	1	0	2	0	8
<i>Personal Identity</i>	0	0	17	23	11	6	0	57
<i>Physical wellbeing</i>	0	0	6	10	3	23	0	42
<i>Prayer only</i>	0	0	0	0	4	0	0	4
<i>Qamata</i>	0	1	0	0	0	0	0	1
<i>Set apartness</i>	0	1	0	0	0	0	0	1
<i>Spirit or holy spirit</i>	4	3	3	0	0	12	0	22
<i>Syncretism</i>	0	0	0	0	2	0	0	2
<i>Transformation</i>	6	0	0	0	0	0	0	6
<i>Workplace safety</i>	0	0	0	4	0	12	0	16
<i>Total</i>	93	38	77	63	39	193	0	503

arrival, the Sangoma was still busy with her patient, so I had to wait. I explained to her about my research and that I would like her to assist me by filling out the questionnaire. She told me that she was not educated so I had to speak my mother tongue. So I asked her the following questions.”

Table 37 suggests a strong connection between spirituality and health. In their accounts of spirituality and health, the indigenous healers emphasised African traditional practices (37), connection to God (34), and physical wellbeing (23). They also saw spirituality and health as moderately affected by Spirit or Holy Spirit, Meaning, and Ubuntu (Community values). The closest correspondences between P10 and P1 (the indigenous healers and the miners) were meaning, God connection, and Ubuntu, which were all ranked highly by both groups. P4 and P3 scored high on God connection and personal identity as well. These outcomes are consistent with the outcomes of miners, managers, captains, and pastoral care workers. They support the potential usefulness of the proposed theoretical framework to assist in defining workplace spirituality.

5.22 THEMATIC DISCUSSION OF QUALITATIVE RESULTS

To further validate the proposed theoretical framework for workplace spirituality within the mining industry and related fields, the evidence of each population was qualitatively analysed comparing stakeholder responses between and across the parameters. This qualitative analysis was conducted in order to determine where there were factors that supported the proposed theoretical framework, and to identify those that might be used to refine it. The evidence for the qualitative analyses of the various stakeholders, (based on the Atlas ti), is attached in Appendix 9.

The primary tool for the qualitative analysis was the Atlas ti, which was used for assigning open codes (substantive “labels” or quotations), including *in vivo* codes (respondents’ exact words). Atlas ti was also used to create coding or analytical “memos” (analysis of codes and themes related to theory formulation). The researcher’s notes on important coding decisions formed part of the analytical memos. The second level of coding involved the creation of “axial” codes from passages identified by a user-defined set of codes representing concepts from data that had some features in common. The axial codes were created using the Atlas ti “families” editing option and search features. Third-level or “selective” codes are essentially theoretical constructs or sub-themes created by connecting and consolidating second-level codes while abstracting from the evidence contained in the data. The next

sections explain the use of quotations regarding the themes of safety perception, safety and spirituality, well being (care), and spirituality. These sections also discuss expert comments gathered in this research that may be proxies for key workplace values.

5.22.1 Safety Perception

Safety perception was measured using three qualitative instruments: the miners' questionnaire, medical and allied questionnaires and interviews with the MDs/owners (referred to as captains). The miners perceived safety as significantly related to other forces/spirits. The coding of the qualitative responses indicates that most miners spoke of "spirits at work," for example, "the rocks fell and we were injured not because the mine is unsafe [structurally] but that it was not protected [unsafe] from attack by the evil spirit or ezomoya." The emphasis on other forces or spirits in the majority of miner responses reveals that their perceptions of workplace safety are closely intertwined their notions of spirituality. By contrast, the medical and allied stakeholders perceived no link between spirituality and workplace safety, emphasizing rather personal values and legislation as important elements of mine safety. The mining captains also rejected the relevance of spirituality to workplace safety, as in the following response from M. Spicer (personal communication, October 8, 2007), who asserts that while spirituality may be of consequence to an individual, mine safety is about protection in harsh environments: "Spirituality is a personal matter, but safety has to do with labour-intensive [work on the] deep and hard rock surface, that makes the physical environment of mining more dangerous"⁶⁰. A similar attitude was expressed by P. Ncholo (personal communication, October 8, 2007), who went on to say that an effective regulatory system was required to improve mine safety in South Africa⁶¹.

Other factors cited by the miners as affecting workplace safety include: training needs, mechanization error, the nature of mining itself, and affective issues relating to the miners' emotional conditions at the time of the accidents. This last factor,

⁶⁰ Spicer is the CEO of Business South Africa and formerly worked for Anglo American.

⁶¹ Ncholo is an advocate and CEO of a mining company in the East Rand, Gauteng.

although receiving a low rating from the miners, may in fact have a greater influence on mine safety than the responses indicated. Affective concerns (feelings) have an impact on how miners view themselves (as spouses, as parents, as community members, and as workers), and on how they embody the values of the mining context. If a miner's personal and community values are not respected at the workplace, he may be careless in following the safety standards established there, and mine safety will ultimately be compromised. Yet when asked directly about connections between safety issues and their injuries, most miners answered: "I can't explain." This response does not suggest a lack of awareness regarding safety issues. Rather, it expresses the state of shock and tearfulness in the immediate post-injury period, when miners were as yet unable to make sense of what had happened to them.

A common Xhosa response – "andiyazi" (I don't know) – is deeper than a negation. It is thus difficult to assess whether the miners themselves perceived a connection between their injuries and affective issues that might have compromised their implementation of safety procedures. In addition, they are accustomed in their working lives to dealing with concrete or tangible issues, and may not have known how to respond to a question designed to assess their perceptions of safety as related to ethical and moral judgments in implementing the safety regime. Thus, most miners gave a low rating to affective issues as having a direct bearing on workplace safety, emphasizing instead the more concrete elements of mechanization errors.

One miner did, however, hint at the effect of personal and family concerns on workplace safety in responding to this question, stating: "kuzima ekhaya"(the situation at home is difficult). His comment also gave indirect expression to a decision to suppress personal and familial concerns in favour of economic needs. In many cases, miners do not have the luxury of taking time off from work when home life requires their presence and input. Thus, while often working far from their homes, miners are nevertheless affected psychologically by family concerns that may in turn affect their levels of safety consciousness while at work. This comment does, therefore, offer some qualitative evidence for the connections between workplace spirituality, meaning-making, and family values in the researcher's proposed theoretical framework.

5.22.2 Spirituality and Safety

The qualitative hermeneutical coding consisted of four population groups, namely: clergy, medical and allied professionals, the miners, and sangomas. Clergy were divided into three categories: (1) pastors with more than five years of experience; (2) pastors with less than five years experience; and (3) people wishing to serve as pastors but still in training. Clergy in all three categories gave strong emphasis to “God connection,” “bible and prayer,” “community connectedness” (Ubuntu values), and “meaning” as elements that define workplace spirituality and health. The clergy with less than five years’ experience also identified “personal identity” as a vital element of spirituality and health. Clergy responses are attached in Appendix 9 as primary codes from the Atlas ti qualitative analysis.

The clergy results were closely correlated to those of the medical and allied personnel, who also emphasized that “God connection”, was critical to spirituality and health issues in mines. Sangomas viewed “personal identity” and “connection to God” as the most important elements in defining workplace spirituality and health. For the miners, “physical well-being,” “God connection,” “African traditional practices,” and “meaning” were the most important factors in defining spirituality and health issues at the workplace. Thus, “God connection” is rated by all four groups of stakeholders as the most important element in defining spirituality and health in the workplace, followed by “physical well-being,” “meaning” and “Ubuntu values” (connectedness to the community), “bible and prayer” (Spirit/Holy spirit), and “African traditional practices.” These findings indicate that “God connection” and “religion” are important variables in the proposed theoretical framework for workplace spirituality.

5.22.3 Experts/Captains of Industry

The outcomes of the interviews with mining captains were evaluated to establish if there were any links with the other findings and with the proposed theoretical framework for workplace spirituality. Some of the captains' responses are enclosed in the appendices in the Atlas ti. A former CEO of Anglo-American indicated that, while most of the issues raised affected miners, “mechanization errors”, “personal

values”, and “training” were the most important. The second respondent was a woman mine owner (and an African). For her, “connection with community” was the most important element. “Personal values” and “the nature of business” were the other factors to which she gave high ratings. Another interviewee, the former CEO of AngloGold Ashanti, also identified “personal values” and “connection with community” as the most critical factors in defining spirituality at the mines. He believed that both “legislation” and “monetary incentives” were key in safety matters. The CEO of the South African Broadcasting Corporation (SABC), who was included in this research because he was part of the group that formulated the Mining Charter, considered the most important factors to be “personal values”, “connection with God”, and “connection with community”.

A Board Member of Ingwe Mines identified the most important factors as “personal values” and “connection with community”. This Board Member also gave a high rating to “spirituality as a connection with God”, but nevertheless rated it below “connection to community” and “personal values”.⁶² Taken as a group, the captains' responses indicated that, for this population, the two most important values linked to safety at work (or its absence) are “connection with community” and “personal values”. These were followed by “legal” (union), “money-ism”, and “the nature of businesses”. Reichheld (1996) defines money-ism as an external motivation based on the exclusive pursuit of profit at the expense of building trust and care of workers in an organization. The other factors were insignificant, as indicated by the very low numerical values they were given by the captains. S. Pityana (personal communication, October 10, 2008) enumerated these factors.⁶³ B. Godsell (personal communication, October 10, 2006) concurred with Pityana citing that there are multiple factors that needed to be considered when evaluating mine safety.

⁶² Additional interviewees comprised: the former general secretary of the mine workers' union, a mine workers' union safety officers, social workers, a government Minerals and Energy (dme) representatives, as well as a Deputy Director General of dme, and a mine health and safety officer of dme .

⁶³ Pityana cited ‘Mechanization errors’, ‘nature of business’, ‘connection to God’, ‘legal/union’ (legislation), ‘training’ and ‘religion’ as relatively important, stressing their precedence over what he called “soft issues”, by which he meant anything unrelated to production and the bottom line.

5.22.4 Patient Care Values

In the proposed theoretical framework, “personal identity” and “Ubuntu values” were assumed to be related to workplace spirituality. In interviews with the medical and allied professionals, the researcher sought to establish the “proxy” values of spirituality (Zohar & Marshall, 2004, p.27) that this stakeholder group regarded as important in defining spirituality and patient care. The frequency count of the proxy values of this stakeholder group showed that “sacredness”, “sanctity of life”, and “tolerance” were of top priority. These were followed by “empathy”, “respect and equality”, “loyalty and honesty”, and “pragmatism”. “Love” and “compassion” were, surprisingly, regarded as relatively unimportant. In addition to establishing key values associated with workplace spirituality by this stakeholder group, these responses also reinforced the link between workplace spirituality and “personal identity” (values) in the proposed theoretical framework.

5.22.5 Spirituality and Health

The last part of the qualitative study concentrated on spirituality and health as perceived by all the stakeholder groups. For the miners’, the critical concept that most significantly explained spirituality and health in the workplace was “connection to God”, followed by “personal identity”, “community” (Ubuntu value), and “African traditional practices”. “Physical well-being”, “meaning”, and “bible and prayer” followed this second tier. “Personal identity” was a priority for the Sangomas. In general, across the stakeholder groups, it was observed that spirituality and health definitions were based on “connection to God”, “community/Ubuntu values”, “personal identity”, “physical well-being”, “African traditional practices” (salience), and “meaning”.⁶⁴ These qualitative responses support the proposed framework.

⁶⁴ The mineworkers' union did not contribute anything on this measure. A follow-up study might explore how mine unions perceive health and spirituality after their members have suffered spinal cord injuries.

5.23 SUMMARY OF THIS CHAPTER

Using the SPSS statistical package and the qualitative analysis software tool Atlas ti, the research data were analyzed both quantitatively and qualitatively. The quantitative results suggested that there is a positive relationship between the dependent variable, workplace spirituality, and the following independent variables: workplace safety (weak but positive relationship), God (strong and positive relationship), salience (strong and positive relationship), community (strong and positive relationship), personal identity (strong and positive relationship), meaning (weak and positive relationship), and physical wellbeing (strong and positive relationship). The correlations established the relationships, and the regression analysis identified the relevant factors that had causal relationship. The validity and reliability of the measurement instruments were confirmed by the high internal consistency of the results, suggesting that the tools were valid and reliable as measures.

These results were further supported by Atlas ti qualitative data analysis, indicating how even anecdotal information can be presented in a systematic manner for analysis. This information will be analyzed more fully in the discussion chapter. Further research might explore in greater detail the possibilities of comparing quantitative and qualitative outcomes using the Atlas Ti repertoire of a table of themes with primary documents and families of themes and quotations.

The researcher's decision to emphasize quantitative results precludes a fuller exploitation of the qualitative capacities of Atlas ti. This diminishes the methodological value of the research outcomes, since the researcher's initial intention was to combine quantitative and qualitative analysis in a more balanced way. It can nevertheless be deduced from the responses as analyzed that while physical health and psycho-sexual concerns represent major areas of concern for spinal cord injured patients, the need for community surpasses all other areas of concern identified by the injured miners. Their responses indicate that relationships with friends and spouses (i.e., their immediate community members) are important in addressing their need to talk and to be in community after being injured.

These needs were ranked above general health and money. The miners' emphasis on their need for community following spinal cord injury is consistent with their ranking of the attributes of workplace spirituality. The research shows that salience, meaning, God, and physical wellbeing, in this order of hierarchy, constituted their spirituality in times of tragedy.

The outcomes of this research form the basis of the discussion chapter, and of the conclusions proposed there.

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CHAPTER SIX: INTERPRETATIONS, LIMITATIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 INTERPRETING THE PROPOSED WPS FRAMEWORK BASED ON THE RESULTS

No words in our human language are accurately sufficient when applied to spiritual realities; Underhill sounded this caution as early as in 1937. This caution is still very apt today, as researchers seek to find definitional consensus and further explore what may constitute normative, descriptive and critical approaches to spirituality in the workplace (Legge, 1995). Thus in attempting to interpret the outcomes of the study in relation to the literature that was reviewed and other potential new literature, the researcher will take into cognizance the finiteness of any language and the infiniteness of spirit and spirituality as Underhill (1937), implied in the last century. This also implies that, in this section the researcher will need to further exemplify that spirituality as an emergent journey, can never pretend to offer exhaustive or complete agreement on what it is that constitutes it (*spirituality*).

In seeking to be true to the above, and to also address the theoretical and identified gap between theory and praxis, a methodical literature review was done, a research population was identified and assessed and [*its*] responses were analysed and presented in chapter 5. Firstly, the literature review took into cognizance the importance of narratives told by spinal cord injured miners and regarded these as authentic in revealing their existential realities. Secondly, in attempting to fully comprehend these narratives, the researcher begun a hermeneutical trajectory into the miners' context, both within their communities and at their workplace. Lastly, this process enabled the researcher to bring into mainstream academia, this under researched area of the plight of spinal -cord injured miners, their belief system, and their worldview. All these considerations, were explored as far as they had the potential to advance and contribute to our understanding of an African situated spirituality in the mining workplace and how this understanding could bring fresher and more humane perspectives into the field of workplace (*spirituality*).

