

Contents

Acknowledgments		4
Foreword		5
Chapter One	Introduction	7
Chapter Two	Self-actualisation, peak experience and flow	11
Chapter Three	The plateau experience	27
Chapter Four	Development of the PLEX psychometric	39
Chapter Five	Discussion and future directions	71
Appendix I	The PLEX-3	80
References		83
Index		94

List of Tables

Table 2.1	Csikszentmihalyi's characteristics of flow	21
Table 2.2	Csikszentmihalyi's (2000) model	22
Table 3.1	Summary of the plateau experience	36
Table 4.1	Various stages advocated in psychometric development	42
Table 4.2	Summary of test-retest results	64
Table 4.3	Descriptive statistics for test/retest phases	67
Table 4.4	Descriptive statistics for the subscale totals	67
Table 4.5	Sten score and interpretation	69

Acknowledgments

Conducting research is a process...not a product. As a process, there is a symbiotic relationship between the research and the researcher: as one develops, so does the other. However research is not conducted within a vacuum: a number of people have contributed in one way or another to the process. To this extent, I would specifically like to acknowledge the following...

For their guidance, Dr. Michael Daniels, Professor Les Lancaster and the MSc Consciousness and Transpersonal Psychology programme team at Liverpool John Moores University (UK). Although the programme is no longer running, I am honoured to have studied under such a committed team and alongside such committed students.

I would also like to extend my thanks to the staff at the University of Worcester (UK) who have enabled access to a variety of student cohorts and of course, the students for taking time to inform this research. Specifically I would like to thank Dr. Paul Castle and Dr. Derek Peters for their initial discussions into developing a psychometric.

Finally, Claire, who has never once questioned my academic lifestyle; pursuing the germ of an idea until it has fully flourished.

Foreword

Working in education for a number of years, I am only too familiar with the numerous incarnations of Maslow's hierarchy of needs. Forty years after his death, Maslow's work is still faithfully reproduced, perhaps because it makes conceptual sense. His humanistic psychology has served as the foundation for my educational practice, whereby facilitating growth within the individual has been the fundamental driver despite the constant demands of assessing students against Government targets, etc.

It is this humanistic foundation that informed my doctoral studies, assessing whether specific practices (namely martial arts participation) actually led to personal growth. The 'research rollercoaster' (Walliman and Buckler, 2008) led me to an obscure journal, the 'Transpersonal Psychology Review'. This journal opened a door to a completely new area, although when I say 'door' it felt more like the rabbit-hole leading to Wonderland.

Transpersonal psychology was developed by Maslow (among others) as a fourth force within psychology, a development from the previous humanistic psychology. To explore the area further, I engaged with the MSc at Liverpool John Moores University. Indeed a chance discussion with one of the programme leaders, Dr. Michael Daniels, led me to analyse Maslow's work at a deeper level. This led me to review Maslow's later work where he dismissed self-actualisation in favour of self-transcendence, specifically in relation to the plateau experience. Indeed Maslow suggested that future research should be directed towards the plateau experience.

The plateau experience has however remained obscure since its inception. It is an experience where we feel present in this very moment, that a sense of calmness or serenity envelops us, that we feel so in tune with the environment that we transcend thoughts of life and death... We simply exist... here... now... forever. Maslow illustrated the plateau experience in several ways, for example a mother being at one while holding her new-born baby, or walking along a beach while being attuned to the environment. To this extent, Maslow asserted that the plateau experience could be accessed voluntarily, and suggested that a person could be taught to engage with the plateau experience. Unlike Maslow's peak experience, the plateau experience suggests that one has devoted time and effort to reach a place, a place to stop and just be.

In my mind, the plateau experience represents a long journey to a sweeping plain in the foothills of a mountain range. The journey may have taken many days and presented to reach this place. From here, one can breathe the pure air, can taste the sweet flowing

stream, can sense the warmth of the sun, can feel the luscious grass between their toes, can see a sweeping vista of snow covered mountains. One can stop and take this all in... or decide to progress towards one of the mountains. Of course, this vignette is drawn only from my perspective. What would represent your plateau?

This book provides an informed discussion of the plateau experience before progressing to detail how a psychometric measure has been developed for research purposes to assess the plateau experience. This measure, the **Plateau Experience** psychometric (or PLEX for short) has been derived from existing measures. It must be noted that the PLEX is included in the book for illustrative purposes. As a member of the Register of Competence in Psychological Testing under the British Psychological Society, I adhere to professional ethical guidelines. As such, if you use the PLEX for your own purposes, I cannot be held responsible for its subsequent use, and as such, I would strongly encourage you to ensure that you adhere to the relevant ethical boards or professional ethical guidance.

The book progresses to discuss future directions in the hope that this obscure concept can be analysed thoroughly, informing the development of transpersonal psychology and what may be deemed transpersonal practices, while enabling Maslow's final contribution to receive the attention it fully deserves.

Scott Buckler, PhD

February 2011

Chapter One:
Introduction



Chapter contents

1.1	Introduction	8
1.2	Structure of the book	10
1.3	Research framework	10

1.1 Introduction

The term 'transpersonal' is defined by Fontana and Slack (2005:7) as 'beyond the person'. This term is further defined by Daniels (2005:11) as 'experiences, processes and events in which our normal sense of self is transcended'. Sutich (1976:13-14) asserts that transpersonal psychology relates to 'the empirical, scientific study' of a range of attributes related to such personal growth; however counter-assertions question whether such an empirical research tradition exists (e.g. Seligman and Csikszentmihalyi, 2000). Indeed, Daniels (2005:13) warns that the field could be dismissed without a 'clear commitment to a broadly scientific approach'. Furthermore, a number of authors propose that empirical research is a future direction for transpersonal psychology (e.g., Daniels, 2005; Friedman, 2002; Friedman and Hartelius, 2007). It is this empirical approach to assess one such transpersonal experience which is central to this book.

Such empirical research may be approached through the use of psychometrics. Friedman (2002) suggests that the use of psychometrics within transpersonal psychology would enable the field to be considered alongside mainstream psychology opposed to a more philosophical paradigm. Similarly Kline (2001) advocates psychometrics as essential for a scientific approach to psychology, a perspective shared by a number of authors (e.g. Edwards, 2003; Friedman and MacDonald, 1997; MacDonald, Friedman and Kuentzel, 1999; MacDonald, Tsagarakis and Holland, 1994).

Within transpersonal psychology, the use of such psychometrics has been deemed problematic by MacDonald *et al.* (1994) who suggest that such measures lack a systematic approach or have only been marginally developed and validated. One area that has a tradition of research is that of self-transcendence, despite the lack of a clear definition of the term (Akyalcin, Greenway and Milne, 2008). Indeed, Akyalcin *et al.* (2008) developed a psychometric to measure transcendence through synthesising three existing measures (the 'Self-Transcendence Scale (ST)', the 'Spiritual Transcendence Scale

(STS)' and the 'Mysticism Scale (MS)'). From their research, Akyalcin *et al.* (2008) reported that the measures lacked internal consistency and validity, concluding that transcendent experiences appear to be a hybrid of constructs, requiring additional theoretical analysis.

As a critique of the research by Akyalcin *et al.* (2008), the authors appeared to lack rigour in defining the term 'self-transcendence', using a definition derived from Koltko-Rivera (2006) opposed to analysing additional theoretical definitions. Indeed, the issue of defining transcendence is problematic: Maslow (1971/1993) highlighted thirty-five meanings. Daniels (2005) specified that Maslow's concept may be deemed a human phenomenon opposed to a more spiritual, religious or metaphysical definition proposed by Assagioli and Wilber. Friedman (2002:181) however reported that the difficulty in defining transcendence is that it 'is beyond all conventional thought' that a direct experience of the transcendent, 'would be accompanied by an override...of conventional thought during the time of the experience'.

Although Friedman's (2002) perspective appears theoretically valid, an alternative perspective is advocated by Daniels (2005), that transpersonal psychology should be concerned with the effects on the person after such experiences. An analogy is the research by Bonenfant (2004) who researched the resultant effect of individuals experiencing a Near Death Experience (NDE) opposed to what the individuals experienced during the NDE.

In returning to the notion of transcendence, Daniels (2005) concluded that the concept is difficult to define and may be interpreted in different ways. This however has not stopped researchers such as Akyalcin *et al.* (2008) in attempting to quantify transcendence. However a question posed here is whether the focus on transcendence is justified. Just as self-actualisation is theoretically problematic, this has not prevented research into an associated characteristic, that of the peak-experience. By analogy, given that defining transcendence is similarly problematic, it is hypothesised that research can be conducted into an associated characteristic, that of the 'plateau experience'. The importance of this link between the plateau and self-transcendence is noted in Maslow's final work (Krippner, 1972; Maslow, 1969b, 1970, 1971/1993) yet has not been developed to any extent in over forty years, with research still tending to focus on self-actualisation and the peak experience.

This book thus queries whether self-actualisation and the peak experience are still valid as research directions, instead advocating exploration of Maslow's concept 'self-transcendence' as characterised by the 'plateau experience'. This in turn provides the theoretical justification for the book: if a transpersonal psychometric can be developed for the plateau experience, this may further research and discussion into transpersonal techniques and their resultant effects, specifically in relation to Maslow's concept of self-transcendence.

1.2 Structure of the book

Chapter 2 initially explores self-actualisation and the associated characteristic state of the peak experience, through an analysis of research and theoretical discussion. This exploration progresses to explore synonymous states related to peak experience to demonstrate the tensions within the existing research tradition. This review is detailed to re-orientate research direction into lesser known, yet theoretically valid, research directions, specifically the plateau experience.

As indicated through the discussion, the plateau experience has remained relatively obscure and misinterpreted. Consequently, Chapter 3 reviews available sources which explore the plateau experience in an attempt to identify the theoretical constructs from which to base the psychometric. Chapter 4 details the development of the psychometric, detailing the various stages of development. Chapter 5 discusses and evaluates future directions while Chapter 6 identifies practices that may lead to an increased occurrence of the plateau experience.

1.3 Research framework

Central to the development of this book is the illumination of Maslow's concept of the plateau experience to assess whether his theory should be highlighted as a future research direction. The secondary theme is to demonstrate one such research direction in the development of a psychometric to assess the validity of the plateau experience.

Chapter Two:

Self-actualisation, peak experience and flow



Chapter contents

2.1	Introduction	12
2.2	Defining 'self-actualisation'	12
2.3	Scientific study of self-actualisation	14
2.4	The peak experience	16
2.5	Flow	20
2.6	A synthesis between the flow experience and the peak experience	24
2.7	Summary of self-actualisation and future directions	25

2.1 Introduction

According to Maslow, there is a relationship between self-actualisation and self-transcendence; the former characterised by the peak experience, the latter by the plateau experience. To this extent, the foundation of self-actualisation will be discussed to provide a context from which to explore the plateau experience in Chapter 3.

The chapter will initially examine concepts of self-actualisation and related research, before progressing to discuss the associated characteristic of the peak experience. Research will similarly be explored in relation to the peak experience.

There has however been a trend to focus on Csikszentmihalyi's concept of 'flow' which has recently been associated with the field of positive psychology. However, this chapter questions whether the focus on flow is misplaced, while discussing the similarities between the flow state and the peak experience. The chapter concludes by advocating research into the plateau experience due to the problematic nature of both flow and peak experiences.

2.2 Defining 'self-actualisation'

2.2.1 Founding definitions

One area specifically related to the personal growth advocated by transpersonal psychology is that of 'self-actualisation': achieving or 'actualising' a person's full potential. Self-actualisation is an important feature within transpersonal psychology: the founders of the field, Maslow and Rogers, theorised about the concept, and as Daniel's (2005:130)

observes, 'many people are going to orientate their lives in terms of psychologists' conceptions of self-actualisation'.

The term 'self-actualisation' was originally advocated by Goldstein as a tendency to realise, or actualise, the organism's capacities (Goldstein, 1995). Rogers (1961:251) extends Goldstein's definition, commenting that there is a need for all organic life to 'urge, expand, extend, develop, mature...to express and activate all the capacities of the organism'. Maslow's definition of self-actualisation however varied throughout his work and was not based on a unified theory (Daniels, 2005; Weiss, 1987). One illustrative definition that appears to summarise Maslow's perspective defines self-actualisation as, 'the apex of personal growth, in which we become freed from basic needs and deficiency motivation', (Maslow, 1996:206).

Although Goldstein, Rogers and Maslow suggest that self-actualisation is the highest potential, Maslow indicated that self-actualisation is a 'desire'...something that may be achieved when lower-ordered, or deficiency needs have been met. Maslow indicated that very few people achieve such self-actualisation, placing self-actualisation as a deficit model: once deficiency needs have been met, one can strive for growth. However for Rogers and Goldstein, growth was deemed the fundamental driving force. As Rogers (1961:351) highlighted, 'it is my belief...that it exists in every individual, and awaits only the proper conditions to be released and expressed'.

Despite their differences in definition, there are parallels between Rogers and Maslow with regard to achieving self-actualisation. For example, whereas Rogers (1961:351) asserted that 'this tendency may become deeply buried under layer after layer of encrusted psychological defences' Maslow (1993:47) similarly commented that 'it means identifying defences, and...it means finding the courage to give them up'.

2.2.2 Further elaboration of the concept

The issue of defining self-actualisation has continued since the concept originated. Leclerc, Lefrancois, Dube, Hebert and Gaulin (1998:70) reported that, 'there is still some vagueness about what the concept really means'. Heylighen (1992:45) discussed that 'the concept...is not clearly defined' suggesting that there is difficulty with the concept of 'actualisation' because 'it presupposes that there is somehow a well-defined set of potential talents an individual is capable of developing'. Daniels (1005:117) additionally

commented that Maslow failed to specify whether self-actualisation is 'a state of ultimate satisfaction and fulfilment, a state of need, a process, or merely a tendency to this process'. Engler (2006:351) similarly discussed such issues, that Maslow's definition of self-actualisation was a composite picture, in that no individual Maslow studied possessed all the qualities ascribed to self-actualisation.

Leclerc *et al.* (1998:70) thus summarise the key issues in describing self-actualisation, specifically highlighting,

- a) the uncertainty about its theoretical content;*
- b) the need for a systematised and unified theory;*
- c) the lack of a consensus among the experts on self-actualised main attributes;*
- d) the absence of an operationalised definition.*

2.3 Scientific study of self-actualisation

2.3.1 Methodological issues

One of the key criticisms directed towards at Maslow's work into self-actualisation was against his empirical research. Engler (2006:353) summarised this stating 'Maslow's study of self-actualised persons lacks the rigour and distinct methodology characteristic of strict empirical science', a point also raised by Daniels (1988) and Heylighen (1992).

In relation to sampling, Heylighen (1992) observed that Maslow was vague about how he selected his subjects, similarly identifying an issue of gender bias. Hogan and Williams (1978) however noted that although Maslow predominantly focussed his studies on men (5 women and 41 men, representing a ratio of approximately 1:8), their own research indicated there were either no sex differences, or indeed that females consistently scored as more self-actualising than males. Consequently, the issue of gender bias would require further investigation given the dated research.

Surprisingly however, the greatest critic of self-actualisation was Maslow (1996), whereby he indicated twelve criticisms. Maslow (1996:30) fully acknowledged the criticisms directed against his methodological approach, commenting,

...weren't my choices of secure versus insecure individuals merely a reflection of my own values? Didn't I choose my self-actualisation subjects on a personal basis? Am I not building my own values into the theory of self-actualisation?...

...If I make value statements, as I did concerning self-actualising people, then my fellow scientists can proceed with less passion, personal involvement, and heat – in the cool manner of science – to check whether I was right or not and whether my intuitions were correct. Indeed, if only scientists with bright ideas and hypotheses existed, then we would have no science at all. We would have only a collection of bright ideas without any criteria for choosing among them.

Despite the methodological inconsistencies described, this has not prevented researchers engaging with an attempt to classify, qualify and quantify self-actualisation. For example, Leclerc *et al.* (1998:70) suggested that there are thirty-six indicators of self-actualisation yet similarly raise two issues which make such definition problematic:

How can we know if an individual has fully actualised their potentialities?

Can a model of self-actualisation fit all individuals across all cultures?

2.3.2 Measures of self-actualisation

Various authors identify Shostrom's (1964) Personal Orientation Inventory (POI) as the 'leading' measure of self-actualisation (e.g. Leak, 1984; Lefrancois *et al.*, 1997; Tosi & Lindamood, 1975) however there are a number of criticisms against the measure. One such concern raised by Forest and Sicz (1980) related to the POI manual, specifically the calculation of scores for the time ratio and support ratio due to incorrect calculations in development.

The development and subsequent interpretation of the POI psychometric has caused debate, specifically in relation to the internal consistency value. Weiser and Myers (1993) suggested that there was low internal consistency for the POI, noting Cronbach's Alpha coefficients which fall short of the level recommended by the American Psychological Association. Specifically Weiser and Meyers (1993) reported that the coefficient of 0.84 for the interconnectedness scale and 0.61 for the time competence scale are too low to be accepted. However according to authors of psychometric development books, the figures reported by Weiser and Meyers (1993) are deemed as acceptable. For example,

Loewenthal (2001:12) stated, 'the absolute value of .7 (or sometimes .8 or .6) is normally taken as the criterion of acceptability', while DeVellis (2003) suggested that although a score of 0.61 would be undesirable, this is still acceptable, while a score of .84 would be very good.

Alternative measures of self-actualisation have been developed in recent years with higher levels of internal consistency. For example, Jones and Crandall (1986) developed the 'Short Index of Self-Actualisation' consisting of fifteen items, with a Cronbach Alpha of .65. Sumerlin and Bundrick (1996) developed a 40-item 'Brief Index of Self-Actualisation' which has a Cronbach Alpha of 0.87, with a 0.89 test-retest reliability. The 'Measure of Actualisation of Potential' has been developed by Lefrancois, Leclerc, Dube, Hebert and Gaulin (1997), a 27-item measure with a Cronbach's Alpha of 0.90.