Starting with a deeper appreciation and reflection of the miners' narratives, (Poole, 2009) that is, their struggle of who God is, what is meaning or what is life and community as well as pastoral care, in the midst of their pain and suffering, opened a window of opportunity into understanding what defined their communities and how they perceived their workplace. This appreciation and investigation further opened the possibility of exploring how these perceptions of mining workplace contrasted with the miners' worldview and their daily existential reality. The question became, is there a possibility for best fit, synergy, and /or openness to transformation by either worldview in this encounter?

As an attempt to address this and other research specific questions, a further rigorous hermeneutical trajectory, to gain deeper insights into the theoretical issues at hand, was undertaken. This time, the investigation was not aimed at the miners' existential reality but it concerned definitional issues, starting first with spirituality in general and then specifically, with workplace spirituality. In this deeper analysis of the trajectory of definitional issues, there emerged a path of three broad categories. These were labelled as the normative, descriptive and the critical approaches. These categories were assigned specific names in this research and used as 'lenses' into which writers in this field could generally be classified.

Relating specifically to workplace spirituality, three further dimensions emerged, namely, *transcendence of self*, *holism* and *harmony and growth*. These dimensions were used in seeking to explore definitional issues particularly for those organizations that were receptive to spirituality. A further exploration was done to consider what constituted the locus and focus of spirituality when dealing with organizational spirituality. This investigation highlighted a tension or a paradox, in that, the locus and focus of spirituality within organizations did not seem to converge. The researcher then sought to bring to bear the African worldview with the hope that it could foster a synergy and 'resolve' this possible incongruence.

The researcher firmly believed that the possible solution lay in exploring deeply what the miners' worldview was as well as what their workplace "worldview" consisted of and valued much? With this in mind, an exploration of the African and the Western

worldview became urgent. In this exploration, it became apparent that these two worldviews had different foundational values. The African worldview said to be more concerned about the needs of community while the Western one, more concerned about the individual and what they must attain. A way of conceptualizing workplace spirituality that did not deny this reality or demean the other had to be explored and developed in this multicultural global context. Following this 'definitional' hermeneutical trajectory, the researcher proposed a theoretical model to assist in framing such a workplace spirituality that took into consideration all of the above discussion.

The proposed model, suggested a workplace spirituality that is defined by the following variables: *God* (religion and salience), *meaning* (as it relates to locality or continuity and discontinuity), *physical well-being* (referred to as ADL, or activities of daily living), *relationship to community* (Ubuntu ethic), *workplace well-being and safety*, and finally, issues connected to *personal identity* (values and ethics). It thus became important that the usefulness or validity of this proposed model be assessed using both the statistical quantitative tools and the qualitative procedures.

The results of this investigation were presented and discussed in chapter 5. What Chapter 6 seeks to do, is to succinctly, evaluate the proposed model in the light of the results and the literature reviewed. This task is done in two steps, firstly, the overall quantitative results are discussed in order to critique the proposed model and lastly, the miners and managers results are specifically looked at, to further evaluate if any of their particular response, either quantitative and qualitative, were helpful in supporting (or not) the proposed model.

6.2 WHAT DOES THIS OUTCOME MEAN?

In sum, the quantitative outcomes presented in Chapter 5, affirmed workplace spirituality as connected mainly with two of the proposed six variables, namely, *God/religion/salience* and to *community/Ubuntu values*. The other four variables (*meaning, personal identity, personal well being and safety*) as suggested in the model

did not show statistical values that were high enough to generalise that they may be connected to workplace spirituality as proposed in the model.

On the other hand, the qualitative analysis of the whole research population supported the conceptualization of workplace spirituality as proposed in the study.

Based on these outcomes, an interpretation of the quantitative results, seem to refute definitions such as those advanced by Evans (1990) which suggest that (workplace) spirituality is concerned about the questions of who am I (identity) and what I must become (meaning, control and growth). In other words, this outcome does not augur well with palliative notions of workplace spirituality, that is, those which Williams, (2004) regarded as more focussed on interiority than being touched by the messiness of daily living.

Furthermore, it would seem that this outcome affirms a definition of spirituality that is more concerned about a value system that supports the Ubuntu ethic. In the literature reviewed, this ethic was said to be marked by the need to encourage participation in the decisions within the communal life. The foundational values for this Ubuntu ethic are furthermore marked by concerns for social equality, freedom, respect, sense of community, environmentalism and improved quality of life (Mbigi, 1997). Workplace spirituality that is connected to community thus has a locus and focus of promoting these values. This outcome can be further supported by what April & April, (2009), termed organization-individual bond, which takes seriously the role that individuals play within organizations.

Contrasted with the Western conceptualization of workplace spirituality, which was described in the literature review as capitalist, instrumentalist, consumerist and utilitarian in its objectives, it would seem that in the light of the results, miners are also critical of such an environment. The implication of this scepticism from miners' results, calls for Kiefer (1992)'s notion of the *metanoic* principle. This principle calls for an affirmation of more humane ethic and urge the Western conceptualized organizations as described above to undergo a change process or 'metanoia'. This process can be achieved by an honest encounter with and being vulnerable to as well

as opening themselves to the African worldview which is more accommodative in its conceptualization of spirituality.

These outcomes, can be interpreted to further critique the third 'lens' of the researcher's categorization of workplace spirituality, that is, the radical/transformational view. In this categorization, the writers are said to be 'suspicious of spirituality if it was religion repackaged, Carrette and King (2004). The miners' responses seem to however, strongly support workplace spirituality that is connected to *religion, God and salience*. The fact that all of them had permanent injury, could have had a bearing on their responses. They may have expressed in their responses a possible strong longing for 'religious miracles to happen and their permanently severed spinal cords be healed. There is also, however, within the African worldview, a strong religious focus, as (Mtuzze, 2003) suggested. He concluded in his book that religion played a significant role within the African worldview. Furthermore, most of the world population still regard itself as religious even within postmodernism. The African worldview can thus be useful in assisting those in postmodernism that reject religion in their spiritual journey.

This worldview can offer an alternative lens to look at the vexed question of religion and spirituality. As again, central to its belief system, it sees spirit and spirituality as life forces that permeate the whole of life, inhabit, and move through all things. (Mbigi, 1997). Most world religions would thus identify with this conceptualization not only because it is African but because it is expressed in their sacred texts and teachings and in these, God, as in the Christian Greek Bible, is described as " ... the One in whom we live and move and have our being".

The outcomes that affirm *God/religion /salience* as well as *community/Ubuntu values*, are pertinent for our discussion of organizations. They are more so, to those that were regarded as receptive to spirituality, especially those that were defined as partnering and enabling ones (Ashford and Pratt, 2003). It would seem that these and those that are not receptive to spirituality, would benefit by knowing [and allowing] that people want to bring their whole selves to work (Lynton and Thorgersen, 2009). The challenge thus for the mining industry in particular, and other organizations in

general, is to create space at work for workers to personalize their experience beyond the organizations' utilitarian objectivity (Legge, 1995; April & April, 2009).

Turning to the researcher's, proposed six variables that were said to be connected to workplace spirituality, the outcomes do not only negate the other four but begs the question of what is the content of these two variables that have been confirmed? Could perhaps, embedded in *Ubuntu/community*, variables, other smaller but significant factors such as *personal safety, personal identity and personal wellness*? Could we not find within this same variable (*Ubuntu/community*), meaning as a factor? The same questions applies to the variable, *God/religion and salience*. These questions point to the absurdity of attempting to quantify workplace spirituality in the manner proposed.

There are many smaller variables that by themselves will not account for workplace spirituality but when taken with others would. Perhaps a much more sophisticated statistical package than the SPSS could be used to replicate this study and explore what these possible variables can be. It is however, important even in doing a follow up study, to recall that the current researcher was at pains in using the reductionist and positivist approach to measure "a life force, and a sense of community" as key in defining workplace spirituality. Because of particular aims of this study, described in the motivation for the choice of the methodological approach, and in line with critical social theory, the researcher was resolute in utilizing what was at his disposal in seeking to analyse and overcome possible distortions imposed on the miners by the workings of power and domination in their context. (Habermas, 1988, Lukes, 2005).

Therefore, in the last two sections, 6.2.1 and 6.2.2 , the researcher returns to this question again and attempts to look at the results more closely to identify some of the possible content of Ubuntu ethic and religion from the miners results and the managers' results. In sum, the outcomes suggest that the researcher's definition (and model) of workplace spirituality for the African situated spinal cord injured miners, must be amended to reflect the outcomes of this quantitative analysis.

Accordingly, workplace spirituality can be defined as connected to *community/Ubuntu ethic*, [...its values, the meaning it provides for individual members and groups] and also connected to *God/religion/salience* – [...the space this believe and salience provide to those aspiring for going beyond instrumentality, and seeking transcendence to higher levels of existence, and those seeking to ensure that godly values in individuals and communities are not annihilated by capitalist ends but lead to human flourishing] (Welch, 1998).

This amended definition of workplace spirituality, brings an immediately value if located within the current global credit crunch context. It is not the researcher's intention to minimize the impact and hurt experienced by families and communities due to this financial global crunch. However, organizations will do well to review some of their foundational values. Workers may also need to be more vocal in raising the urgency of more humane values to be practised in their workplace. Mine managers and owners, in particular, will need to evaluate those driven by capitalist and consumerism values and explore the possibility of replacing these with humane and emancipatory ones. In the result sections, some of these possible values are provided as patient care values and in the literature review, they are also provided as 'proxies' of spirituality. In other words, the sole pursuit of 'bottom lines' and indirectly creating unsustainable environmental and livelihood need to be of concern to wealth creator, particularly in a context of global warming. Alternatives to greed and more as best as values need to be replaced by communal values and less is best type of value.

In sum, in the above paragraphs the researcher attempted to interpret the outcomes in the light of the literature in this field and with specific reference to the proposed model. This discussion drew out pertinent literature from that surveyed and sought to interpret only the quantitative results. In the next section, the researcher will now narrow this discussion from the broad theoretical issues. He will attempt to address the questions he raised earlier, that is, could some of the specific quantitative results suggest a possible content of or further relationships within the two broad variables (*God and Ubuntu ethic*) supported by the statistical outcomes? As the major part of the study included the active participation of the researcher with the research

population, it would complete the gestalt and the hermeneutic trajectory if the researcher does not researcher assumed a distant and clinical position that seems unaffected by the his active participation in the study. Recently development in research does allow some degree of self-disclosure as the researcher and the researcher will now to briefly share his context reality. This is vital, as the person of the researcher could have indirectly and unintentionally influenced both the data collection, analysis as well as the interpretation processes. Furthermore, depending on the category of writers that the researcher felt at home with, namely, the palliative, “via media”/inclusive or critical ones, my emphasis on what constituted spirituality would have been shaped as such.

The researcher is a South African who grew up in Alexandra Township and suffered forced removals in the early 1970’s, when the family moved to Soweto. He was educated at Wits in Science and Psychology and then in Theology. Later, he spent time in a clinical setting working with spinal cord injured miners as well as being a priest and later bishop. My personal spirituality was thus shaped by this journey. Likewise, each miner was shaped by his journey too, the study explored their spirituality, and how this could help us better understands what workplace spirituality was all about. Their small narratives mingled with my minute narrative and these lead to this study.

Thus reflecting on my own contextual reality and that of the miners, has affirmed the notion that spirituality is both an emergent journey but that it can be a rational and “quantifiable” concept. The outcomes and interpretation of these have surely been influenced by both my professional training in a positivistic research method and my existential reality. My reality is how irrelevant pursuing a ‘cause –effect is, when it comes to the pain of miners’. However, if you have to do this in order to tell the whole narrative, do so.

Therefore, finding out what constituted the spinal cord injured mineworkers’ spirituality and their perception of the mining workplace became a tight robe on which I trod in pursuing throughout this study. In psychological therapeutic intervention, there is the other positivistic caution, called counter- transference.

Counter-transference in broad strokes means, avoiding disclosing yourself so that your identification with the patients' trauma does not evoke your own feelings and thereby negatively affect the therapeutic process. Critical social theory as was shown in this study, contradicts this. In disclosing the researcher's context and identity, the aim in this discussion section, is to further analyze this clinical and uninvolved position. In other words, this self-disclosure and awareness, is thus critical particularly, when advancing a combination of the reductionist and positivist task in combination with an emancipatory approach. In doing this and throughout the study, the researcher was aware of the lack of 'orthodoxy' in methodological stern choices that faced him. At the core of this current study, the researcher's deep concern for the safety and well-being of the men who are working, with great risk to themselves, to fuel the engine of capitalism and the a desire to bring the African context into the academic discourse on workplace spirituality, gave a bigger perspective.

Throughout the study, it was important to ensure that rationality did not to obscure the conflict, the struggles and messiness of everyday life of spinal cord injured miners. It was yet also vital that the study did not become another anecdotal and interesting view of the miners' concerns. In some fields, this dichotomy is possible but in the study on spirituality and in this research, it became apparent that treating workplace spirituality as either belonging to the qualitative or quantitative approaches was artificial. If spirituality was regarded as in the African worldview, as being in all things and under girding all things, how possible was it to just describe it or only to quantify it only? A study on spirituality needed to transcend, even in its conceptualization any 'atomization' or the dichotomy of quantitative and qualitative, or the sacred and secular as well as the techno-economic and the humane. Thus, the study becoming too broad which is a criticism of pursuing such a proposal?

In the next sections, the researcher will attempt to succinctly draw out and interpret the meaning of these findings with specific reference to whether there is any further data that can account for the proposed model by the miners and mine managers as well as identify any possible gaps that may exist in both the literature surveyed and in the outcomes as the study draws a conclusion.

6.2.1 Spinal Cord-Injured Miners

A further closer evaluation of the miners' responses, suggest that the outcomes of the statistical tools on this communitarian workplace spirituality should be teased into finer details. It is not the researcher's aim to do this perhaps a further study can explore this in detail. However, it is important for example, to take the results of workplace spirituality as connected to *God/religion* and unpack this in the light of the miners' responses. In the African worldview, and in its conceptualization of African spirituality, the sacred is not understood as separate from the secular because all the rhythms of daily life are regarded as spiritual (Mtuze, 2003; Mbigi, 1997; Ndiaye, 1999; Mbete, 2006). This result showed that although using a statistical tool, SPSS, the influence of personal wellbeing, safety, and values may have not been significant, however, the qualitative and anecdotal input suggest that the miners viewed these as important. It is furthermore possible that some of the miners did not understand any question that sought to differentiate these, say healing from God/religion or God from community. This is, furthermore congruent with Mtuze's (2003) notion of the role that religion plays an important part in the miners' perception of healing. In their worldview, spirituality is not atomistic but rather transformative, and it is related to the whole of life.