Lefrancois, Leclerc, Dube, Herber and Gaulin (1999) however discussed the problematic nature with the validity of such self-actualisation inventories, specifically the absence of a systematic and unified theory, the lack of an accepted definition of self-actualisation, methodological weaknesses and poor psychometric properties on some of the scales.

Given the fundamental problems in trying to define self-actualisation, and in turn being able to quantify it, this has not prevented research within one of Maslow's defining features of self-actualisation, that of the 'peak experience'. Indeed, Rowan (1983:11) suggested, 'if we want to know what self-actualisation is, go to the peak experience'. As Maslow (1993:xvi) noted, 'the climax of self-actualisation is the peak experience...A peak experience is what you feel and perhaps 'know' when you gain authentic elevation as a human being'.

2.4 The 'peak experience'

2.4.1 Defining the 'peak experience'

According to Maslow (1993:101), peak experiences are 'the happiest moments of life, for experiences of ecstasy, repute, bliss, of the greatest joy'. Wilber (1998:179) similarly noted that peak experiences are 'relatively brief, usually intense, often unhidden and frequently life-changing'. Engler (2006:349) extended this definition, stating that the peak experience can be deemed 'an intensification of any experience to the degree that there is a loss of transcendence of self'.

Maslow (1993:60) provided other descriptions for the peak experience, suggesting that it also included a 'total fascination with the matter-in-hand, this getting lost in the present, the detachment from time and place', or indeed, anything which is fascinating, requiring concentration or absorption. Such activities Maslow (193:60) suggested included watching a film, reading a book or 'simply becoming absorbed in one's work'.

It would appear that as with self-actualisation, the peak experience was a composite concept; yet whereas self-actualisation is a result, the peak experience may be interpreted as a transformatory by-product as discussed by Engler (2006:350),

...the individual experiences not only an expansion of self but also a sense of unity and meaningfulness in life. For that moment, the world appears to be complete and the person is at one with it. The experience lingers on and transforms one's understanding so that things do no seem to be quite the same afterward.

McInman and Grove (1991:334) consequently reported that the term 'peak experience' is 'plagued by a definitional crisis' asserting that there are a number of definitions and that such experiences are difficult to put into words.

2.4.2 Criticisms about the peak experience

There are criticisms directed against the peak experience, fundamentally relating to whether the 'Hierarchy of Needs' is accurately, or adequately structured, additionally whether actively pursuing the peak experience is detrimental.

According to Maslow's hierarchy, self-actualisation (and by this, the associated characteristic of peak experience) can only arise when other needs have been satisfied. Yet a number of authors report that such experiences may be placed before other needs, for example, peak experiences can arise from deprivation. Neher (1991:105) commented that 'need satisfaction is not the only route to self-actualisation, for example, artists or scientists being so caught up in their work that they forgo eating and meaningful relationships for lengthy periods'. Sule (1993) similarly raised this issue commenting on dancers who place themselves at physiological risk in the name of creative expression. Similarly Battista (1996:54) commented that spiritual growth can 'emerge from painful and difficult self-confrontations', a theme again developed by Neher (1991:108) who observed that in order to achieve the peak experience, both Eastern and Western traditions favour

deprivation and suppression of lower needs, which carried to the extreme can lead to mystical experiences. Although this discussion appears critical of Maslow's work, Maslow (1999:95) originally identified that growth can come from negative experiences, in his discussion of the 'nadir experience'.

Rowan (1999) discussed how the peak experience can be sought purposefully by people which results in reducing self-actualisation to one of deficiency motivation: by this, a person is striving for something they do not have, a peak experience. Daniels (2005:122) similarly highlighted the dangers of chasing the peak-experience, commenting that 'it is easy to confuse self-actualisation with abandon, hedonism, narcissism and self-seeking'. Indeed, Maslow (1970:ix) had previously asserted, 'if the sole good in life becomes the peak-experience...then one can force the issue, push actively, strive and hunt for them', furthermore noting that the peak experience 'may then be exalted as the best or...only path to knowledge, and thereby all the tests and verifications of the validity of the illumination may be tossed aside'. Indeed, Daniels (1988:30) suggested that overemphasis on the description of peak experiences may prove misleading stating that it may, 'cause people to dismiss perfectly valid experiences simply because they are less spectacular than Maslow's own accounts'. A further issue raised by Daniels (2005:124) related to associating the peak experience solely to self-actualisation especially that it may 'no longer be possible to distinguish self-actualisers from non-self-actualisers except a quantitative and relative basis that self-actualised people may have more frequent peak experiences'.

Maslow (1999:106) has however discussed this relationship between self-actualisation and the peak experience, summarised by his comment, that 'any person in any of the peak experiences takes on temporarily many of the characteristics which I found in self-actualising individuals. That is, for the time they become self-actualisers'.

This is a highly significant statement: whereas the discussion had previously indicated that self-actualisation is to be aspired to, Maslow appears to assert that the peak experience can be achieved at the lower levels. The important distinction is the transformative effect it has on the person. Indeed, Maslow discussed that a peak experience may lead a person onto greater adventures of the self, conversely, they may just ignore it as a 'one-off'. As Maslow (1962:15) commented, those who do not report peak experiences may actually

have them, 'but repress or misinterpret them, or – for whatever reason – reject them and therefore don't use them'.

Maslow (1999:106) thus summarised,

This makes it possible for us to redefine self-actualisation in such a way as to purge it of its static and typological shortcomings, and to make it less a kind of all-or-none pantheon into which some rare people enter at the age of 60. We may define it as an episode, or a spurt in which the powers of the person come together in a particularly efficient and intensely enjoyable way, and in which he is more integrated and less split, more open to experience, more idiosyncratic, more perfectly expressible or spontaneous, or fully functioning, more creative, more humorous, more ego-transcending, more independent of his lower needs, etc. He becomes in these episodes more truly himself, more perfectly actualising his potentialities, closer to the core of his Being, more fully human.

Yet despite Maslow advocating the beneficial elements of the peak experience, he also raised one of the most poignant criticisms of the concept, querying, 'why the hell isn't everybody getting better all the time? We should soon turn into a race of angels' (Krippner, 1972:115). Indeed, Maslow continued to discuss that he has obtained reports of peak experiences 'from extremely sick people and from sons-of-bitches', thus noting that the peak experience is not an exclusive possession of 'nice guys' (Krippner, *ibid.*).

Maslow's questioning of the canine parentage of various individuals appeared to be an unresolved frustration, specifically as this was voiced only a couple of months before his death. This however, has not prevented additional research into the peak experience being conducted, specifically through the field of physical activity.

2.4.3 Peak experiences and physical activity

Although 'self-actualisation', and the characteristic 'peak experience' have been discussed, there has been little discussion on how the peak experience may be achieved. Several authors identify that physical activity may indeed help people achieve the peak experience (e.g. Arnold, 1979; Fontana, 2003; Lipscombe, 1999; Podeschi, 1974; Ravizza, 1984;). Maslow (1971) originally suggested that 'non-discursive activities' such as music, art, and movement can generate the peak experience. Furthermore, Podeschi (1974:15)

supported Maslow's assertion stressing that the peak experience, 'portrays the potential for developing a full synthesis of body and mind'.

The explicit link between physical activity and peak experience has consequently been explored by numerous researchers (e.g. Arnold, 1979; Lipscomb, 1999; Ravizza, 1977; Ravizza, 1984; Watson and Nesh, 2005). A synonymous concept has however become increasingly prevalent within physical activity: that of 'flow', a concept devised by Csikszentmihalyi (Ravizza, 1984).

2.5 Flow

Csikszentmihalyi (1988:364) reported that 'flow is a panhuman, species-specific state of positive psychic functioning'. In relation to flow being panhuman, Csikszentmihalyi (1988:365) asserted that the main dimensions of flow 'are recognized in more or less the same form by people the world over...nor do age, gender, or social class make a difference in the perception of flow'.

Furthermore, the flow state appears to be a common occurrence: Boniwell (2006:24) suggested that 90% of people can 'easily recognise and associate it with one or more activities'. Such states are deemed to be '*autotelic*' which as Boniwell (2006:26) noted, derive from the Greek words '*auto*' meaning 'self', and '*telos*', meaning 'goal'. Boniwell (2006:26) explained this further, stating that such activities are 'intrinsically motivating and enjoyable, and have an end in themselves, rather than in some other end product'.

Csikszentmihalyi (1993) identified eight characteristic dimensions of flow although his later work (Csikszentmihalyi, 1996; Jackson and Csikszentmihalyi, 1999) outlined nine characteristics. His further revised model progressed to ten characteristics (Csikszentmihalyi, 2000) before returning to nine characteristics (Csikszentmihalyi, 2002). The parallels between these characteristics have been summarised in Table 2.1.

Table 2.1: Csikszentmihalyi's Characteristics of Flow

1993 (pp.178-186)	1996 (pp.111-113)	1999 (p.16)	2000 (p.38-44)	2002 (p.49)
Clear goals	Clear goals	Challenge-skills balance	Clarity of goals	The experience occurs when we confront tasks we have a chance of completing
Skill-challenge balance	Immediate feedback to one's actions	Action-awareness merging	Immediacy of feedback	Concentrate on what we are doing
Action and awareness merge	Skill-challenge balance	Clear goals	Balance of challenge and skills	Clear goals
Concentration on task at hand	Action and awareness merge	Unambiguous feedback	Concentration/absorption	Immediate feedback
A sense of potential control	Distractions are excluded from consciousness	Concentration on the task at hand	Sense of control	Deep but effortless involvement that removes from awareness the frustrations of everyday life
Loss of self-consciousness, transcendence or ego boundaries	There is no worry of failure	Sense of control	Loss of self-consciousness	Sense of control
Altered sense of time	Self-consciousness disappears	Loss of self-consciousness	Merging of action and awareness	Concern for self disappears, yet sense of self emerges stronger after the experience is over
Autotelic experience	Sense of time becomes distorted	Transformation of time	Transformation of time	Sense of duration of time is altered
	The activity becomes autotelic	Autotelic experience	Positive affect	The activity becomes autotelic
			Self-affirmation	

It is probably Csikszentmihalyi's (2000) model which is the most developed as he provides the antecedents or conditions for flow, the behaviour or characteristics of being in the flow state, and the consequences or outcomes of flow as summarised in Table 2.2.

Table 2.2: Csikszentmihalyi's (2000) model

Conditions of flow	Characteristics of the flow experience	Outcomes of the flow experience
<ul style="list-style-type: none"> • Clarity of goals • Immediacy of feedback • Balance of challenge and skills 	<ul style="list-style-type: none"> • Concentration/absorption • Sense of control • Loss of self-consciousness • Merging of action and awareness • Transformation of time 	<ul style="list-style-type: none"> • Positive affect • Self-affirmation

One significant point of interest is that since 1977, Csikszentmihalyi's construct of flow has shared remarkable similarities with Ravizza's discussion of the peak experience. Indeed Ravizza (1977:68) listed such characteristics of peak experience as,

- *Temporary transcendence of self*
- *Total engrossment*
- *Narrow focus of attention*
- *Feeling that everything is perfect*
- *Total control*
- *Loss of fear*
- *Effortless movement*

Indeed if Csikszentmihalyi's construct is analysed, the parallels are apparent. Such similarities are provided here to illustrate the potential correlation and problematic nature in defining such states as flow and peak experiences. However there are similar issues where Csikszentmihalyi's work appears directly related to others, specifically Maslow. For example, Csikszentmihalyi and Csikszentmihalyi (1988:367) noted that 'the function of flow is not to induce the organism to perform what it needs to survive and reproduce. Rather, its function seems to be to induce the organism to grow...fulfilling the potentialities of the organism'. This appears extraordinarily similar to Maslow's 'hierarchy of needs', in that there are deficiency needs and being needs, the latter concerned with growth. Indeed

further parallels between Maslow's hierarchy and Csikszentmihalyi's notion of flow are also raised. Specifically Csikszentmihalyi and Csikszentmihalyi (1988:367) stated,

Hunger, sex, the avoidance of pain and of extreme temperatures, are homeostatic mechanisms that propel the organism to action in order to ensure its own survival, and through reproduction, to ensure the survival of the species. When action is taken, pleasure is experienced; pleasure ensures that the organism will be motivated to repeat the behaviour necessary to maintain its homeostatic balance. Thus pleasure is a universal experience, basic to the preservation of life, influencing the social structures and institutions of life in every culture and in each epoch.

The parallels with Maslow's hierarchy are thus evident, where the lower order needs of survival, once satisfied, enable the individual to progress to the needs of belonging and love, culminating in aesthetic or cognitive activities that may be deemed pleasurable. Furthermore, from Csikszentmihalyi and Csikszentmihalyi's (1988) above quote, the importance of pleasure is stressed as paramount. As such it could be suggested that this may lead to hedonism and selfishness in pursuit of such goals: specifically, Boniwell (2006:28) warned,

With flow having become such a popular notion and a desirable state, few pause to ask whether it is always good. In fact, the activities in which flow is found can be morally good or bad. Gambling, for example...has all the conditions necessary for flow.

Boniwell (2006:28) furthermore suggested that such experiences can become addictive whereby such 'addiction to the flow can also lead to losing a larger perspective. A workaholic manager may lose himself in flow at work until 10 or 11 at night, forgetting dinner, his family or saying goodnight to his children'. Consequently opposed to the field of 'positive psychology', to which Csikszentmihalyi is fundamentally linked (e.g. Seligman and Csikszentmihalyi, 2000), such hedonism could actually be deemed to be a 'negative psychology', where growth is not the ultimate goal, yet the thrill of the flow experience is. In turn, this relates directly to Maslow's warning about chasing the peak experience.

A further criticism of flow is posited by Voelkl, Ellis and Walker (2003:21) who reported that their research findings 'indicate that the balance between challenge and skill is much less

predictive of flow than other possible conditions', suggesting that Csikszentmihalyi may have inappropriately overemphasised the importance of the relationship of the skill and challenge balance in creating flow.

2.6 A synthesis of the flow experience and the peak experience

The relationship between flow, peak experience and other ascribed states have been discussed for a number of years. Walchuk and Orlick (1980:233) explained that there are many altered states of consciousness and associated experiences within sport, outlining the different labels used, such as, 'flow (Csikszentmihalyi, 1975), peak experiences (Malsow, 1968), plateaus (Maslow, 1964), energy streamers (Murphy, 1975), spiritual experiences (Spino, 1971), energy body (Leonard, 1975)'.

In addition, Berger, Pargman and Weinberg (2002:244) observed that people experience exercise in different ways, and that 'three terms are currently in vogue' to describe these experiences: flow, peak performance and peak experience. As Kimiecik and Jackson (2002:504) highlighted 'the relationship between flow, peak performance and peak experience can be complex'.

Such complexity is advocated by Kimiecik and Stein (1992:146) who state that 'flow is often confused or used interchangeably with such terms as peak experience or peak performance'. They suggested that whereas flow and peak experiences are subjective states, peak performance can be related to more objective outcomes. Walchuk and Orlick (1980:235) however noted that the only difference between flow and the peak experience is that they differ in the intensity of the moment, 'where the peak may only occur a few times during an individual's life, flow is apt to occur with greater frequency'.

Furthermore Jackson and Csikszentmihalyi (1999:11) commented that there are many similarities between flow and peak experience, whereby 'peak experience refers to moments of highest happiness that may or may not be of our own doing. These may also have the characteristics of flow, but flow is not reserved only for these extraordinary moments. Flow can occur during simple activities'.

Cooper (1998:32) suggested that issues relating to the definition of such states occur due to the inherent problems in attempting 'to make an experience the object of systematic,

especially scientific study'. Additionally, Cooper (1998) reported that although both flow and peak experiences are precisely defined, the terms refer to qualitative states of experience: that other individuals may not perceive the experience in the same way. As Cooper (1998:33) summarised, 'by scientific standards, the fit between language and experience is imprecise'. Indeed, this problem has been discussed through Jackson's (1995, 1996) work, where the constructs of flow, peak experience and peak performance were defined for elite athletes before asking them how they viewed the relationship among the experiences in their sport participation. As Kimiecik and Jackson (2002:504) reported, 'support was found for the idea that there are flexible boundaries between the three phenomena and that often one and the same event may be a flow experience, a peak performance, and a peak experience'.

In an attempt to resolve these '*flexible boundaries*' highlighted by Kimiecik and Jackson (2002), McInman and Grove (1991:345) advocated a simple definition, that '*very simply, peak experience is intense joy, flow is an intrinsically rewarding experience, and peak performance is superior functioning*'. As such, McInman and Grove (1991:342) provided a set of characteristics that are evident across the classification of peak experiences, flow and peak performance. These are,

- *Absorption*
- *Detachment*
- *Emptiness*
- *Ecstasy*
- *Larger energies*
- *Altered perceptions of time*
- *Sense of unity*

2.7 Summary of self-actualisation and future directions

Self-actualisation is a problematic concept in terms of definition and research. Synonymous concepts of flow and peak performance have been advocated, with McInman and Grove (1991) suggesting shared characteristics between them. Criticism has similarly been directed about the over-emphasis on such experiences and their hedonistic pursuit (e.g. Boniwell, 2006; Krippner, 1972).