Supporting the above view on healing and further linking it to the second statistically significant variable, the *community/Ubuntu ethic*, (Mtuze, 2003; Nurenberg, 2007; Mosala, & Tlagale, 1986), further remind us that within the African and transformative worldview, healing is not about the individual's idiosyncratic personal search for inner transcendence or meaning as well as personal well being (Gibbons, Legge, 1995). Healing of the individual is directed to the whole community. In effecting healing, the individual and the healer offer an oblation on behalf of the community and the community joins in the ceremony for its own cleansing or healing. That is why in the results, the miners thus showed that they readily accepted their injury if they were allowed to participate in, felt connected to, and perceived themselves as accepted by, their community. This is further congruent with how miners would have been nurtured, that is, in a context wherein they frequently

appeared the 'spirit' for protection against injury or hurt as part of their and communal spiritual development.

Thus their finding supports the notion that when they felt connected with the generous and caring spirit of their communities – a spirit that is in direct contrast to the spirit of capitalism – they accepted their permanent injury better (Tutu, 1999; Mbigi, 1997, 2000). In the literature reviewed, Reder's (1982) account of connectedness with others and a sense of community, both of which play important roles in workplace, further support this finding.

The miners' outcome did not reveal the high importance that the researcher had placed on *self-identity, personal safety and wellness* but it is important to point out that on the question of the relationship between injury acceptance and self-acceptance, most miners felt that these were related. This does affirm that a positive sense of self or self-actualization plays a significant role in helping the miners to internalize their injured state (Kinjerski & Skrypneck, 2004). This may not have played a role in their understanding of spirituality but it is important to bear in mind when dealing with recently injured miners, who are still struggling to understand why the accident befell them. Therapist in rehabilitation hospitals tends to want injured spinal-cord miners to reach this state rapidly. The results suggests it acceptance of injury is related to the miners' community more than it is related to therapeutic process or a healing wound following a sutured scar.

Finally, the result of employer usefulness and the miners' injury acceptance was incongruent with the researcher's expectation of a higher outcome. The researcher had expected that, as most of the literature suggested, that an organization with perceived shared values (values-based) (April & April 2009), would be more likely to foster loyalty than one driven exclusively by profits (money-ism) (Renesch, 1992; Reichheld, 1996). It would seem that the capitalist emphasis on materialism and rewards is deeply ingrained in the miners. In the next section, the researcher looks at the mine managers' outcomes and attempt to interpret them in the light of this study.

In sum, the results further implies that in workplaces experienced as degrading by workers, the employer also felt degraded. These are disturbing findings for both management and labour, especially in an economic climate that cannot sustain the losses in productivity that inevitably issue from serious dissatisfaction in the workplace.

6.2.2 Mining Managers

The researcher believes that the trends revealed by the interconnections between the managers' variables clearly indicate that mine managers understand that a human-centric approach to worker relations is central to the Ubuntu concept. Again, it must be emphasised that the questionnaire evaluated the managers' understanding of, and agreement with the Ubuntu ethic in principle, rather than their self-assessment in terms of applying its values in the mining workplace.

In chapter 5, the researcher stated that although relationships could be established between the variables, the results did not yield compelling evidence that causation effects exist between the variables. This outcome was further investigated statistically using, factor analyses to establish if the underlying variables in the managers' responses could in fact be defined by a small set of variables. This analysis provided some clues about the variances in the managers' responses.

Briefly stated, these outcomes indicated that managers, particularly, within the mining industry, should focus on the following key factors in order to manage with the Ubuntu ethic: personal values, communication, leadership humility, leadership and respect, employee responsibility, and no retribution when employees are honest with management and the implementation of organizational values. It is important to bear in mind that these factors do not directly contribute to the evaluation of the framework, but rather indicate how the mine managers evaluated themselves in terms of Ubuntu managerial praxis. However, a quick look at the themes that emerged from this analysis, suggest some synergy between the Ubuntu ethic from this questionnaire and the Ubuntu ethic and values associated with the practice of religion in the miners'

responses. This possible relationship needs to be further investigated by subsequent study.

In sum, the managers' outcomes support a workplace that upholds Ubuntu values such as respect, humility and fairness as opposed to punitive, retributive. The miners' quantitative data accounted for the African-situated communitarian model, as connected with Ubuntu/Community and the variable of God/the practice of religion. The miners' qualitative outcomes, especially on the hierarchy of their needs, the sangomas and pastoral care group, seemed to agree on what constituted the 'proxies' of workplace spirituality or what the medical and allied called patient care values. These results are consistent with the literature reviewed that defined spirituality as connected to religion, personal values, meaning, community and safety and treated as a whole appear to support the proposed model for workplace spirituality.

In the next section, the researcher offers concluding comments. It is impossible to offer a finite position in this emergent field hence the choice of the phrase conclusion and spiritual charge.

6.3 CONCLUSION AND SPIRITUAL CHARGE

In developing his theoretical argument, the researcher has appealed to African concepts of spirituality to critique Western, deficit notions of individualised and consumer-oriented spirituality. The African worldview presented emphasises Ubuntu, community-focused values, and a religious understanding wherein the sacred and the secular are consistent with each other. The researcher has also cited Article 25 of the United Nations Universal Declaration of Human Rights in support of the rights of spinal cord-injured African mineworkers to an adequate standard of health and well-being for themselves and their families, and to security in the event of unemployment, disability, or the lack of livelihood due to circumstances beyond their control.

The researcher has also given an account of his own intellectual development, from the positivism of his early training in scientific research, to his growing dissatisfaction with a purely quantitative and ostensibly objective scientific methodology. This

dissatisfaction led ultimately, in his theological training, to the embrace of an emancipatory and transformative approach that privileges context and qualitative analysis. He has not, however, completely abandoned his scientific training, particularly given the need to provide greater scientific clarity in the academic field of workplace spirituality. Without such methodological rigour, the study of workplace spirituality in the researcher's African context risks dismissal as mere qualitative sentimentality that is unable to address issues of conceptuality. The current research is an attempt to open a theoretical space for the encounter between spiritual values and instrumentality, that is, for the interplay of the pseudo-objectivity of positivism and the qualitative spiritual experience of injured miners whose reality cannot ultimately be "measured."

6.4 LIMITATIONS OF THE RESEARCH

It is thus important to acknowledge the limitations of this research, both in terms of its methodology, and in reference to the research-specific difficulties encountered. The researcher's use of multiple statistical methods has some well-known pitfalls. The types of errors that are common in descriptive statistics (one of the approaches used during this research) have to do with standard deviations. In the linear regression equations, errors can be detected through coefficients as percentages on the loader values. These parameters, shown in percentages, indicate how much of the relationship between independent variables and the dependent variable has been explained. The unexplained parts, given by *the 1-R2* aspect during calculations, are not accounted for in the equation and are assumed to be a result of certain variables in the instrument measuring other constructs not included in the framework. The best way to deal with such issues is to use exploratory factor analysis to investigate further the importance of the unaccounted variables. However, given that this research was primarily focused on the development and testing of a theoretical framework, rather than on the generation of statistics, factor analysis of the unaccounted variables has been left for future research emphasising statistical analysis.

Another potential limitation to the current research was the difficulty in measuring all the variables in the framework at the same time, largely because the study deployed

many questionnaires in its data-gathering apparatus. The Miners' and Ubuntu questionnaires were relied upon mostly for quantitative information, while the remaining questionnaires were used for qualitative information. The results would therefore have been more meaningful if all results from the different questionnaires could have been checked for completeness.

The findings nevertheless confirmed the claim that spirituality is indeed influenced positively by the factors in the hypotheses. The hypotheses were tested by assessing the statistical significance of the coefficients on the independent variables, and the extent to which the regression model could be relied upon. R^2 validated the percentage of the information that had been accounted for in the framework. The significance statistics were interpreted in terms of the t -values, and showed good and acceptable levels.

The types of errors that could occur in testing the hypotheses are type one and type two errors. A type one error arises when a null hypothesis is rejected when it is true. The probability of a type one error is the level of significance of the test of the hypothesis. A type two error occurs when one rejects the alternative hypothesis in favour of the null hypothesis. This research addressed these potential errors by considering both the quantitative and qualitative results in depth, and by comparing the results systematically. In so doing, it demonstrated that the final results were highly reliable. In order to avoid removing important factors in the analysis, exploratory factor analysis might be used in subsequent research. In the current research, only confirmatory factor analysis (CFA) was used, because the validation of the actual results could be achieved by other measurement instruments.

6.5 IMPLICATIONS

Drawing on multiple definitions of workplace spirituality, this study sought to define, conceptualize, and measure workplace spirituality in an African workplace. The specific workplace context chosen was the South African mining sector, because: (a) the mining sector is the largest employer in South Africa, and (b) spinal cord-injured

Black, male South African miners could provide an excellent microcosm for rethinking the workplace spirituality (WPS) construct.

The mining sector was also chosen for this work because of the researcher's interest in and involvement with spinal cord-injured Black miners as a clinician over a period of six years in a mine rehabilitation hospital. This experience highlighted a problem that moved the researcher to reflect deeply on spirituality in the workplace, and also on the socio-economic situation with which miners' must contend, especially after serious injury in the particularly dangerous terrain of gold mining. These reflections led to the current investigation of workplace spirituality in the South African mining context, a context characterized by multiple understandings of spirituality, and by growing tensions between the situated reality of mineworkers, their families and communities on the one hand, and the increasing pressure on management to conform to the demands of capital markets on the other. This situation exemplifies the cultural/expectation clash between Western-style business and African cultural reality. The study therefore sought to locate its findings in an African cultural paradigm of the south.

One of the theoretical premises of this study is that the African worldview defines spirituality in terms of a self-identity that is communal rather than individualistic. Based on this theoretical understanding of African spirituality, as well as his existential and lived reality in South Africa, the researcher developed a theoretical framework for workplace spirituality. Both quantitative and qualitative analyses of the research data indicated that there is indeed a positive relationship between workplace spirituality and these independent variables.

There is thus evidence that the researcher's theoretical framework for WPS has implications for both the definitional clarity and the validity of the construct of workplace spirituality. The research findings could benefit both researchers in the field of management and practitioners in the mining industry, as well as pastoral care workers and medical and allied professionals working in this sector. The research also has implications for those who train leaders and managers, pastoral care workers, and members of the medical professions who work with African miners. It is

essential that these professionals receive cross-cultural education, particularly regarding the spirituality of the workers they serve and lead, the vast majority of whom are males operating within an African worldview. The researcher encourages them to learn to appreciate the principal elements of the spirituality of their mine workers: meaning, identity, community, God, safety, and values.

The WPS framework proposed and tested in this research could well have relevance in other economic sectors – for instance, fishing, construction, and forestry – in which many ‘local peoples’ must undergo the risk of spinal cord injury to gain their life-sustaining employment. Other workers at special risk for spinal cord injury would include farmers (tractor accidents) and athletes (e.g., rugby players). Indeed, the WPS framework could be extrapolated to the general population who sustain spinal cord injuries from gun shots related to crimes such as car hi-jacking or robbery, or to soldiers and civilians injured during wars.

The particular relevance of this research, however, is to the workplace, and its central message is aimed at business people. The study may have an impact on businesses in the United States, the United Kingdom and Europe more broadly, where there are already established movements to make the workplace more humane. It has a special relevance to nations in the developing or “two-thirds” world, particularly, of course, other African nations. In the current harsh and unstable economic climate, it is important to demonstrate to business people that making the workplace more humane does not entail the complete rejection of instrumentality or the bottom-line need to realise profits. It is the researcher’s hope that his consistent application of scientific rigour to the study of a complex and immeasurable human attribute (spirituality) has demonstrated that quantitative and qualitative approaches can indeed be implemented together in the workplace.

6.6 RECOMMENDATIONS FOR FUTURE WORK

The research exploration drew from several other stakeholder groups in addition to the African spinal cord injured-miners who are its primary subjects. This multiplicity of research populations affected the depth of the analysis and the accuracy of the

model prediction. For example, the variables LA (Leisure Activities), EU (Employer Usefulness), and SA (Self-Acceptance) did not have sufficiently important statistically significant values to cause variations in the dependent variable, and therefore could have been discarded. They were, however, found to be highly related to variables in “meaning” in the Ubuntu questionnaire. In future possible studies, therefore, the miners’ measuring instrument can be revised to explore the validity of these variables in defining workplace spirituality, in order to overcome potential type one errors that might otherwise go unnoticed.

Future studies can also potentially investigate factors that did not load well on the dependent variable or those that were indirectly measured. In some instances, the qualitative results of the current research did not strongly agree with the findings of the quantitative results, and these too require further investigation.

The current research was focused on the gold mining context of the Southern African Development Corporation (SADC) region, and dealt exclusively with injured mine workers. It might potentially be replicated within SADC for other forms of mining, and to include uninjured miners. The research might also be broadened beyond the SADC region to other parts of Africa, and to Europe and other Western countries where it is assumed that miners work with advanced machinery. There may be some interesting parallels with the East as well (Horwitz, Kamoche, & Chew, 2002). A longitudinal study contrasting these different contexts might be undertaken.

The comparison with the April and Ephraim (2006) Ubuntu managerial study further highlighted the need for a follow-up study involving mine managers from different countries, different companies, different cultures and religions so as to evaluate further the Ubuntu attributes of these managers. There could also be an exploration of the effects of gender on Managing Directors’ perceptions of safety and spirituality, as only one of the twelve Managing Directors surveyed in the current research was female.

The populations of Managing Directors, medical and allied professionals, and Sangomas were much smaller than those of the miners and pastoral care workers who

contributed to the research. A further study might potentially replicate this study with a larger sample size of these populations. In particular, Sangomas or African indigenous healers are different across Africa. The study indicates that the injured miners regard them as supportive. A further study might explore a comparison between the impact of Sangomas within South Africa and that of traditional, indigenous healers in other contexts.

Additional research might conduct a longitudinal pre- and post-test study of the workplace spirituality of re-employed spinal cord-injured miners, their performance at work, and their self-perception after being re-employed. In terms of perceptions on healing and safety, issues of sexuality and HIV/AIDS emerged in the miners' results as important variables in defining mine safety. Further research on workplace spirituality and safety in the mines might explore the importance of these variables.

The study was ambitious in its choice of a "mixed methodology," that is, in using both quantitative and qualitative approaches. This choice may potentially have limited the depth of the research, which might have been greater had the study privileged one or the other of these approaches. A further study might replicate this research using a quantitative or qualitative approach exclusively. In terms of methods and procedures, the current study used five instruments to gather data across different stakeholder populations. A follow-up study might use a single instrument only. This instrument would be composed of the variables identified as important for defining workplace spirituality in the current study in order to "measure" this construct across all the stakeholder groups.