Rowan (1999) proposed the notion of 'ascent' and 'descent' whereby the quest for self-development needs to be grounded in daily life: as such 'spiritual' experiences are worthless unless applied. This is a theme similarly explored by Battista (1996:54) who commented, 'although self-actualised life may involve intermittent peak experiences, it is better characterised by the experience of the sacred in the ordinary'. Indeed Maslow (1970:x) originally discussed the notion of finding 'the sacred in the ordinary'. Battista (1996) progressed to report that peace and serenity can come from experiencing everyday life as sacred; something Maslow referred to as 'the plateau experience'. Indeed Rowan (2005:45) developed this noting,

If we can rise to that occasion and live it and own it, we get the experience of Being... and that experience of transcendence can become a plateau experience, which can, with practice, stay with us.

Thus, there would appear to be higher levels of personal growth beyond the problematic concept of self-actualisation. Indeed, Maslow's later work (e.g. Krippner, 1972; Maslow, 1970) reflected this in the last couple of years of his life, especially in his development of the 'plateau experience'.

Chapter Three:
The plateau experience



Chapter contents

3.1	Introduction	28
3.2	Defining the 'plateau experience'	28
3.3	Criticisms about the plateau experience	32
3.4	Summary of the plateau experience	35

3.1 Introduction

As discussed in Chapter 2, there are conceptual and practical issues of exploring self-actualisation, peak experiences and the flow state. Indeed, given Maslow's assertion (among others) that self-actualisation and the associated peak experience had been misinterpreted or misrepresented, similarly given that the flow experience is faced with the same challenges, Chapter 3 focuses on an alternate conceptual model that Maslow advocated. This conceptual model was self-transcendence characterised by the plateau experience. This chapter progresses to explore all original source material relating to the plateau experience in an attempt to define the concept.

3.2 Defining the 'plateau experience'

The previous chapter has suggested that there appears little to distinguish the flow experience from the peak experience (e.g. Berger *et al.*, 2002; McInman and Grove, 1991; Walchuk and Orlick, 1980). There have also been warnings about solely pursuing the flow and the peak experience (e.g. Boniwell, 2006; Maslow, 1970).

Maslow (1970:x) thus suggested finding 'the sacred in the ordinary...in one's daily life' asserting that 'looking elsewhere for miracles is to me a sure sign of ignorance that everything is mystical' (Maslow, 1970:xi). Maslow (1970) consequently dismissed the emphasis on the peak experience (and by analogy, this would also relate to the flow experience due to the parallels previously identified) instead advocating that focus should be directed toward the 'plateau experience' which he defines as,

The serene calm, rather than the poignantly emotional, climatic, autonomic response to the miraculous, the awesome, the sacralised, the unitive, the B-values. So far as I can tell, the high plateau-experience always has a noetic and cognitive

element, which is not always true for peak-experiences, which can be purely and exclusively emotional. It is far more voluntary than peak-experiences are. One can learn to see this Unitive way almost at will. It then becomes a witnessing, an appreciating, what one might call a serene, cognitive blissfulness which can, however, have a quality of casualness and of lounging about. (Maslow, 1970:xiv-xv)

Maslow (1970:xv) distinguished between the peak and plateau experience, highlighting key areas of difference, for example how they differ in their relation to death. By this he reported that, 'the peak experience itself can often meaningfully be called a 'little death', and a rebirth in various sense. The less intense plateau experience is more often experience as pure enjoyment and happiness' (Maslow, *ibid.*)

One further aspect Maslow (1970:xv-xvi) discussed was that the plateau experience can be 'achieved, learned, earned by long hard work' which as such can be aspired to and that this takes time to experience the necessary 'maturing, experiencing, living, learning'.

3.2.2 Frequency, poignancy and witnessing within the plateau experience

On 16th April 1970 at the Second Interdisciplinary Conference on the Voluntary Control of Internal States (SICVICS for short) 13th – 17th April, 1970, Maslow engaged in a lengthy discussion concerning transpersonal psychology (Krippner, 1972). The SICVICS Conference enabled Maslow to further elaborate on the plateau experience and the experience of transcendence. Maslow commented that, as he aged, peak experiences became less intense and less frequent, suggesting that this may have been nature's way of protecting the body due to peak experiences producing 'great turmoil in the autonomic nervous system' (Krippner, 1972:113). Maslow also noted that there was a loss of newness and novelty within peak experiences when they are experienced,

As these poignant and emotional discharges died down in me, something else happened which has come into my consciousness which is a very precious thing. A sort of precipitation occurred of what might be called the sedimentation or the fallout from illuminations, insights and other life experiences that were very important – tragic experiences included. The result has been a kind of unitive consciousness which has certain advantages and certain disadvantages over the peak experiences. I can define this unitive consciousness very simply for me as the simultaneous perception of the sacred and the ordinary, or the miraculous and the

ordinary, or the miraculous and the rather constant or easy-without-effort sort of thing. (Krippner, 1972:113)

Maslow further commented that this led him to perceive the mythic, poetic, and symbolic about ordinary things, which he related to the 'Zen experience' where, 'nothing is excepted and nothing special, but one lives in a world of miracles all the time' (Krippner, 1972:113). In turn, Maslow described this type of experience as 'a high plateau', which 'is to live at a constantly high level of illumination or awakening or in Zen, in the easy or miraculous, in the nothing special' (Krippner, 1972:114). Additionally Maslow suggested that the plateau experience was cross-cultural, commenting that, 'the plateau experience is described quite well in many literatures' (Krippner, 1972:115).

Such experiences, Maslow suggested, are more voluntary than the peak experience: by this Maslow noted that to enter into such states of consciousness, he could voluntarily go to a museum or meadow opposed to a subway. Maslow thus explained that there was a lack of surprise with such experiences and that they could be taught. As such, plateau experiences are cognitive, 'a witnessing of the world...a witnessing of reality' which involved 'seeing the symbolic, or the mythic, the poetic, the transcendent, the miraculous, the unbelievable' (Krippner, 1972:115). Such witnessing is akin to 'being in the moment' or 'mindfulness' as discussed by Cleary and Shapiro (1995:22) who reported that 'Maslow regarded a state of serenity, of relaxation, and awareness of the present moment as a key to spiritual development'.

3.2.3 Serenity and the plateau experience

A further comment from Maslow has previously been discussed by Rowan (1999) in relation to ascent and descent. Within the peak experience, one ascends to a great height which conversely leads to descending into a valley, whereas within the plateau experience, Maslow (in Krippner, 1972) suggested that such ascent and descent is more casual. Consequently the plateau experience is defined by calmness or a sense of serenity opposed to the peak experience which is defined by emotionality.

Maslow made a further defining comment that serenity, calmness and peacefulness can be taught, and as such, 'we should be able to work with it, which means that we may be able to teach serenity to our children and pass it on' (Krippner, 1972:114).

3.2.4 Death anxiety and the plateau experience

A further defining aspect of the plateau experience is the confrontation with mortality. Maslow provided a detailed insight into mortality and his acceptance of death which this quote illustrates,

The death experience makes life much more precious and poignant and more vivid, and you're required to appreciate it and you hang on to it. With surf, you sense a contrast between your temporary nature and the surf's eternity – the fact that it will be there always, was there always, and that you are witnessing something that's a million years old and will be there a million years from now. I pass, and my own reaction to that is one of sadness on the one hand, and of great appreciation on the other hand. It seems to me that the surf is more beautiful to me now that it used to be, and more touching. That would be perhaps an example of the simultaneous perception of the temporal and the eternal which, in that sense of witnessing, is apocryphal. In thinking of the surf, I realise that I am mortal, and the surf is not. This makes a strong contrast. (Krippner, 1972:117)

In relation to this, Katz (who took the stage with Maslow, Pahnke and Krippner at the conference) asked whether there was a duality within the plateau experience, to which Maslow responds 'it is happy and also sad. It's a mixture, and very beautiful' (Krippner, 1972:117).

Pahnke questioned whether 'the plateau experience perhaps has more to do with the growth of the individual, while the peak experience could serve, like an LSD experience, as an opener' (Krippner, 1972:118). Maslow did not directly answer this question but suggested that the peak experience is reported as a death and rebirth, to which Pahnke commented, 'I get the feeling when you were describing some of your plateau experiences that you really have to be in a sense unconcerned about whether you're going to live the next minute or die the next minute in order to let them happen that way' (Krippner, 1972:118). Although Maslow again did not answer this directly, his description of the witnessing of the surf as outlined previously would appear to indicate his own acceptance of death. As the discussion continued however, Maslow reported that,

The plateau experience is paradoxical because of the mixture of permanence and mortality...You feel sorry for yourself and sad over the passing of things, while at

the very same moment you're more poignantly enjoying the things that other people ignore...I've speculated if it were possible to give an experience of death and then a reprieve that people might enjoy life more. My heart attack [which occurred roughly a year and a half before this conference] brought about a real confrontation with death. Ever since then, I've been living what I've been calling to myself, 'the post-mortem life'. I've already gone through the process of dying, so everything from then on is gravy. (Krippner, 1972:119)

If you've gone through this experience, you can be more in the here and now than with all the spiritual exercises that there are. It's just a kind of spontaneous exercise in hanging on to the moment, because the moment is precious. Competition and life planning disappear. The dominance hierarchy, the competition, the competitiveness and glory, certainly become foolish. There is certainly a shifting of values about what's basic and what's not basic, what's important and what's not important. I think if it were possible for us to die and be resurrected, it might then be possible for more people to have this post-mortem life. (Krippner, 1972:118)

3.2.5 Working towards a theoretical definition of the plateau experience

The somewhat lengthy quotations within this section on the plateau experience have been provided to encapsulate all of Maslow's original thoughts (written and verbal) in relation to what would appear to be a developing and composite concept. Maslow died two months after the SICVICS conference, so the concept was not developed further (Hoffman, 1988). The key features of the plateau experience described in this section are that: it is voluntary; it can be taught; there is a 'witnessing' akin to being mindful of the moment; there is a sense of calmness or serenity; there is an acceptance of one's own mortality and a feeling of enjoyment or happiness. There is also a suggestion that the plateau experience may be found in cross-culturally.

3.3 Criticisms about the plateau experience

3.3.1 Lack of a theoretical basis

Perhaps the most fundamental criticism about the plateau experience is that it consisted little more than Maslow's personal subjective experience. As Cleary and Shapiro (1995:14) highlighted, the plateau experience 'was apparently drawn almost entirely from personal familiarity with the subject. This was a sharp contrast to his previous research on the peak

experience in which he had surveyed hundreds of people and produced a composite picture of the peak experience’.

Cleary and Shaprio (1995:3) thus asserted that ‘Maslow did not provide a succinct characterization of the plateau experience’, citing Hoffman’s (1988:340) definition that it is,

A serene and calm, rather than intensely emotional, response to what we experience as miraculous or awesome. The high plateau always has a noetic and cognitive element, unlike the peak experience, which can be merely emotional; it is also far more volitional than the peak experience; for example, a mother who sits quietly gazing at her baby playing on the floor beside her.

The theoretical perspective of the plateau experience thus appears underdeveloped. Very little literature has been published in relation to the plateau experience, most of which provides either Hoffman’s (1988) definition as provided above, or Maslow’s (1970) definition (previously cited in Section 2.1). A search of PsychInfo reveals that there are only seven documents related to the plateau experience. Of these, only three are peer-reviewed publications (including Cleary and Shapiro, 1995, and Krippner, 1972). The other peer-reviewed publication (Stamatelos, 1984) investigated the plateau experience only through the concept of serenity and calmness through art therapy with developmentally delayed individuals. Assessing serenity and calmness would appear to be a limitation as Stamatelos’ work does not embrace the wider dimensions of the plateau experience (such as death anxiety).

The four remaining documents are from ‘Dissertation Abstracts International’. Cleary (1997) provided an exploration of the plateau experience through available literature. Beyer (1999) discussed the experience of self as being part of nature which he related to a number of concepts, of which one is the plateau experience. Kiene (2003) investigated flow with Tai Chi practitioners and drew parallels between flow and the plateau experience in relation to a sense of calmness and volition. Finally Heitzman (2003) conducted a psychobiographical case study into the last fourteen months of Maslow’s life to explore the plateau experience.

From these relatively few sources, the assertion made by Cleary and Shapiro (1995:3) that following Maslow's untimely death, 'the concept of the plateau experience fell into relative obscurity', would still appear relevant today.

3.3.2 Confusion between Theory Y and Theory Z

The plateau experience was explored in relation to Maslow's (1993) 'Theory Y' and 'Theory Z'. As Rowan (2005) reported, the theories distinguish between those people who are self-actualised and have peak experiences ('peakers': 'Theory Z') versus those who are self-actualised but do not have peak experiences ('non-peakers': 'Theory Y'). To this extent, Rowan (2005:45) indicated that a two-stage process is in operation, 'whereby contact with the 'real self' comes first, through a process of integration...and then the further state of transcendence comes later'.

In Theory Y, Maslow (1993:271) commented that the 'non-peakers' or 'non-transcending self-actualisers' are 'essentially practical, realistic, mundane, capable, and secular people, living more in the here-and-now world', something that Maslow referred to as the D-realm, the world of deficiency needs and deficiency cognitions. In turn, Maslow (1993:271) referred to the other group (Theory Z) as 'peakers' or 'transcending self-actualisers' who live in the realm of being, or the B-realm, which he defined as 'of ends, of intrinsic values; to be more obviously metamotivated; to have unitive consciousness and 'plateau experience' more or less often; and to have peak experiences (mystic, sacral, ecstatic) with illuminations or insights or cognitions which changed their view of the world and of themselves'.

To this extent, both non-transcending and transcending self-actualisers share common characteristics ascribed to self-actualisation, with one exception, which Maslow (1993:273) referred to as the 'presence or absence or, more probably, greater or lesser number and importance of peak experiences and B-cognitions and what Asrani has called plateau experiences'. (Asrani was an Indian Yoga practitioner, although research has yet to uncover any original source material where Asrani first mentions the plateau experience).

Consequently, Maslow (1993) implied that peakers (Theory Z) should report greater incidence of plateau experience and peak experiences than non-peakers (Theory Y). However, Maslow (in Krippner, 1972) contradicts this in the SICVICS conference,

suggesting that the frequency of peak experiences diminishes with aging, while there is a greater frequency of plateau experience.

Daniels (2005:154) concluded that 'Maslow never really resolved the question of the relationship between self-actualisation and self-transcendence' (as characterised through Theory Y and Theory Z). Daniels (2005:154) subsequently provided four possibilities for future research and consideration in resolving the tensions,

- a) self-actualisation and self-transcendence are simultaneous and equivalent;*
- b) self-transcendence is the next level in the hierarchy above self-actualisation;*
- c) self-actualisation is a by-product of self-transcendence;*
- d) there are two different forms of self-actualisation, i.e. transcending and non-transcending.*

3.4 Summary of the plateau experience

From this discussion, although Maslow does not directly provide a list of qualities that characterise the plateau experience, the qualities collectively identified through his work may be summarised as,

- Seeing the sacred in the ordinary
- Voluntary
- Can be taught
- Calmness or serenity
- Cognitive – witnessing of the world, witnessing of reality
- Transcending time and space
- Cross-cultural
- Confrontation with mortality – acceptance of death
- Dualities

Cleary and Shapiro (1995) provided a refined list of qualities related to the plateau experience. These are: (i) witnessing; (ii) mortality; (iii) mysticism; and (iv) serenity. Synthesising both Maslow's concept and Cleary and Shapiro's qualities, a summary of the plateau experiences is provided in Table 3.1.

Table 3.1: Summary of the plateau experience

Development	
Voluntary	By this, one can engage with practices to facilitate the plateau experience, for example, walking on a beach opposed to walking through a city.
Can be taught	Various transpersonal practices may facilitate the plateau experience.
Cross-cultural	The various transpersonal practices may come from a variety of cultures, similarly the plateau experience may in turn be a global human experience.
Dualities	Where, for example, life and death are seen as complimentary. In a more practical sense, engaging with practices that encourage a dualistic approach, for example, maintaining physical effort to achieve relaxation (e.g. progressive muscle relaxation, Castle and Buckler, 2009).

Resultant Characteristics	
Calmness or serenity	Relaxation, 'a sustained state of inner peace'(Roberts and Aspy, 1993:145)
Cognitive	A witnessing or 'mindfulness'; seeing the sacredness in the ordinary; transcendence of time and space; appreciating dualities.
Acceptance of death	Confronting mortality, perhaps in a dualistic notion.

The aspect of 'mysticism' identified by Cleary and Shapiro (1995) has not been included in this classification due to the problematic nature of defining the term. For example, Raman (2008:274) commented that the term 'has no simple and universally accepted definition'. Similarly, Allman, De La Rocha, Elkins and Weathers (1992:565) commented that there is difficulty in providing an 'operational definition' also in setting parameters for the term. Allman *et al.* (1992:565) however synthesised a number of definitions of 'mystical experience' to produce the following,

...a transient, extraordinary psychological event marked by feelings of being in unity and harmonious relationship to the divine and everything in existence, plus one or more of the following effects: noesis, religiosity, loss of ego, time and space

alterations, ineffability, affect change during the event, transformation effect, and passivity, i.e., experiencing no control over the event.

From the definition of the term 'mystical experience' by Allman *et al.* (1992), the characteristics appear synonymous with the plateau experience as previously defined.

Maslow indicated that future work should be directed toward the plateau experience (Cleary and Shapiro, 1995; Krippner, 1972; Maslow, 1970), yet in forty years, very few researchers have taken heed of this direction, with current research trends still focusing on Csikszentmihalyi's concept of 'flow'. Consequently the next chapter will discuss the development of a psychometric for the plateau experience, a measure that may be correlated with other measures of self-actualisation to explore this relationship.

Additionally, although Daniels (2005) is critical of the concept of self-actualisation, specifically in any attempt to empirically assess people, he proposed future research possibilities to explore the relationship between self-actualisation and self-transcendence. Indeed, if an accepted measure of self-actualisation can be correlated with a measure for self-transcendence (as characterised by the plateau experience), this may indicate which of Daniel's (2005) hypotheses have the strongest potential.