Business ethics was not the focus of this research study. In consideration both of the literature review and the questions wherein the respondents were asked to list and rank what they perceived as key ethical principles ('proxies' of spirituality in this research) in their dealing with injured miners, however, it is acknowledged that the appropriate aspects of business ethics could have been brought more into the study and its conclusion. The research, although it showed moderate and positive outcomes of the relationship between personal identity (defined as values and ethics in this research) and organizational values, points to the need to develop a study of the

alignment between the ethics of individuals and organizations, an aspect this study failed to pursue.

Moreover, as a pastor and educator, the researcher acknowledges that he neglected to explore what this study could have yielded in terms of new pedagogical approaches to workplace spirituality as a collaborative and multicultural area in the field of management. Further research can explore the possibility of this synergy, and develop a curriculum in critical management that involves a collaborative, inclusive and broadly-based pedagogy.

Finally, in attempting to draw from and include the vast and broad literature on workplace spirituality, the current study ended up being quite broad itself. A narrower stakeholder-specific follow-up study might evaluate, for example, whether correct safety policies alone can increase mine safety and work productivity, or whether workplace spirituality is indeed a necessary or even primary factor in improving safety and productivity in the mining context.

6.7 SPIRITUAL CHARGE TO THE MINING INDUSTRY

This research ultimately calls on the mining sector to acknowledge and include in its workplaces an African-situated spirituality that more relevantly draws from the “indigenous well.” Such spirituality has, over the ages, been revolutionary in its resolve to sustain and uphold the dignity of all human beings, regardless of background, by respecting the human need to be connected in, and through, a community. At its base is an appreciative and generous concern for the spiritual care of all people. This African spirituality stands in stark contrast to the instrumental and transactional underpinnings of capitalism.

In this regard, the researcher presents a caution to the mining industry. The primary purpose of this research is to serve the cause of the injured miners. If it is merely used by mining companies to harness the spirituality of miners for their own capitalist ends, it will have betrayed its purpose and deepest motivations. Rather, it calls upon the mining sector to make manifest forms of human organisation that the mining

workplace lacks, that is, to work toward a transformed place of employment that does not pretend to substitute itself for the communities or families of its workers, but rather, takes into account and reflects their communal and family values. If the miners' existential reality is disregarded, spirituality at the place of work will simply become another tool for their exploitation – a means of extracting not only their physical labour, but even their spiritual resources.

The researcher thus calls on all levels of the mining sector to take seriously the connection to God, to community, to personal identity, and to physical well-being identified in this research as the principal elements of the spirituality of injured African miners. In particular, the mining sector must recognize that, for African mine workers; mine safety is largely a spiritual matter. Without neglecting other important factors such as legislation, training, geology, and technology, the mining sector must learn to appreciate its workers' spiritual understanding of mine safety. Indeed, all those working with injured miners – managers, the medical profession, and community pastoral care workers – need to take stock of the spiritual dynamism of injured African mine workers if they are fully to rehabilitate them and re-integrate them into their respective communities.

The South African mining sector is well positioned to take the lead in social engineering as the nation seeks to create a just social order. It need not be the prisoner of an increasingly outmoded economic system that benefits the few and maintains great disparities in the world. The researcher has emphasised that the 'spiritual life is a stern choice' (Webber, 2006, p.7). There are stern choices that the South African mining sector needs to make; for example, the creation of more 'non-marginal' mines that is community-owned and directed. There are stern choices that the researcher needs to make in post-doctoral publication regarding his choice of theoretical paradigm and his full embrace of an emancipatory approach over a less sophisticated framing of workplace spirituality in terms of 'cause-and-effect' positivism.

There are stern choices that legislators need to make in a democratic South Africa, especially as they issue mining licenses. Legislators' must ensure that those who

obtain these licenses are motivated by more than a simple desire to generate profits. Those granted mining licenses must also demonstrate their determination to end the enslavement of Black men to the vagaries of an unstable and increasingly chaotic global economy.

Ultimately, then, the call of this research is to recognise that spirituality is a human rights' issue – an issue of justice in the face of exploitation. An emancipatory understanding of workplace spirituality has tremendous potential for the transformation of the South African workplace. It is the researcher's hope that this research will stimulate companies to recognise and embrace this potential, even as it offers them a theoretical framework and the research data to realise it.

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University of Cape Town

APPENDICES

APPENDIX 1: MINERS QUESTIONNAIRE

Miners Questionnaire

This is anonymous. Please select only one answer, except where specified.

A. Biographical information

1	Name (optional)	Gender:	
2	Date of birth (yyyy.mm.dd)	Nationality:	
3	Level of education: Grade	Standard	Other
4	Marital status: Married	Single	Divorced
5	Number of children:	5.1 Before injury	
		5.2 After injury	
6	Accommodation:	6.1.1 Rented	6.1.2 Own house
		6.2 In hospital	
		6.3 In an institution	
		6.4 Other	
7	Residential area	Urban	Rural Suburban

8. *In your own view, do you think mines are safe enough to work in?*

YES	NO
-----	----

Please explain why YES

or why NO

9. *If you could effect changes, what would you do to make the mines safer?*

B. Information on injury

10.1 When did you suffer from the spinal injury? Date:

10.2 How did you get injured?

- a. Mine rock-fall
- b. Mine locomotive accident
- c. Stab/ gun wound at mine

11. What is the level and extent of your injury (paralysis)? e.g.

Higher-level lesion - C...?

Lower level lesion - T ... or t...?

And/or

Complete quadriplegic

Incomplete quadriplegic

Complete paraplegic

Incomplete paraplegic

12. Duration of your handicap (how long have you been living with your paralysis)

Years: _____

13. When did you first receive counselling?

- a. For your socio-emotional issues
- b. For your psychosexual concerns

E.g. immediately after the injury; at hospital during rehabilitation; never

14. What sort of healer(s) do you go to outside the clinic/ hospital, and why?

List healers	Reason for going to healer

15. Does your religion play a part in your healing?

YES	NO
-----	----

Explain how so:

16. Does spirituality play a part in your healing?

YES	NO
-----	----

Explain how so:

17. How do you nurture your spirituality?

18. Are you satisfied with the current situation concerning your handicap?

1. Very dissatisfied	2. Relatively dissatisfied	3. No opinion	4. Relatively satisfied	5. Very satisfied
----------------------	----------------------------	---------------	-------------------------	-------------------

University of Cape Town

C. Information about employment

19. Do you earn an income with any job?

YES	NO
-----	----

20. Are you satisfied with your current situation concerning employment?

1. Very dissatisfied	2. Relatively dissatisfied	3. No opinion	4. Relatively satisfied	5. Very satisfied
----------------------	----------------------------	---------------	-------------------------	-------------------

21. Are you satisfied with how your employers assisted you during your injury?

1. Very dissatisfied	2. Relatively dissatisfied	3. No opinion	4. Relatively satisfied	5. Very satisfied
----------------------	----------------------------	---------------	-------------------------	-------------------

University of Cape Town

D. Information on social life

22. *Are you satisfied with your social life, including friends/ volunteer activity?*

1. Very dissatisfied	2. Relatively dissatisfied	3. No opinion	4. Relatively satisfied	5. Very satisfied
----------------------	----------------------------	---------------	-------------------------	-------------------

23. *Are you satisfied with your cultural situation including religion/ art/ school/ spiritual life?*

1. Very dissatisfied	2. Relatively dissatisfied	3. No opinion	4. Relatively satisfied	5. Very satisfied
----------------------	----------------------------	---------------	-------------------------	-------------------

24. *Are you satisfied with your leisure activity including sports/ travelling/ hobby?*

1. Very dissatisfied	2. Relatively dissatisfied	3. No opinion	4. Relatively satisfied	5. Very satisfied
----------------------	----------------------------	---------------	-------------------------	-------------------

25. *Are you satisfied with public administration of your community?*

1. Very dissatisfied	2. Relatively dissatisfied	3. No opinion	4. Relatively satisfied	5. Very satisfied
----------------------	----------------------------	---------------	-------------------------	-------------------

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E. Information on personal relationships

26. Are you satisfied with your family relationships?

1. Very dissatisfied	2. Relatively dissatisfied	3. No opinion	4. Relatively satisfied	5. Very satisfied
----------------------	----------------------------	---------------	-------------------------	-------------------

27. Do you talk about your sexual life with anybody?

Yes: (with multiple answers):

- 1.1. Spouse or partner
- 1.2. Friends
- 1.3. Hospital staff
- 1.4. Other: _____

No... because:

- 2.1. Immoral
- 2.2. Too personal
- 2.3. Shameful
- 2.4. No way for settlement
- 2.5. Other: _____

28. What is your sexual activity?

- 1. No sexual life
- 2. Intercourse
- 3. Kissing
- 4. Masturbation
- 5. Erotic magazines/ video
- 6. Psychological relationship
- 7. Other: _____

29. Are you satisfied with your sexual life?

1. Very dissatisfied	2. Relatively dissatisfied	3. No opinion	4. Relatively satisfied	5. Very satisfied
----------------------	----------------------------	---------------	-------------------------	-------------------

If you answered (1) or (2), because:

1. No partner
2. Too severely disabled
3. No orgasm
4. Housing matter
5. No way for having child
6. Other: _____

30. What do you request from medical staff, TEBA etc?

1. Offering the latest information
2. Establishment of sexual counselling
3. Development of medicines/ apparatus
4. Prefer not to mention
5. No opinion
6. Other: _____

31. Please, indicate your three most important life areas

1. Family relationships
2. Spiritual areas
3. General health
4. Social life
5. Recreational activities
6. Money matters
7. Employment
8. Sexual life
9. Politics
10. Other: _____

6. Bathing/ Taking shower

- () You can
- () You cannot

7. Bladder management

- () Established * including established self-catheterisation/ device care
- () Partly established * 1-2/ month incontinence or non-established self-catheterisation
- () Not established * 1-2/ week incontinence

8. Bowel management

- () Established
- () Partly established * 1-2/ month incontinence
- () Not established * 1-2/ week incontinence or require assistance for enema/ suppository management

9. Standing up from/ Sitting down on chairs

- () You can * railings are acceptable
- () You can partly * require some assistance
- () You cannot

10. Transferring for a chamber pot in lavatory

- You can
- You can partly
- You cannot

11. Transferring to a bathtub

- You can * railing, crutches are acceptable
- You can partly * require assistance
- You cannot

12. Walking

- You can * railing, crutches are acceptable
- You can partly * require little assistance
- You cannot

Persons who cannot walk:

Driving wheelchair:

- You can
- You cannot

13. Going up (down) stairs to 1st floor

- You can * railing, crutches are acceptable
- You can partly *require little assistance
- You cannot

**APPENDIX 3: SPIRITUALITY AND SAFETY PERCEPTIONS
QUESTIONNAIRE**

1. Age: _____

1. Profession: _____ How long in profession: _____

2. *What values does your profession uphold in patient care? List them.*

4.1. What personal values/ philosophy do you uphold in patient care? List them.

4.2 How would you describe your own spirituality?

5. Does your spirituality play a role in your current profession?

YES. How so?

Or

NO. Why not?

6. What is your view about the safety of South African mines?

7.1 What are the key ethical considerations that you encounter often in your work (profession)?

List at least five:

1. _____

2. _____

3. _____

4. _____

5. _____

7.2 In dealing with these ethical issues, does your spirituality or understanding thereof come into play?

YES	NO
-----	----

8. If yes, explain how:

9. Do your ethics and spirituality affect the way you treat your patients?

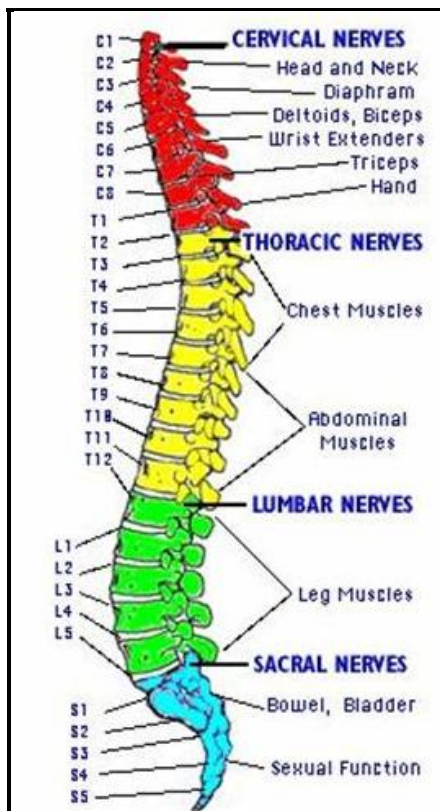
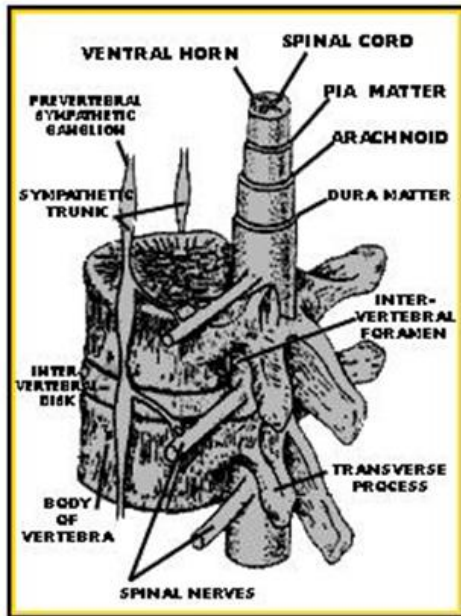
YES	NO
-----	----

If Yes, why so?

If No, why not?

10. If you could change the place of work in the mine to make it safer, what key things would you change?

APPENDIX 4: SPINAL CORD FUNCTIONS AND DIAGRAM



A brief commentary of how other spinal roots function is critical at stage before discussing the T12/L1, which the majorities of miners who have these low velocity and high impact injuries are affected at.

Sections of the Spinal Cord and associated functions

ROOT	MUSCLES	FUNCTION
C4	Diaphragm	Breathing
C5	Deltoid Biceps	Lifts arms side ways Bends below
C6	Triceps	Straightens elbows
C8/T1	Hands and fingers	
T2-T8	Chest Muscles	
T6-T12	Abdominal muscles	
L1-L2	Hip muscles	
L3-L4	Knee muscles	
L4-L5	Ankle muscles	
S1	Leg muscles	
S1-S2	Toe muscles	Standing and balance
S2 and below	Anal, bladder and sphincters	Bowel and bladder function

Spinal Injuries Association (May 1995); www.spinalinjury.net; Rutwoski et al. (1995)

APPENDIX 5: UBUNTU QUESTIONNAIRE

Integrating African Modes of Leadership (e.g. *Ubuntu*, *community taking precedence over the individual*, *sharing of finances*, *consensus*, *etc.*) into our current dominant Anglo-Saxon Modes of Leadership within our organisations

African Modes Of Leadership Includes:

Ubuntu, which literally translates to mean, “I am who I am through my interconnectedness with others, calling on us to believe and feel that:

Your pain is my pain,

My wealth is your wealth,

Your salvation is my salvation.