Chapter Four:

Development of the PLEX psychometric



Chapter contents

4.1	Introduction	40
4.2	Defining 'psychometrics'	41
4.3	Developing a psychometric	41
4.4	Step 1: Determining the focus and justification for the PLEX	43
4.5	Step 2: Generating an item pool	44
4.6	Step 3: Scrutiny of the item pool	51
4.7	Step 4: Administering the PLEX to a developmental sample	51
4.8	Step 5: Evaluation of items for reliability	54
4.9	Step 6: Exploring concurrent validity	57
4.10	Step 7: Administration of optimised PLEX for test-retest purposes	61
4.11	Summary of the 15 item PLEX	64
4.12	Standardisation	66
4.13	Conclusion	70

4.1 Introduction

This chapter outlines the process of developing a psychometric to assess Maslow's concept of the plateau experience. Given that the elements proposed by Maslow (specifically death anxiety, witnessing or 'mindfulness', serenity) have a tradition of research with developed psychometrics for each element, an attempt to validate the plateau experience should naturally be able to use such measures as a foundation. This chapter consequently discusses the development of the Plateau Experience Scale (or PLEX).

The chapter will initially provide an overview of psychometrics before progressing to discuss psychometric development adhering to current practice. A series of stages for developing a psychometric are derived; each stage subsequently discussed in detail. Alongside the psychometric developmental discussion, methodological considerations are embedded (for example, ethical issues, validity, reliability, etc.)

4.2 Defining ‘psychometrics’

The definition of ‘psychometrics’ has varied between authors: Kline (2000:1) defined psychometrics in a literal, etymological way as ‘measuring the soul’. By this, Kline (2000:1) suggested that ‘psychometrics refers to all those aspects of psychology which are concerned with psychological testing’. Similarly, DeVellis (2003:3) defines psychometrics as ‘concerned with measuring psychological and social phenomena’. Furr and Bacharach (2008) however suggested that there is a difference between a psychological test (which measures a psychological attribute) and a psychometric (the science of evaluating the attributes of psychological tests). Loewenthal (2001) discussed the difference between psychological tests and scales, whereby testing compares performance on a test with a ‘norm’ or standard population, while a scale orders and compares performance against the test instrument. Given the range of definitions, the consensus would appear that psychometrics is concerned with the measurement of a specific psychological construct.

Within transpersonal psychology the phrase ‘*transpersonal psychometrics*’ does not appear to have been used. It has subsequently been defined here as: the measurement of a specific psychological effect derived through what may be deemed a personal-development practice.

4.3 Developing a psychometric

Psychometric development has been discussed by a number of authors, each emphasising different developmental stages. Some authors (e.g. Furr and Bacharach, 2008; Kline, 2000; Wilson, 2005) focus on the theoretical construction, specifically in-depth discussion relating to reliability and validity. Other authors (e.g. Cohen and Swerdlik, 2005; DeVellis, 2003; Loewenthal, 2001; Rust and Golombok, 1999/2009) provide more pragmatic guidance on constructing measures.

Adhering to the pragmatic guidance within psychometric development, the authors previously cited tend to conform to the framework provided by Cohen and Swerdlik (2005): that a psychometric is developed through conceptualising the test, constructing the test, trying out the test, analysing the test items then subsequently revising the test. Table 4.1 provides a summary of the various stages advocated in psychometric development.

Table 4.1 Various stages advocated in psychometric development

<i>DeVellis (2003)</i>	<i>Loewenthal (2001)</i>	<i>Rust & Golombok (1999/2009)</i>
Determine clearly what it is you want to measure.	A statement of what the scale measures;	Defining the purpose of the questionnaire;
Generate an item pool.	Justification for the scale – its uses, and advantages over existing measures;	Making a blueprint that correlates content areas against manifestations;
Determine the format for measurement.	A description of how the preliminary pool of items was drawn up;	Writing items for the questionnaire;
Have the initial item pool reviewed by experts.	A description of the sample used for testing;	Design of the questionnaire;
Consider inclusion of validation items.	An indication of the population (kinds of people) for whom the measure would be appropriate;	Piloting;
Administer items to a development sample.	Descriptive statistics (norms): means, standard deviations, ranges, subsequent subscales;	Item analysis, specifically facility, discrimination and distractors;
Evaluate the items.	Reliability statistics;	Reliability, validity and standardization.
Optimize scale length.	Validity statistics;	
	The scale itself (instructions, items, or examples of items).	

A synthesis of Table 4.1 is provided below to detail how the PLEX was developed. Specifically,

Step 1: Determining the focus and justification for the PLEX.

Step 2: Generating an item pool, conforming to content validity as appropriate.

Step 3: Scrutiny of the item pool by external experts to ensure content validity.

Step 4: Administering PLEX to a developmental sample.

Step 5: Evaluation of items for reliability to reduce scale length.

Step 6: Ensuring concurrent validity through correlation with an existing measure.

Step 7: Administration of optimised PLEX for test-retest and standardisation.

This process will be elaborated below, providing discussion of the theoretical and practical considerations for each stage of development.

4.4 Step 1: Determining the focus and justification for the PLEX.

The literature review identified the defining features of the plateau experience summarised in Table 4.1. The resultant characteristics of the plateau experience are a sense of calmness or serenity, a witnessing or mindfulness, and an acceptance of death. If the resultant characteristics can in some way be 'measured', specifically in relation to activities that may be deemed transpersonal, this would help further discussion of the plateau experience and provide a framework for future research into the transpersonal. Additionally, if an accepted measure of self-actualisation can be correlated with a measure for self-transcendence (as characterised by the plateau experience), this may indicate which of Daniel's (2005) hypotheses have the strongest potential.

Each characteristic of the plateau experience has one or more validated psychometric measures with high reliability and validity, however, to date, there have been no measures constructed for the plateau experience. What is thus proposed is the development of a psychometric which utilises existing psychometrics in an attempt to validate the plateau experience psychometric.

4.5 Step 2: Generating an item pool

In order to derive an item pool, existing psychometric measures for the three characteristics of the plateau experience provided a basis. Loewenthal (2001:21) however echoes Bradley's warning that, 'psychologists would rather use each others' toothbrushes than each others' measures', although Loewenthal (2001) does advocate using existing psychometrics wherever possible. The three characteristics of the plateau experience have been identified as death anxiety, serenity and mindfulness. Psychometric measures have been developed for each of these areas, predominantly for death anxiety, with fewer for serenity and mindfulness, consequently a measure for the plateau experience utilised existing measures.

Central to the identification of existing measures, specific criteria were used for selection:

4.5.1 Validity

There are a variety of different forms of validity in psychometric construction, although each is problematic in nature. For example, Kline (2000) defines concurrent validity as correlating the psychometric under development with existing measures of the same construct, yet given that there are no measures for the plateau experience, this is problematic. Although no existing measures for the plateau experience exist, correlation of the PLEX with an existing measure of self-actualisation is discussed as a strategy for investigating concurrent validity.

There are other forms of validity within psychometrics, for example content validity, defined by Furr and Bacharach (2008:173) as, 'the degree to which the content of a measure truly reflects the full domain of the construct for which it is being used'. Indeed, they suggest that only those with a deep understanding of the construct can evaluate the test items. Given that the plateau experience is a lucid concept with little theoretical debate, this is problematic. A further form of validity, face validity, is defined by Loewenthal (2001) and Furr and Bacharach (2008) as the appearance of the test to the participant. This is similarly problematic as with content validity, given that the plateau experience is relatively unknown even within psychology. Predictive validity (as defined by Kline, 2000 and Loewenthal, 2001) is similarly problematic for this stage of generating the item pool due to the lack of research within the area. Thus in development of an item pool, existing measures for the characteristics of the PLEX were selected on the basis that they appeared to conform to Maslow's definition, which is characteristic of content validity.

Kline (2000) does however suggest that construct validity is an approach for test validation that negates problems in other forms of validity. Construct validity is defined by DeVellis (2003) and Loewenthal (2001) as the formulation of a theory that predicts behaviour in relation to the test. Consequently, the PLEX was developed through the theoretical proposal that a person who is deemed to have, or is experiencing the plateau experience, would conform to Maslow's description: that they would have lower death anxiety, higher levels of mindfulness and higher levels of serenity. This raises an issue. Is the plateau experience a temporary state or an enduring trait? Rust and Golombok (2009:80) advocate that construct validity is the 'underlying trait approach to psychometrics', thus if the PLEX can distinguish the ascribed predicted characteristics, the plateau experience may be deemed a trait.

Additionally assessing the test-retest correlation may help identify whether the plateau experience is a trait or state. By this, if the test-retest correlation is similar, this would indicate a trait.