Instructions: Please respond to the statements below by rating them from 1 to 5

1 indicates strong disagreement

2 indicates disagreement

3 indicates neutrality

4 indicates agreement

5 indicates strong agreement

1. The organisation fosters a need for common security through wealth/ profit/ bonus sharing and the provision of basic services (e.g. medical aid, education/ training, etc.).

| 1 | 2 | 3 | 4 | 5 |

2. Individuals are free to express opinions and dissention.

| 1 | 2 | 3 | 4 | 5 |

3. Leaders in the organisation *earn* rather than *command* the respect of their followers.

| 1 | 2 | 3 | 4 | 5 |

4. Leadership commitment in the organisation is strong.
| 1 | 2 | 3 | 4 | 5 |
5. The company as a whole is a united organisation.
| 1 | 2 | 3 | 4 | 5 |
6. Executive management personifies the values of the organisation.
| 1 | 2 | 3 | 4 | 5 |
7. Management communicates *with* rather than *to* employees in an inclusive and transparent manner, creating trust and shared understanding.
| 1 | 2 | 3 | 4 | 5 |
8. Employees are responsible collectively to ensure that company policies and procedures are followed.
| 1 | 2 | 3 | 4 | 5 |
9. Employees do not receive retribution for comments made in an open forum.
| 1 | 2 | 3 | 4 | 5 |
10. Tension between management and employees is a reality in the 10 organisation.
| 1 | 2 | 3 | 4 | 5 |
11. Management practices reflect a participative and open approach, resolving conflicts through skilful mediation and dialogue until agreement is reached.
| 1 | 2 | 3 | 4 | 5 |
12. Everyone in the organisation has a right to review (or question) policies and procedures.
| 1 | 2 | 3 | 4 | 5 |

13. Employees in general follow management directives out of a sense of *duty* and a genuine belief in the directives rather than out of a sense of *fear*.

| 1 | 2 | 3 | 4 | 5 |

14. Employees in general personify the values of the organisation.

| 1 | 2 | 3 | 4 | 5 |

15. Executive management attitudes reflect the state of unity of the organisation.

| 1 | 2 | 3 | 4 | 5 |

16. Leadership commitment stems from the desire to meet promises in a caring and sustainable manner.

| 1 | 2 | 3 | 4 | 5 |

17. Leaders and managers assume their place in the hierarchical scale with humility.

| 1 | 2 | 3 | 4 | 5 |

18. Leaders in the organisation manage and are guided by consensus, maturity and reconciliatory skill.

| 1 | 2 | 3 | 4 | 5 |

19. The organisation fosters a commitment to help one another in a spirit of unity rather than individual self-determination.

| 1 | 2 | 3 | 4 | 5 |

20. Employer/ employee relations are based on humanity, dignity, compassion and communal relations.

| 1 | 2 | 3 | 4 | 5 |

Please provide the following information about yourself

Gender M F

Age

Current and Prior Qualifications

Total Years of work Experience

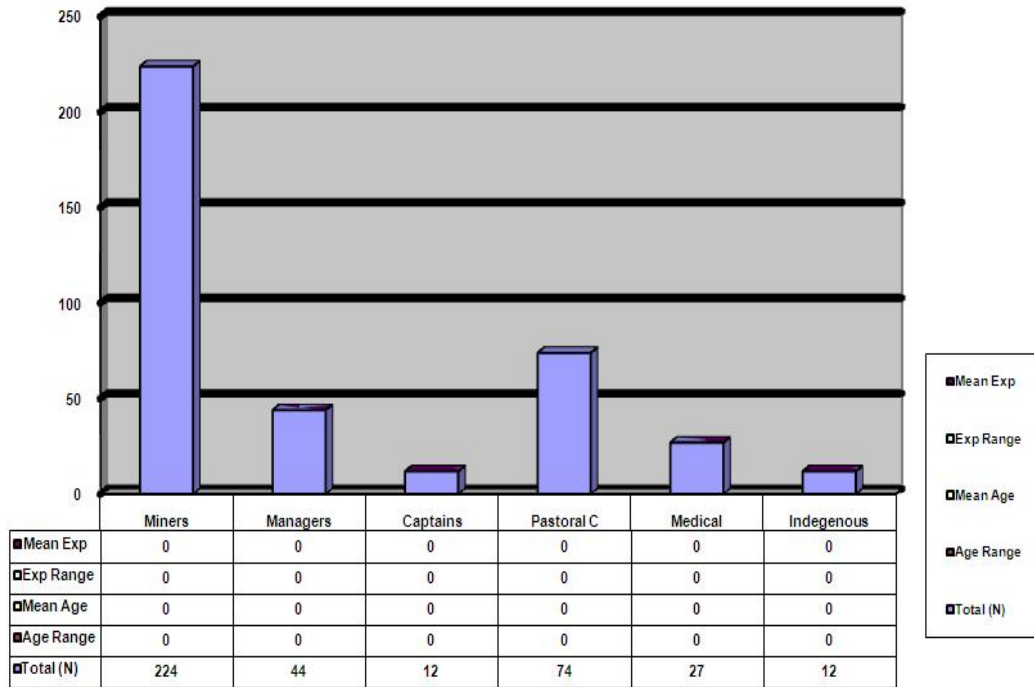
Organisational Position

Industry

Nationality

Thanks for your co-operation.

APPENDIX 6: DESCRIPTIVE STATISTICS AND RESEARCH POPULATION



APPENDIX 7: SPIRITUALITY DEFINITIONS

ORDINANDS			
WHAT IS SPIRITUALITY AND HOW DO YOU NURTURE IT			
No	GENDER	DEFINITION	NURTURE
1.	Male	Is about prayer	I use the Bible to develop my own spirituality
2.	Female	Something that you feel within yourself	Is nurtured by group discussions, others and how she noted the changes in her prayer life
3.	Female	In seSotho is tsa se Moya	I view this that is evoked when one read and related Bible stories into my own context
4.	Male	As bubungwele, that is to live holy	It nurtures through rigorous Bible study and sharing the word of God and prayer with others
5.	Male	To stand in the midst of prayer, to be connected with God and with man	
6.	Male	It is about worshipping God in quiet times. It is about prayer, encountering God in the Bible	
7.	Female	It is rootedness in God. It is a rule of life a rule of that reminds us that we are created and driven by the Holy Spirit	
8.	Female	Izinto zomoya	Nurtured by the Bible, books, prayer
9.	Male	It is when I align myself, and listen to the voice of God, and God being central to all I do	Spirituality goes with baptism, with Pentecost, with ascension and resurrection

No	GENDER	DEFINITION	NURTURE
10.	Male	It is the Church inside that forces you to love Jesus, and to seek his face	
11.	Male	Is to believe in God, a belief from nature	
12.	Female	Is like a spiritual home, a context. It is contained somewhere within something	
13.	Male	Is in all things, in nature, in earth, in creation, in stars	I nurture my spirituality through prayer and the reading of the Holy Scriptures
14.	Male	It stands as a contradiction to traditional spirituality in the sense that it is a relationship to the creator God, not in the African way, the Qamata way	
15.	Male	It is the road that leads and links the human being with God and each other.	I nurture it by a rhythm of prayer, being quiet, youath bible Bible study, and by sharing the Word of God
16.	Male	Is the power of God at work in us, and making us to be connected and related to God and the others	I nurture it through doing good works, and being available to all those who grieve, by music, silence
17.	Male	.Is the process that enables you to talk to God, and God to talk with you, and for you to listen to God and others	I nurture this through communication with God in prayer, praise and singing, running every day.
18.	Male	Is the connection between me and my God, and the talking that happens with us	I nurture this through the Bible, preaching, regular sacraments, understanding god's programmes in everything that he does
19.	Male	Is an acceptance that Jesus Christ is his Lord, and looking at others with love and appreciation and that all good comes from Jesus Christ	I nurture this through nature, prayer, retreats, meditation and reflection on daily living

APPENDIX 8: CORRESPONDENCES

Bishop Thabo Makgoba
PO Box 181
Grahamstown
6140
bishopmakgoba@intekom.co.za
046 622 5231 Fax

20th February 2007

Dear Colleague

Doctoral Study on Medical Spirituality at University of Cape Town

Greetings,

I have worked for the then Rand Mutual Hospital ,Selby Park Hospital before the Spinal patients were all transferred to Net care Rehabilitation following the closure of Selby Park Hospital. I worked as a Psychologist in psycho- sexual counselling for spinal cord injured patients, the majority of who came from the mines.

I have been afforded a scholarship by the Ernest Oppenheim Memorial Trust to do a doctoral study on ethics and spirituality (medical spirituality) following mine injuries (mine safety issues) at the University of Cape's Graduate School of Business.

Would you be so kind as to please, complete the enclosed questionnaire and send it back to me in the enclosed self addressed stamped envelope soon.

I look forward to your positive response and to sharing the outcomes of the study with you, especially in this area of psychosexual counselling where there are limited tools available for practioners and managers.

Yours sincerely

Thabo Makgoba

Bishop Thabo Makgoba
PO Box 181
Grahamstown
6140
bishopmakgoba@intekom.co.za
046 622 5231 Fax

20th February 2007

Dear Sue

Doctoral Study on Medical Spirituality at University of Cape Town

Greetings,

This is a follow up to our telephonic conversation last year. I have worked for the then Rand Mutual Hospital ,Selby Park Hospital before the Spinal patients were all transferred to Net care Rehabilitation following the closure of Selby Park Hospital. I worked as a Psychologist in psycho- sexual counselling for spinal cord injured patients, the majority of whom came from the mines.

I have been afforded a scholarship by the Ernest Oppenheimer Memorial Trust to do a doctoral study on ethics and spirituality (medical spirituality) following mine injuries (mine safety issues) at the University of Cape's Graduate School of Business.

I would like to kindly receive permission from you and RMA to follow up on patients I saw whilst I was in your part time employ and administer the enclosed questionnaire. I would also like to respectfully request that I be allowed to see even new patients at the Net care Rehabilitation to do free psych sexual counselling as I also gather the information for the doctoral study.

I look forward to your positive response and to sharing the outcomes of the study with you, especially in this area of psycho-sexual counselling where there are limited tools available for practitioners and managers.

Yours sincerely

Thabo Makgoba

Ms Clare Digby
The Manager
The Opperheimer Memorial Trust
Po Box 61593
Marshalltown
2107.

Monday, February 13, 2006

Dear Clare

Application for Local Study Grant

Thanks for letter of 12 December 2005 wherein you attach the EOMT Guidelines for LSG. Your response was very helpful indeed and I now submit my application for your kind consideration. I am sending this by email and will send all the attachment by post to you.

Yours sincerely

Bishop Thabo Makgoba

Curriculum Vitae of Thabo Cecil Makgoba as sent to Claire Digby

Personal Information

Name and Surname: Thabo Cecil Makgoba

Date of Birth and age: 1960.12.15 (45 yrs)

RSA ID Number: 6012155857088

Nationality: South African

Married in Community of Property 1991.12.14

Two children ages, 11 and 6 years.

Hobbies and Interests: Reading, writing, game, walking and occasionally movies/theatre

Contact Information

17 Durban Street, Grahamstown 6140

P.O Box 181 Grahamstown 6140

bishopmakgoba@intekom.co.za

046 622 2500

082 631 6466

Referral to E.O.M.T

Ms Margie Keeton of Tshikululu Trust referred me to EOMT. I have known Margie from when I was in Johannesburg and we served together on the St John College Council. The Trust through Margie, supported the Trevor Huddleston Memorial Centre in Sophia town, where I was a parish priest and one of its founding member.

Current Qualifications and Job Description

Academic record Degree	Institution	Dates	Dissertations
B.Sc.	Wits	1989	D
BA Hon's Psych	Wits	1990	Second Reading Unit and Bilingualism
Med Psych	Wits	1993	2 nd Mediated Learning with Counsellors
Hdip.Ed	Wits	1999	
Dip Theol	Joint Board St Paul Col	1988	

Awards

JCE Rector's Silver award for being an exemplary and hard working Dean of Knockando and lecturer at JCE.

A Fellow of the University of Cape Town, Graduate School for Business and Terry Stanford University, USA

Publications

Connectedness- ISBN 0-958470-6-X

Contributed articles to Daily Dispatch between 2002-2004 on Morals Matters Column
Contribute to diocesan newsletter four times a year and articles on various subjects since 2002

Presented various workshops on absenteeism, Addiction, Gender Training for Men, Counselling skills

Employment History

CHURCH RELATED

Curate and Priest 1989- 1999 St Mary's Cathedral Johannesburg

Served Cheaply of St Albans Ferreirasdorp 1995- 1999

Sophia town, Christ the King, 1998-2002

Suffragan Bishop 2002-2003

Diocesan Bishop 2004- to date

EDUCATION AND PSYCHOLOGY RELATED

Psychology Internship at Sanca 1993

Women against Women Abuse, psychologist, 1996

Wits Special Education Division Lecturer 1994-1997

JCE Dean of Knockando and senior lecturer 1997- 2002

Own Private Psychology Practice 1993-2002

Rand Mutual Hospital, Spinal Unit psychologist- 1995-1998

Net care Spinal Unit with mining patients 2001-2002

Letters of Support from three people

Prof Graeme Hall formerly Head of JCE

Ms Thandiwe Ntshwanti- Kumalo education and research consultant

Dr Thobi Mputing Psychologist and Consultant

Intended Study

Field of Study: Doctoral Study (PhD) in the field of Ethics in business and medical spirituality with particular interest in spinal cord injured black males from the mines.

Location and Duration: Currently registered with the University of Cape Town, Commerce Faculty and the program will hopefully take three years. The research will

mainly be done in areas that formerly had TEBA offices and or have spinal cord injured mine workers within South Africa.

Supervisors' names

Prof Kurt April UCT Graduate School of Business (GSB)

Prof Jim Joseph GSB UCT and Terry Stanford Univ USA and Formerly US Ambassador to SA

Letter of acceptance

My letter of acceptance and registration are enclosed

Financial Position

Full disclosure: I am a stipendiary priest/bishop and attached is my income statement⁶⁵. I support two children, who are both at a private school, St Andrews College and my wife is currently not working.

Year 1+ Year 2+ Year 3= Total in 3 yrs

Travel	6000.00	6000.00	4500.00	16.500.00
Tuition	3500.00	6000.00	4000.00	13.500.00
Books/Journals	6000.00	2000.00	1000.00	9000.00
3 Research(ers)	36.000.00	36.000.00	Nil	72.000.00
Collation/supervision	800.00	500.00	4000.00	5.3000.00
TOTALS	50.3000.00	50.5000.00	13.500.00	116.3000.00

Letter of Motivation

As a leader in society, and currently am in the moral regeneration sub group of the Eastern Cape Council of Churches, I need to be equipped with sound skills to lead and live ethically. There are many times now as a bishop, when my personal morality and ethical leadership are stretched and I am called to be a leader and prophetic in the field of ethics and spirituality. This requires a balance between, intuition, subjective upbringing and a thorough knowledge of ethics. Currently, I lack sufficient, academic and theoretical base for my ethical judgments. As my personal philosophy is, half knowledge is, especially in the healing profession and public arena, very dangerous, I need to be able to speak and lead a morally “bankrupt” society and ethically challenged contexts, well equipped .I need to read and study more.

Medical spirituality, spirituality in business and ethical leadership are areas that also need more empirical data and extensive research. The findings in these areas and in particular, this study, will fill gaps, which exist in medical spirituality in business.

The research will also help in a practical way, by constructing a schedule for practitioners in the field of mineworkers who also are spinal cord injured and are requiring psych- sexual intervention. The schedule can be replicated to society in local settings and thus benefit a larger cross section of our population. The actual research process will also benefit three qualified but unemployed teachers whom I will be train as researchers and deploy to various parts of the country to do research with spinal cord injured people. We will meet once a forth night as a group for monitoring, ongoing supervision, collation and analysis of research data.

On completion of the doctoral study, it is my hope that I will continue as a bishop within the Anglican Church but publish more papers and books in this field as well as be available to mining houses and other institutions to give paper and talks or advice. In the Eastern Cape, where I live and work, I may be able to help our unemployed spinal injured people bound on wheel chairs, to create their own employment and restore their self-esteem.

At a personal level, it has always been my life’s ambition to have a doctorate in psychology and The Trust, will be helping me achieve this long held dream and ambition. I was elected bishop at 41 years and am now 46 yrs old, it is my hope that before retirement, I will also have an opportunity to lecture again in the field of Ethics and spirituality in business and thereby impart my life experience and academic knowledge to others.

APPENDIX 9: A SELECT SAMPLE OF RESPONSES FROM THE ATLAS TI HERMENEUTICAL UNITS (HU)

HU: Mining Captains Interviews

File: [C:\Documents and Settings\Arch Bishop\Desktop\Nyaki Today\Mining Captains Interviews]

Edited by: Super ; Date/Time: 08/17/08 04:37:43 PM; Codes-quotations list

Code: connection with God {10-0} : P 1: Bobby Godsell.txt - 1:1 ([connection with God] :

P 3: Ncholo.txt - 3:7 : [connection with God] [connection with the community]

P 4: CAPTAINS DOC 2.txt - 4:3 : [connection with God] :P 4: CAPTAINS DOC 2.txt - 4 [connection with God] [connection with the community] [legal/union] :

P 4: CAPTAINS DOC 2.txt - 4:25 [connection with God] [connection with the community] :

P 5: CAPTAINS 3.txt [connection with God] [religion] :

P 5: CAPTAINS 3.txt - 5:9 : [connection with God] [connection with the community] [religion]

P 5: CAPTAINS 3.txt -) [connection with God] [MEANING]

P 8: pityana siphon.txt - 8:15 ([connection with God] [multiple factors] [personal id(values)]

[Religion]

P 1: Bobby Godsell.txt - 1:2 :: [connection with the community]

P 2: Mike Spicer.txt - 2:1 ([connection with the community] [personal matter]

P 2: Mike Spicer.txt - 2:6 [connection with the community] [personal id(values)]

P 3: Ncholo.txt - 3:1 [connection with the community] [personal id(values)]

P 3: Ncholo.txt - 3: [connection with God] [connection with the community]

P 4: CAPTAINS DOC 2.txt - 4:6 [connection with the community] [money-ism] [personal id(values)]

[Legal/union]

P 4: CAPTAINS DOC 2.txt - 4: [connection with the community] [SAFETY AT WORK]

P 4: CAPTAINS DOC 2.txt [connection with the community] [legal/union]
[legislation/legal]

[Personal id (values)] [Personal matter]

P 4: CAPTAINS DOC 2.txt - 4:24 ([connection with the community] [personal
id(values)] [training] [connection with the community] [legal/union]
[legislation/legal]

[Money-ism] [Multiple factors] [Nature of business/geological] [Training]

P 4: CAPTAINS DOC 2.txt - 4:29 [connection with the community] [personal
id(values)] [personal

Matter] [religion]

]P 5: CAPTAINS 3.txt - [connection with God] [connection with the community]
[religion]

P 8: pityana siphho.txt - 8:1 [connection with the community]

P 8: pityana siphho.txt - 8:11 (130:138) (Super)

Codes: [connection with the community]

P 8: pityana siphho.txt - 8:13 ([connection with the community] [MEANING]

HU: Interviews of Sangomas on spirituality and health

File [E:\APPENDICES\spirituality and health CREATED Cambridge]

Date/Time: 08/17/08 07:59:49 PM; Codes-quotations list

P 7: P7 sangoma.txt - 7:6 ([African traditional spiritual rites] [God connection] [Personal

P 7: P7 sangoma.txt - 7: [African traditional spiritual rites] [God connection] [Personal Identity]

P 7: P7 sangoma.txt - 7: [African traditional spiritual rites] [Physical wellbeing]

P10: P6 1MINING.txt - 10:19 (2049:2057) (Super)

Codes: [African traditional spiritual rites] [cannot explain (meaning)] [God connection]

P10: P6 1MINING.txt - [African traditional spiritual rites] [can't explain (meaning)] [God connection]

P10: P6 1MINING.txt - 10:26 (2150:2168) (Super)

Codes: [African traditional spiritual rites] [God connection] [Physical wellbeing] [workplace safety]

P10: P6 1MINING.txt - 10:29: [African traditional spiritual rites] [Connectedness] [Meaning] [Physical wellbeing] [Spirit or Holy Spirit]

P10: P6 1MINING.txt - 10:60 ([African traditional spiritual rites] [bible and prayer] [cant

Explain (meaning) [Christian spiritual practice] [Community-Ubuntu values] [Personal Identity]

P10: P6 1MINING.txt - 10:67 [African traditional spiritual rites] [Community-Ubuntu values]

[God connection] [Personal Identity] [African traditional spiritual rites] [Bible and prayer] [Meaning]

P10: P6 1MINING.txt - 10: [African traditional spiritual rites] [cannot explain (meaning)]

[Connectedness] [Personal Identity] [Physical wellbeing]

P12: sangoma final interviews.txt - 12:2 ([African traditional spiritual rites] [Community-Ubuntu values]

[Connectedness]

HU: Interviews of Clergy on spirituality and health

Select examples on Definitional issues.

P 1: P1ZULU CLERGY.txt - 1:53 [bible and prayer] [Other]

P 1: P1ZULU CLERGY.txt - 1: [bible and prayer] [Community-Ubuntu values]

P 1: P1ZULU CLERGY.txt - 1:58 [bible and prayer] [Christian spiritual practice]

[Community-Ubuntu values] [Meditation reflection [Spirit or Holy Spirit)]

P 2: P2ORDINANDSEZOMOYA.txt - 2:1 [bible and prayer]

[Bible and prayer] [God connection]

NANDSEZOMOYA.txt)

P 2: P2ORDINANDSEZOMOYA.txt - 2:25 (123:124) (Super)

Codes: [bible and prayer] [Meaning] '[ezomoya]

3: P3POST ORDINATION TRAINING.txt - 3:25 [bible and prayer] [Christian spiritual practice]

[Meditation/reflection]

P 3: P3POST ORDINATION TRAINING.txt - 3:26 (431:443) (Super)

Codes: [bible and prayer] [Christian spiritual practice] [Meaning] [meditation/reflection]

P 3: P3POST ORDINATION TRAINING.txt - 3:28 [bible and prayer] [Christian spiritual practice]

[Community-Ubuntu values] [God connection]

[Meditation/reflection]

HU: Interviews of Medical Allieds on spirituality and health

P 4: P4MEDICAL ALIEDS.txt - 4: [bible and prayer] [God connection] [Personal Identity]

P 4: P4MEDICAL ALIEDS.txt - 4:28 [bible and prayer] [God connection] [Personal Identity]
[Physical Wellbeing]

P10: P6 1MINING.txt - 10:60 [African traditional spiritual rites] [bible and prayer] [cant

Explain (meaning) [Christian spiritual practice]

[Community-Ubuntu values] [Personal Identity]

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APPENDIX 10: MANAGER'S CORRELATION TABLES (1 - 5)
[OUTPUT TABLES]

Table 1

	S1	S2	S3	S7	S8
S1	1.000				
S2	.180	1.000			
S3	.036	.513**	1.000		
S7	-.161	.130	.462**	1.000	
S8	.291	-.164	-.038	.104	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 2

	S2	S8	S12	S17
S2	1.000			
S8	-.038	1.000		
S12	.550**	.563**	1.000	
S17	.234	.135	.337*	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 3

	S9	S11	S14	S15	S18
S9	1.000				
S11	.288	1.000			
S14	.581**	.255	1.000		
S15	.376*	.461**	.532**	1.000	
S18	.138	.241	-.018	.517**	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 4

Correlations				
	S9	S12	S14	S16
S9	1.000			
S12	.635**	1.000		
S14	.581**	.557**	1.000	
S16	.337*	.477**	.151	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 5

Correlations											
	S4	S5	S6	S7	S11	S13	S16	S17	S18	S19	S20
S4	1.000										
S5	.501**	1.000									
S6	-.007	.683**	1.000								
S7	-.014	.583**	.834**	1.000							
S11	-.050	.234	.498**	.584**	1.000						
S13	.337*	.822**	.548**	.364*	.423**	1.000					
S16	-.478**	.181	.636**	.647**	.671**	.308	1.000				
S17	-.305	.137	.191	.215	.161	.333*	.582**	1.000			
S18	-.339*	.331*	.403*	.536**	.241	.289	.628**	.669**	1.000		
S19	.091	.597**	.482**	.368*	.228	.743**	.276	.298	.430**	1.000	
S20	.526**	.559**	.153	.130	.166	.708**	-.120	.103	.013	.705**	1.000

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

APPENDIX 11: MINERS DESCRIPTIVE TABLES (1 – 15)

[OUTPUT TABLES]

Table 1

Are you satisfied with the current situation concerning your handicap?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	30	10.9	13.7	13.7
	2	29	10.5	13.2	26.9
	3	30	10.9	13.7	40.6
	4	126	45.7	57.5	98.2
	5	4	1.4	1.8	100.0
	Total	219	79.3	100.0	
Missing	System	57	20.7		
Total		276	100.0		

Table 2

Income currently

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	23	8.3	10.2	10.2
	Yes	187	67.8	83.1	93.3
	not sure	15	5.4	6.7	100.0
	Total	225	81.5	100.0	
Missing	System	51	18.5		
Total		276	100.0		

Table 3

Self acceptance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	28	10.1	12.7	12.7
	2	23	8.3	10.4	23.1
	3	39	14.1	17.6	40.7
	4	123	44.6	55.7	96.4
	5	8	2.9	3.6	100.0
	Total	221	80.1	100.0	
Missing	System	55	19.9		
Total		276	100.0		

Table 4**Employer usefulness**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	16	5.8	7.2	7.2
	2	7	2.5	3.2	10.4
	3	33	12.0	14.9	25.2
	4	106	38.4	47.7	73.0
	5	60	21.7	27.0	100.0
	Total	222	80.4	100.0	
Missing	System	54	19.6		
Total		276	100.0		

Table 5**Community participation**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	32	11.6	14.4	14.4
	2	33	12.0	14.9	29.3
	3	63	22.8	28.4	57.7
	4	86	31.2	38.7	96.4
	5	8	2.9	3.6	100.0
	Total	222	80.4	100.0	
Missing	System	54	19.6		
Total		276	100.0		

Table 6**Religious/cultural acts**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	29	10.5	13.1	13.1
	2	33	12.0	14.9	27.9
	3	56	20.3	25.2	53.2
	4	98	35.5	44.1	97.3
	5	6	2.2	2.7	100.0
	Total	222	80.4	100.0	
Missing	System	54	19.6		
Total		276	100.0		

Table 7**Leisure activities**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	62	22.5	28.1	28.1
	2	73	26.4	33.0	61.1
	3	46	16.7	20.8	81.9
	4	38	13.8	17.2	99.1
	5	2	.7	.9	100.0
	Total	221	80.1	100.0	
Missing	System	55	19.9		
Total		276	100.0		

Table 8**Family relationships**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	32	11.6	14.7	14.7
	2	23	8.3	10.6	25.3
	3	18	6.5	8.3	33.6
	4	134	48.6	61.8	95.4
	5	10	3.6	4.6	100.0
	Total	217	78.6	100.0	
Missing	System	59	21.4		
Total		276	100.0		

Table 9**Perception on Mine safety**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	187	67.8	83.5	83.5
	Yes	27	9.8	12.1	95.5
	I don't know	10	3.6	4.5	100.0
	Total	224	81.2	100.0	
Missing	System	52	18.8		
Total		276	100.0		

Table 10**Role of religion in healing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	23	8.3	10.3	10.3
	Yes	199	72.1	89.2	99.6
	I don't know	1	.4	.4	100.0
	Total	223	80.8	100.0	
Missing	System	53	19.2		
Total		276	100.0		

Table 12**Role of spirituality in healing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	8	2.9	3.6	3.6
	Yes	213	77.2	95.9	99.5
	I don't know	1	.4	.5	100.0
	Total	222	80.4	100.0	
Missing	System	54	19.6		
Total		276	100.0		

Table 13**Level of spine injury**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	incomplete	50	18.1	22.3	22.3
	complete	145	52.5	64.7	87.1
	others	29	10.5	12.9	100.0
	Total	224	81.2	100.0	
Missing	System	52	18.8		
Total		276	100.0		

Table 14**Do openly talk about sexual concerns**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	74	26.8	33.6	33.6
	Yes	145	52.5	65.9	99.5
	I don't know	1	.4	.5	100.0
	Total	220	79.7	100.0	
Missing	System	56	20.3		
Total		276	100.0		

Table 15**What do they need the most?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Establishment	64	23.2	28.4	28.4
	Offering	99	35.9	44.0	72.4
	Others like Development	62	22.5	27.6	100.0
	Total	225	81.5	100.0	
Missing	System	51	18.5		
Total		276	100.0		

Table 16**Ranking the 3 most key needs**

	?	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	family	125	45.3	55.6	55.6
	spirit	38	13.8	16.9	72.4
	general	25	9.1	11.1	83.6
	money	11	4.0	4.9	88.4
	others	26	9.4	11.6	100.0
	Total	225	81.5	100.0	
Missing	System	51	18.5		
Total		276	100.0		

Table 17

Satisfaction with community plans

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	53	19.2	23.9	23.9
	2	46	16.7	20.7	44.6
	3	47	17.0	21.2	65.8
	4	74	26.8	33.3	99.1
	5	2	.7	.9	100.0
	Total		222	80.4	100.0
Missing	System	54	19.6		
Total		276	100.0		

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APPENDIX 12: FACTOR ANALYSIS

Table 1

Eigen values on miners

Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
4.244	32.649	32.649	2.551	19.623	19.623
1.458	11.212	43.862	2.540	19.536	39.160
1.282	9.861	53.723	1.495	11.498	50.658
1.083	8.333	62.056	1.482	11.398	62.056