4.5.2 Reliability

Loewenthal (2001:5) simply defines reliability as 'consistency'. Kline (2000:26) furthers this definition by specifying that reliability 'refers to the stability of the test scores over time' or test-retest reliability. Kline (2000:28) additionally reports that reliability relates to internal consistency which he defines as reflecting 'the extent to which each item is measuring the same variable'. DeVellis (2003:28) furthers the definition stating, 'a scale is internally consistent to the extent that its items are highly correlated'. Furr and Bacharach (2008:82) provide a clearer definition of such reliability, commenting that 'reliability reflects the extent to which differences in respondents' observed scores are consistent with differences in their true scores'. Due to the emphasis placed on internal consistency reliability, Kline (2000:29) concludes that 'the majority of psychometrists regard internal consistency reliability as essential for a good test'.

In relation to the selection of items for the test pool, existing measures that reported high internal consistency reliability were selected for inclusion on the PLEX.

4.5.3 Norms

Rust and Golombok (2009:232) define norms as standardisation that is 'obtaining scores on the final version of your questionnaire from appropriate groups of respondents'. Kline (2000:39) similarly discusses norms as standardisation, specifically that norms are 'essential for interpreting the meaning of a test score'. By establishing norms, an individual respondent's score can be assessed against the 'typical' response, opposed to a raw score (e.g. 108) which is not meaningful without a zero or a standard response.

Loewenthal (2001) discusses the characteristics of such norms, specifically noting the mean (the total of all the respondents' scores divided by the number of respondents), the range (the highest and lowest scores) and standard deviation (the spread of the scores). Furthermore, Loewenthal (2001) advocates presenting the description of the sample that contributed to the mean scores through presenting the mean age, age range, details of cultural background and the performance of subgroups (e.g. males/females), presenting their means separately if their performances differ. Kline (2000:40) however provides additional types of norms: percentiles, standard scores, z scores, t scores discussing the need to convert raw scores into useful scores which 'enable the test user to see where any particular score stands relative to the normative group'.

Kline (2000) does warn that although many psychometric tests discuss norms, he argues that they are based on small, unrepresentative samples. By this, Kline (2000:39) suggests that 'it is essential that a sample reflects the population it is intended to represent' advocating several thousand for a general population. Indeed, Furr and Bacharach (2008:7) similarly discussed norms as relating to a representative sample, suggesting that 'norm-referenced tests are of little value if the reference sample is not well defined, or if there is doubt that the person being tested is a member of the relevant population'.

Rust and Golombok (2009) commented that it is not always necessary to produce norms, explaining that norms are not crucial when comparing groups of respondents, although are necessary when comparing an individual score. Furr and Bacharach (2008) further comment that test developers tend not to spend the time and effort in developing norms and standardised scores. However in adhering to good practice, existing measures that reported norms were selected.

A problem however is raised in relation to such reported norms. The majority of psychometrics analysed have been developed by academics that, for the development of their measures, required access to a large sample. Such 'convenience sampling' or 'testing whoever it is convenient to test' (Loewenthal, 2001:44) can give rise to sample bias. Loewenthal (2001) did however report that for ascertaining the general level of response to questions, such convenience sampling is not deemed problematic. However she does discuss that convenience sampling would be more problematic if the effects or correlates of an independent variable were to be assessed.

Given that the majority of psychometrics relating to the characteristics identified for the plateau experience had been norm-referenced to predominantly undergraduate populations, also that Loewenthal asserts such sampling is not problematic to ascertain a general response to questions, the PLEX would similarly be developed using such undergraduate (and postgraduate) samples. This would also enable a correlation to the existing measure to determine any variance to established norms.

4.5.4 The measure for serenity

Roberts and Cunningham (1990:578) claimed that the meaning of serenity is ambiguous, suggesting that 'most authors merely use the term with no further reference to meaning'. Where definitions have been provided, Roberts and Cunningham (1990:578) suggested that they are varied and vague, ranging from 'an undisturbed higher faculty of the soul', to 'a spiritual supermarket', to 'a reflection on one's being', or 'a higher level of consciousness', although the majority of authors appear to relate serenity to 'peace of mind' or 'inner peace'. Indeed, it is this last definition that Roberts and Aspy (1993:145) used to define serenity in the development of their Serenity Scale, offering the definition as 'a sustained state of inner peace'.

Roberts and Cunningham (1990:578) reviewed three existing measures of serenity although concluded that such research instruments 'failed to clarify the concept adequately'. From this, Roberts and Cunningham (1990) constructed a knowledge base for the development of a measure for the concept of serenity. Such a serenity measure was developed by Roberts and Aspy (1993) through their 40-item Serenity Scale. Five experts in serenity to assist with the concept analysis to create a pool of 65 items. The sample consisted of 542 subjects aged 20 to 95 at six convenience sites, with the coefficient alpha on the 65 item scale of .93. The reduced 40 item scale has a coefficient

alpha of .92. Although a number of factors are identified, four specific factors were selected given their content validity with the plateau experience. These were Inner Haven, Detachment, Presentness and Acceptance.

At the time of developing the PLEX, this was the only measure of serenity and was thus deemed appropriate for inclusion in the PLEX due to the high reliability and that four factors appeared to relate to Maslow's concept.

4.5.5 The measures for mindfulness

Two measures for mindfulness were identified: the Frieberg Mindfulness Inventory (Walach, Buchheld, Buttenmuller, Kleinknecht and Schmidt, 2006) and the Mindfulness Attention Awareness Scale (Brown & Ryan, 2003).

The Mindfulness Attention Awareness Scale, or MAAS, was developed to 'measure a unique quality of consciousness that is related to a variety of well-being constructs...that is associated with enhanced self-awareness' (Brown and Ryan, 2003:822). Although Brown and Ryan (2003:822) acknowledged that the concept of mindfulness derived from Buddhism, they also acknowledged other contemplative traditions 'where conscious attention and awareness are actively cultivated'. Through this, Brown and Ryan (2003:822) suggested that mindfulness is a 'state of being attentive to and aware of what is taking place in the present'.

Brown and Ryan (2003) provided a detailed discussion of the development and validation of the scale. The MAAS was reduced from a pool of 184 items through concept analysis by nine experts. The resulting scale was validated first with a sample of 313 undergraduates, then another sample of 327 students, before being validated on a US-wide sample of 239 adults. The resulting alpha coefficient was .87. A four week test-retest on 60 students demonstrated that the mean scale scores were not significantly different

Walach *et al.* (2006:145) however criticised the MAAS, commenting that 'the scale places a focus on attention and awareness, and thus leaves out some other aspects of mindfulness, like the non-judgmental, accepting attitude, dis-identification, insightful understanding, or an attitude of having no specific goals'. Indeed, this criticism is very much based on the definition provided by Walach *et al.* (2006) whereby mindfulness is

defined in relation to the original Buddhist construct, opposed to the broader interpretation by Brown and Ryan (2003).

Walach *et al.* (2006:144) defined mindfulness as being 'cultivated through meditation and practice in everyday life, and refers to an alert mode of perceiving all mental contents: perceptions, sensations, cognitions, affects'. In addition, Walach *et al.* (2006:144) reported that mindfulness consists of a 'warm and friendly, accepting and non-judgmental attitude' which suspends categorical judgements.

The Frieberg Mindfulness Inventory, or FMI, was developed from a 30 item questionnaire to a 14 item questionnaire through two research stages which consisted of 372 participants producing a reliability coefficient of .86 for the 14 item version and .93 for the 30 item version.

Within the PLEX, both of these measures were incorporated in order to ascertain which questionnaire, or indeed, which questions, were most appropriate for the item pool.

4.5.6 The measures for death anxiety

According to Thorson and Powell (1992:507), 'recognition that the fear of death is universal goes back at least to the work of Hall in 1896'. Neimeyer (1994:3) defined death anxiety as 'anxiety caused by the anticipation of the state in which one is dead'. Neimeyer and Moore (1983:103) discussed the problems in ascertaining a measure of death anxiety, that the 'fear of death cannot be observed but must be inferred' and that 'no simple criterion exists against which an instrument can be compared to establish its validity'. Neimeyer and Moore (1983:109) thus concluded that the construct validity of any such scale is developed through 'theoretically predicting relationships with other relevant variables'.

The Fear of Death Scale (Neimeyer and Moore, 1983) consisted of a range of factors over 42 items, the most significant factor in relationship to the plateau experience being Factor 8: Fear of Premature Death. This is a 'concern that death will prevent one from accomplishing important goals of having significant experiences' (Neimeyer and Moore, 1983:105). The scale was developed across a diverse adult population of 952 participants with the alpha coefficient for the Fear of Death Scale ranges across different studies from .72 to .80 with a test-retest of .73 over three weeks.

The Death Transcendence Scale (Hood and Morris, 1983) consisted of 23 items on a four-point response format. Although a range of factors are contained in the scale, in relation to Maslow's concept of the plateau experience, the '*nature subscale*' appeared to be the most relevant as it made statements about the natural cycle of life and death and the eternity of nature. Despite these questions appearing the most relevant, the reliability coefficient for the nature subscale was relatively weak (.53).

The Death Perspective Scale (