Table 2

Un-rotated Miner factor Table

Variables	Component			
	1	2	3	4
Community participation	.840	.107	-.139	.038
Religious/cultural acts	.833	.123	-.107	.071
Role of religion in healing	.294	.650	.383	.086
Role of spirituality in healing	.134	.662	.441	.188
Perception on Mine safety	.153	.207	-.706	.084
Activities of Daily Living scale	.278	-.369	.341	.490
Satisfaction with community plans	.641	-.022	-.113	.402
Family relationships	.538	.134	.022	-.367
Leisure activities	.667	.059	-.341	.191
Employer usefulness	.561	-.206	.276	-.486
Income currently	.353	-.513	.261	.322
Self acceptance	.696	-.250	.145	-.307
Injury acceptance	.756	-.037	-.016	-.142

Table 3**Standardised Factor Analysis Table**

Variables	Component			
	1	2	3	4
Community participation	.225	.070	-.019	.041
Religious/cultural acts	.222	.053	.004	.070
Role of religion in healing	-.027	-.003	-.036	.545
Role of spirituality in healing	-.042	-.083	.028	.589
Perception on Mine safety	.420	-.190	-.299	-.170
Activities of Daily Living scale	.006	-.154	.564	.049
Satisfaction with community plans	.294	-.169	.228	.041
Family relationships	-.040	.303	-.210	.038
Leisure activities	.344	-.087	-.007	-.051
Employer usefulness	-.244	.469	-.044	-.058
Income currently	-.022	-.037	.500	-.091
Self acceptance	-.102	.358	.029	-.099
Injury acceptance	.070	.210	-.020	-.021
Component	1	2	3	4
1	1.000	.000	.000	.000
2	.000	1.000	.000	.000
3	.000	.000	1.000	.000
4	.000	.000	.000	1.000

APPENDIX 13: COMMUNALITIES TABLE OF THE UBUNTU QUESTIONNAIRE

Table 1

S Variables

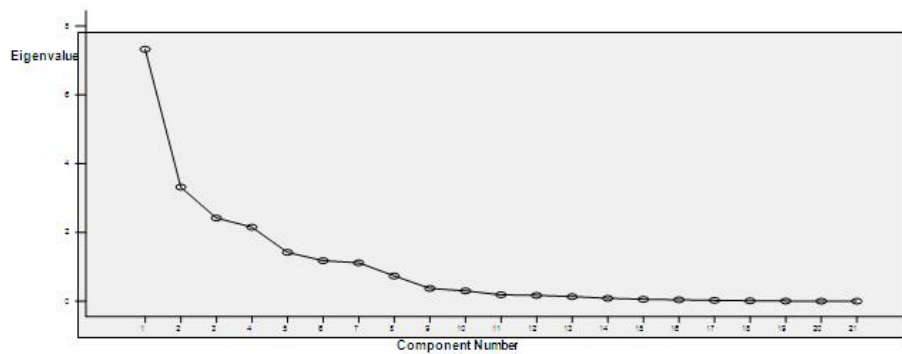
	Initial	Extraction
Profit, wealth, bonus sharing	1.000	.587
Freedom of expression	1.000	.798
Leaders earn respect	1.000	.921
Leaders commitment	1.000	.923
Unity	1.000	.939
Leadership and organisational values	1.000	.960
Communication	1.000	.947
Employee Responsibility	1.000	.917
No Employee retribution	1.000	.883
Tension a reality of staff/employers	1.000	.948
Participative open dialogue	1.000	.846
Freedom of expression	1.000	.965
Trust in Relationships	1.000	.921
Employee and Organisational values	1.000	.906
Leadership attitudes	1.000	.945
Leadership commitment	1.000	.938
Leadership humility	1.000	.950
Consensus maturity and reconciliatory skill	1.000	.951
Unity	1.000	.927
Relationships	1.000	.887
Managers declared Age	1.000	.855

Table 2

Engine values of the managers questionnaire

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.323	34.873	34.873	7.323	34.873	34.873	4.339	20.664	20.664
2	3.315	15.785	50.658	3.315	15.785	50.658	4.027	19.175	39.839
3	2.417	11.508	62.167	2.417	11.508	62.167	2.572	12.250	52.089
4	2.149	10.234	72.401	2.149	10.234	72.401	2.396	11.408	63.497
5	1.417	6.746	79.146	1.417	6.746	79.146	2.063	9.826	73.323
6	1.177	5.603	84.750	1.177	5.603	84.750	1.793	8.537	81.860
7	1.113	5.298	90.048	1.113	5.298	90.048	1.720	8.188	90.048
8	.732	3.486	93.534						
9	.369	1.758	95.292						
10	.296	1.411	96.703						
11	.184	.878	97.581						
12	.168	.801	98.382						
13	.131	.624	99.006						
14	.082	.388	99.394						
15	.052	.249	99.644						
16	.039	.186	99.830						
17	.024	.115	99.945						
18	.009	.044	99.989						
19	.002	.010	99.999						
20	.000	.001	100.000						
21	2.82E-017	1.34E-016	100.000						

Screen Plot



Graph of the Eigen value on Ubuntu Questionnaire

Table 3**Un-Rotated factor table of the Ubuntu Questionnaire**

Variables	Component						
	1	2	3	4	5	6	7
Profit, wealth, bonus sharing	.072	.465	.101	.183	.393	-.408	-.042
Freedom of expression	.318	.165	-.648	.122	.481	-.047	-.035
Leaders earn respect	.604	-.097	-.482	.385	.144	.341	-.174
Leaders commitment	.213	.692	-.440	.036	-.187	.407	-.050
Unity	.818	.246	-.199	-.223	-.241	.084	.234
Leadership and organisational values	.845	-.270	-.004	-.015	-.341	-.235	-.036
Communication	.760	-.385	-.073	-.166	-.264	-.041	-.341
Employee Responsibility	.474	.397	.619	.289	-.070	-.247	.052
No Employee retribution	.641	-.123	.373	.386	-.346	.126	-.183
Tension a reality of staff/employers	.097	-.442	-.301	.484	-.267	.053	.587
Participative open dialogue	.603	-.342	-.337	.134	.297	-.063	-.376
Freedom of expression	.592	-.110	.101	.743	.099	-.152	.079
Trust in Relationships	.836	.281	-.052	-.104	.168	.042	.316
Employee and Organisational values	.801	.462	.122	.176	-.052	-.017	.050
Leadership attitudes	.821	-.059	-.177	-.404	-.251	-.057	-.079
Leadership commitment	.576	-.689	.106	.010	.284	-.181	-.075
Leadership humility	.384	-.441	.393	.013	.404	.390	.373
Consensus maturity and reconciliatory skill	.414	-.548	.183	-.597	.194	.206	.102
Unity	.698	.295	.357	-.422	.166	-.122	.065
Relationships	.565	.673	.138	-.142	.178	.206	-.041
Managers declared Age	-.123	-.005	.622	.278	.057	.516	-.327

Table 4: Standardised table of the above factors

Variables	Component						
	1	2	3	4	5	6	7
Profit, wealth ,bonus sharing	-.054	-.084	.009	.091	.401	-.146	-.164
Freedom of expression	.010	-.141	.034	.375	.072	-.061	-.164
Leaders earn respect	.029	-.026	-.047	.365	-.140	.055	.197
Leaders commitment	.239	-.074	-.223	.117	-.259	.036	.149
Unity	.232	.040	-.027	-.101	-.130	.142	-.105
Leadership and organisational values	-.041	.286	-.086	-.112	.053	.069	-.087
Communication	-.092	.331	-.101	.028	-.097	-.135	.066
Employee Responsibility	.037	.044	-.029	-.181	.331	.029	.057
No Employee retribution	-.019	.201	-.119	-.062	.011	.081	.312
Tension a reality of staff/employers	.063	-.082	.046	-.097	-.051	.599	-.126
Participative open dialogue	-.158	.121	.005	.350	.056	-.189	.029
Freedom of expression	-.066	.000	.003	.106	.294	.223	.060
Trust in Relationships	.229	-.125	.148	.003	.034	.110	-.124
Employee and Organizational values	.146	.013	-.060	-.018	.120	.049	.043
Leadership attitudes	.068	.224	-.059	-.060	-.122	-.073	-.102
Leadership commitment	-.157	.097	.217	.115	.135	-.062	-.057
Leadership humility	.145	-.266	.448	.029	-.080	.172	.144
Consensus maturity and reconciliatory skill	.071	-.016	.337	-.034	-.206	-.093	-.014
Unity	.139	-.001	.154	-.109	.111	-.170	-.096
Relationships	.225	-.114	.024	.061	-.011	-.147	.115
Managers declared Age	.001	-.051	.036	.074	-.114	-.131	.569

APPENDIX 14: REGRESSION TABLES

Table 1

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	166.007	6	27.668	58.559	.000 ^a
	Residual	100.166	212	.472		
	Total	266.174	218			

a. Predictors: (Constant), Satisfaction with community plans, Role of religion in healing, Employer usefulness, Leisure activities, Self acceptance, Community participation

b. Dependent Variable: Religious/cultural acts

Table 2

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.282	.326		-.867	.387
	Leisure activities	.038	.056	.037	.676	.499
	Community participation	.583	.055	.595	10.531	.000
	Employer usefulness	.039	.051	.039	.769	.443
	Self acceptance	.061	.053	.061	1.136	.257
	Role of religion in healing	.397	.152	.114	2.621	.009
	Satisfaction with community plans	.156	.048	.168	3.277	.001

a. Dependent Variable: Religious/cultural acts

Table 3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.961 ^a	.924	.916	.23589

a. Predictors: (Constant), MEAN(F5), MEAN(F3), MEAN(F4), MEAN(F2)

Table 4

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.058	.285		.203	.840
	MEAN(F2)	-.217	.107	-.244	-2.021	.050
	MEAN(F3)	1.119	.100	1.115	11.192	.000
	MEAN(F4)	-.045	.119	-.029	-.375	.710
	MEAN(F5)	.176	.110	.154	1.604	.117

a. Dependent Variable: MEAN(F1)

Table 5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.937 ^a	.878	.865	.33540

a. Predictors: (Constant), MEAN(F1), MEAN(F5), MEAN(F4), MEAN(F3)

Table 6

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Co linearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.827	.384		-2.155	.037		
	MEAN(F3)	1.219	.217	1.080	5.620	.000	.085	11.794
	MEAN(F4)	-.282	.164	-.163	-1.723	.093	.349	2.865
	MEAN(F5)	.698	.116	.545	6.029	.000	.383	2.610
	MEAN(F1)	-.438	.217	-.389	-2.021	.050	.084	11.844

a. Dependent Variable: MEAN(F2)

Table 7

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.976 ^a	.953	.948	.18405

a. Predictors: (Constant), MEAN(F2), MEAN(F4), MEAN(F1), MEAN(F5)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.206	.220		.933	.357		
	MEAN(F4)	.136	.091	.089	1.500	.142	.343	2.915
	MEAN(F5)	-.268	.077	-.236	-3.472	.001	.260	3.852
	MEAN(F1)	.681	.061	.684	11.192	.000	.322	3.107
	MEAN(F2)	.367	.065	.414	5.620	.000	.221	4.525

a. Dependent Variable: MEAN(F3)

Table 8

Coefficients^a

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.822 ^a	.676	.642	.31599

a. Predictors: (Constant), MEAN(F3), MEAN(F5), MEAN(F2), MEAN(F1)

Table 9

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1	(Constant)	1.169	.334		3.504	.001		
	MEAN(F5)	.660	.109	.891	6.061	.000	.385	2.597
	MEAN(F1)	-.080	.214	-.123	-.375	.710	.077	13.038
	MEAN(F2)	-.251	.145	-.433	-1.723	.093	.131	7.610
	MEAN(F3)	.401	.267	.614	1.500	.142	.050	20.181

a. Dependent Variable: MEAN(F4)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.319	.401		.797	.430		
	MEAN(F1)	.352	.219	.401	1.604	.117	.081	12.276
	MEAN(F2)	.691	.115	.885	6.029	.000	.236	4.239
	MEAN(F3)	-.881	.254	-1.000	-3.472	.001	.061	16.304
	MEAN(F4)	.735	.121	.545	6.061	.000	.630	1.588

Table 10

. Dependent Variable: MEAN(F5)

Table 11

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.895 ^a	.802	.781	.33354

a. Predictors: (Constant), MEAN(F4), MEAN(F3), MEAN(F2), MEAN(F1)

APPENDIX 15: ATLAS TI PRIMARY CODES

Table 1: Codes-Primary-Documents-Table -Definitions and Application

Codes-Primary-Documents-Table							
PRIMARY DOCS CODES	Pastors 1	Pastors 2	Pastors 3	P2(Medics)	P4(Healers)	P1(Miners)	Total
African traditional	0	0	0	0	4	37	41
bible and prayer	11	6	5	3	0	6	31
cant explain(meaning)	0	0	0	0	0	34	34
Christian spiritual	9	2	6	0	0	2	19
Community Ubuntu values	13	6	20	6	1	10	56
Connectedness	2	4	2	0	0	2	10
connection to dreams	1	0	0	0	5	0	6
Creation	0	2	0	1	0	0	3
Dance	0	0	0	0	2	0	2
God connection	21	9	11	14	6	34	5
Meaning	14	4	4	1	0	11	34
Meditation /reflection	7	0	3	0	1	2	13
Other	5	0	0	1	0	2	8
Personal Identity	0	0	17	23	11	6	57
Physical wellbeing	0	0	6	10	3	23	42
Prayer only	0	0	0	0	4	0	4
Qamata	0	1	0	0	0	0	1
set apartness	0	1	0	0	0	0	1
Spirit / Holy spirit	4	3	3	0	0	12	22
Syncretism	0	0	0	0	2	0	2
Transformation	6	0	0	0	0	0	6
Workplace safety	0	0	0	4	0	12	16
Totals	93	38	77	63	39	193	503

¹ Vygotsky 1993- In the theory of Mediated Learning Experience define this as connectedness beyond the intra individual cognitive structure into the domain of inter. Individual social context.

APPENDIX 16: MINERS' TABLES SHOWING HYPOTHESIS TESTING.

Table 1

ANOVA^{b,c}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	424.055	13	32.620	21.756	.000 ^a
	Residual	287.874	192	1.499		
	Total	711.929	205			

a. Predictors: (Constant), Activities of Daily Living scale, Leisure activities, Role of spirituality in healing, Employer usefulness, Level of spine injury, Perception on Mine safety, Family relationships, Miners Number, Income curently, Role of religion in healing, Injury acceptance, Satisfaction with community plans, Community participation

b. Dependent Variable: Religiuous/cultural acts

c. Weighted Least Squares Regression - Weighted by Self acceptanc

Table 2

Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method
1	Satisfaction with community plans, Role of religion in healing, Perception on Mine safety, Level of spine injury, Employer usefulness, Activities of Daily Living scale, Income curently, Family relationships, Role of spirituality in healing, Leisure activities, Injury acceptance, Self acceptanc, Community participation ^a		Enter

a. All requested variables entered.

b. Dependent Variable: Religiuous/cultural acts

Table 3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.809 ^a	.654	.631	.67731

a. Predictors: (Constant), Satisfaction with community plans, Role of religion in healing, Perception on Mine safety, Level of spine injury, Employer usefulness, Activities of Daily Living scale, Income curently, Family relationships, Role of spirituality in healing, Leisure activities, Injury acceptance, Self acceptanc, Community participation

Table 4

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	166.780	13	12.829	27.966	.000 ^a
	Residual	88.079	192	.459		
	Total	254.859	205			

a. Predictors: (Constant), Satisfaction with community plans, Role of religion in healing, Perception on Mine safety, Level of spine injury, Employer usefulness, Activities of Daily Living scale, Income curently, Family relationships, Role of spirituality in healing, Leisure activities, Injury acceptance, Self acceptanc, Community participation

b. Dependent Variable: Religiuosu/cultural acts

Table 5

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.469	.617		-.760	.448		
	Injury acceptance	.130	.058	.133	2.233	.027	.505	1.981
	Income currently	.046	.130	.017	.356	.723	.784	1.276
	Self acceptance	.019	.057	.019	.338	.735	.544	1.838
	Employer usefulness	.026	.053	.026	.492	.623	.658	1.520
	Community participation	.498	.063	.503	7.962	.000	.451	2.219
	Leisure activities	.024	.058	.024	.418	.676	.564	1.775
	Family relationships	.073	.044	.079	1.651	.100	.789	1.267
	Perception on Mine safety	.116	.100	.052	1.159	.248	.907	1.103
	Role of religion in healing	.555	.171	.156	3.250	.001	.784	1.275
	Role of spirituality in healing	-.366	.257	-.068	-1.428	.155	.795	1.258
	Level of spine injury	.051	.083	.027	.612	.541	.940	1.064
	Activities of Daily Living scale	.002	.002	.034	.737	.462	.826	1.211
	Satisfaction with community plans	.150	.050	.160	2.995	.003	.633	1.579

a. Dependent Variable: Religiouso/cultural acts

Table 6

Variables Entered/Removed^{b,c}

Model	Variables Entered	Variables Removed	Method
1	Satisfaction with community plans, Role of religion in healing, Level of spine injury, Perception on Mine safety, Employer usefulness, Activities of Daily Living scale, Income curently, Role of spirituality in healing, Injury acceptance, Leisure activities, Self acceptanc, Community participation ^a		Enter

a. All requested variables entered.

b. Dependent Variable: Religiouso/cultural acts

c. Weighted Least Squares Regression - Weighted by Family relationships

Table 7

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.794 ^a	.631	.608	1.19445

a. Predictors: (Constant), Satisfaction with community plans, Role of religion in healing, Level of spine injury, Perception on Mine safety, Employer usefulness, Activities of Daily Living scale, Income curently, Role of spirituality in healing, Injury acceptance, Leisure activities, Self acceptanc, Community participation

Table 8

ANOVA^{b,c}

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	470.474	12	39.206	27.480	.000 ^a
	Residual	275.356	193	1.427		
	Total	745.830	205			

a. Predictors: (Constant), Satisfaction with community plans, Role of religion in healing, Level of spine injury, Perception on Mine safety, Employer usefulness, Activities of Daily Living scale, Income curently, Role of spirituality in healing, Injury acceptance, Leisure activities, Self acceptanc, Community participation

b. Dependent Variable: Religiouso/cultural acts

c. Weighted Least Squares Regression - Weighted by Family relationships

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Table 9

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1	(Constant)	-.102	.624		-.163	.871		
	Injury acceptance	.103	.059	.103	1.746	.082	.551	1.814
	Income currently	.048	.132	.018	.367	.714	.783	1.277
	Self acceptanc	.029	.058	.029	.502	.616	.581	1.721
	Employer usefulness	.036	.054	.034	.675	.500	.735	1.361
	Community participation	.577	.061	.584	9.401	.000	.495	2.020
	Leisure activities	-.030	.056	-.031	-.536	.592	.569	1.757
	Perception on Mine safety	.127	.094	.063	1.351	.178	.869	1.150
	Role of religion in healing	.594	.176	.166	3.364	.001	.783	1.278
	Role of spirituality in healing	-.503	.256	-.097	-1.960	.051	.788	1.268
	Level of spine injury	.069	.079	.039	.864	.389	.941	1.062
	Activities of Daily Living scale	.000	.002	.008	.171	.864	.826	1.210
	Satisfaction with community plans	.160	.049	.178	3.279	.001	.647	1.546

a. Dependent Variable: Religiouso/cultural acts

Table 10

Variables Entered/Removed^{b,c}

Model	Variables Entered	Variables Removed	Method
1	Family relationships, Level of spine injury, Role of religion in healing, Income curently, Perception on Mine safety, Activities of Daily Living scale, Employer usefulness, Leisure activities, Role of spirituality in healing, Injury acceptance, Self acceptanc, Community participation ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: Religiouso/cultural acts

c. Weighted Least Squares Regression - Weighted by Satisfaction with community plans

Table 11

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.754 ^a	.569	.542	1.07590

a. Predictors: (Constant), Family relationships, Level of spine injury, Role of religion in healing, Income curently, Perception on Mine safety, Activities of Daily Living scale, Employer usefulness, Leisure activities, Role of spirituality in healing, Injury acceptance, Self acceptanc, Community participation

Table 12

ANOVA^{b,c}

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	295.262	12	24.605	21.256	.000 ^a
	Residual	223.409	193	1.158		
	Total	518.671	205			

a. Predictors: (Constant), Family relationships, Level of spine injury, Role of religion in healing, Income curently, Perception on Mine safety, Activities of Daily Living scale, Employer usefulness, Leisure activities, Role of spirituality in healing, Injury acceptance, Self acceptanc, Community participation

b. Dependent Variable: Religiouso/cultural acts

c. Weighted Least Squares Regression - Weighted by Satisfaction with community plans

Table 13

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.331	.656		-.505	.614		
	Injury acceptance	.102	.058	.111	1.774	.078	.572	1.748
	Income currently	.019	.130	.008	.146	.884	.809	1.235
	Self acceptanc	.018	.056	.019	.326	.745	.626	1.599
	Employer usefulness	.038	.054	.039	.705	.481	.743	1.346
	Community participation	.470	.065	.486	7.211	.000	.492	2.033
	Leisure activities	.076	.052	.086	1.466	.144	.653	1.531
	Perception on Mine safety	.174	.094	.093	1.847	.066	.871	1.148
	Role of religion in healing	.634	.170	.192	3.733	.000	.840	1.190
	Role of spirituality in healing	-.332	.259	-.066	-1.282	.202	.832	1.202
	Level of spine injury	.012	.079	.007	.150	.881	.922	1.085
	Activities of Daily Living scale	.003	.002	.076	1.493	.137	.852	1.174
	Family relationships	.098	.046	.112	2.143	.033	.816	1.225

a. Dependent Variable: Religiuous/cultural acts

Table 14

Variables Entered/Removed^{b,c}

Model	Variables Entered	Variables Removed	Method
1	Satisfaction with community plans, Role of religion in healing, Level of spine injury, Perception on Mine safety, Employer usefulness, Income curently, Family relationships, Role of spirituality in healing, Injury acceptance, Leisure activities, Self acceptance, Community participation ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: Religiuous/cultural acts

c. Weighted Least Squares Regression - Weighted by Activities of Daily Living scale

Table 15

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.808 ^a	.653	.631	5.39146

a. Predictors: (Constant), Satisfaction with community plans, Role of religion in healing, Level of spine injury, Perception on Mine safety, Employer usefulness, Income curently, Family relationships, Role of spirituality in healing, Injury acceptance, Leisure activities, Self acceptanc, Community participation

Table 16

ANOVA^{b,c}

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10383.920	12	865.327	29.769	.000 ^a
	Residual	5522.890	190	29.068		
	Total	15906.811	202			

a. Predictors: (Constant), Satisfaction with community plans, Role of religion in healing, Level of spine injury, Perception on Mine safety, Employer usefulness, Income curently, Family relationships, Role of spirituality in healing, Injury acceptance, Leisure activities, Self acceptanc, Community participation

b. Dependent Variable: Religiосу/cultural acts

c. Weighted Least Squares Regression - Weighted by Activities of Daily Living scale

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Table 17

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.391	.622		-.628	.531		
	Injury acceptance	.087	.060	.084	1.452	.148	.546	1.833
	Income currently	.034	.136	.012	.254	.800	.819	1.221
	Self acceptanc	.055	.059	.053	.934	.352	.562	1.780
	Employer usefulness	.033	.057	.031	.588	.557	.675	1.482
	Community participation	.534	.063	.537	8.436	.000	.451	2.218
	Leisure activities	.047	.057	.046	.818	.415	.571	1.750
	Perception on Mine safety	.171	.107	.072	1.601	.111	.909	1.100
	Role of religion in healing	.584	.165	.168	3.536	.001	.807	1.240
	Role of spirituality in healing	-.381	.245	-.073	-1.555	.122	.818	1.223
	Level of spine injury	.023	.082	.013	.285	.776	.921	1.085
	Family relationships	.046	.045	.049	1.012	.313	.789	1.267
	Satisfaction with community plans	.132	.051	.139	2.588	.010	.630	1.586

a. Dependent Variable: Religiouso/cultural acts

b. Weighted Least Squares Regression - Weighted by Activities of Daily Living scale

Table 18

Variables Entered/Removed^{b,c}

Model	Variables Entered	Variables Removed	Method
1	Miners Number, Role of religion in healing, Employer usefulness, Perception on Mine safety, Level of spine injury, Satisfaction with community plans, Family relationships, Income curently, Role of spirituality in healing, Injury acceptance, Leisure activities, Community participation ^a		Enter

a. All requested variables entered.

b. Dependent Variable: Religiouso/cultural acts

c. Weighted Least Squares Regression - Weighted by Activities of Daily Living scale

Table 19

Model Summary^{b,c}

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.805 ^a	.648	.626	5.41871

a. Predictors: (Constant), Miners Number, Role of religion in healing, Employer usefulness, Perception on Mine safety, Level of spine injury, Satisfaction with community plans, Family relationships, Income curently, Role of spirituality in healing, Injury acceptance, Leisure activities, Community participation

b. Dependent Variable: Religiouso/cultural acts

c. Weighted Least Squares Regression - Weighted by Activities of Daily Living scale

Table 20

ANOVA^{b,c}

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10344.975	12	862.081	29.360	.000 ^a
	Residual	5608.229	191	29.362		
	Total	15953.204	203			

a. Predictors: (Constant), Miners Number, Role of religion in healing, Employer usefulness, Perception on Mine safety, Level of spine injury, Satisfaction with community plans, Family relationships, Income currently, Role of spirituality in healing, Injury acceptance, Leisure activities, Community participation

b. Dependent Variable: Religiuosu/cultural acts

c. Weighted Least Squares Regression - Weighted by Activities of Daily Living scale

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Table 21

Coefficients^{a,b}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1	(Constant)	-.469	.628		-.746	.457		
	Injury acceptance	.099	.059	.096	1.668	.097	.559	1.788
	Income currently	.090	.137	.031	.656	.513	.808	1.238
	Employer usefulness	.053	.052	.049	1.019	.310	.806	1.240
	Community participation	.541	.064	.543	8.508	.000	.452	2.214
	Leisure activities	.056	.057	.055	.978	.329	.582	1.719
	Perception on Mine safety	.166	.107	.070	1.546	.124	.901	1.110
	Role of religion in healing	.586	.166	.169	3.531	.001	.806	1.240
	Role of spirituality in healing	-.390	.247	-.075	-1.578	.116	.812	1.231
	Level of spine injury	.017	.084	.009	.198	.844	.886	1.129
	Family relationships	.052	.045	.055	1.153	.251	.795	1.258
	Satisfaction with community plans	.119	.051	.126	2.339	.020	.635	1.576
	Miners Number	.000	.001	.024	.512	.609	.864	1.157

a. Dependent Variable: Religiouso/cultural acts

b. Weighted Least Squares Regression - Weighted by Activities of Daily Living scale

Table 22

Variables Entered/Removed^{b,c}

Model	Variables Entered	Variables Removed	Method
1	Activities of Daily Living scale, Leisure activities, Role of spirituality in healing, Employer usefulness, Level of spine injury, Perception on Mine safety, Family relationships, Miners Number, Income currently, Role of religion in healing, Injury acceptance, Satisfaction with community plans, Community participation ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: Religious/cultural acts

c. Weighted Least Squares Regression - Weighted by Self acceptance

Table 23

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.772 ^a	.596	.568	1.22448

a. Predictors: (Constant), Activities of Daily Living scale, Leisure activities, Role of spirituality in healing, Employer usefulness, Level of spine injury, Perception on Mine safety, Family relationships, Miners Number, Income currently, Role of religion in healing, Injury acceptance, Satisfaction with community plans, Community participation

Table 24

ANOVA^{b,c}

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	424.055	13	32.620	21.756	.000 ^a
	Residual	287.874	192	1.499		
	Total	711.929	205			

a. Predictors: (Constant), Activities of Daily Living scale, Leisure activities, Role of spirituality in healing, Employer usefulness, Level of spine injury, Perception on Mine safety, Family relationships, Miners Number, Income curently, Role of religion in healing, Injury acceptance, Satisfaction with community plans, Community participation

b. Dependent Variable: Religiuousu/cultural acts

c. Weighted Least Squares Regression - Weighted by Self acceptanc

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Table 25

Coefficients^{a,b}

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.378	.647		-.585	.559		
	Injury acceptance	.129	.060	.131	2.173	.031	.581	1.722
	Income curently	.051	.143	.018	.354	.724	.824	1.213
	Employer usefulness	.020	.055	.018	.358	.720	.855	1.170
	Community participation	.473	.062	.487	7.606	.000	.513	1.948
	Leisure activities	.028	.056	.030	.504	.615	.596	1.679
	Perception on Mine safety	.110	.100	.053	1.097	.274	.906	1.104
	Role of religion in healing	.635	.176	.187	3.616	.000	.785	1.274
	Role of spirituality in healing	-.459	.253	-.094	-1.815	.071	.777	1.287
	Level of spine injury	.010	.083	.006	.119	.906	.909	1.100
	Family relationships	.088	.047	.095	1.891	.060	.836	1.196
	Satisfaction with community plans	.134	.048	.154	2.772	.006	.683	1.464
	Miners Number	.000	.001	.029	.590	.556	.850	1.176
	Activities of Daily Living scale	.004	.002	.078	1.525	.129	.800	1.250

a. Dependent Variable: Religiuous/cultural acts

b. Weighted Least Squares Regression - Weighted by Self acceptance

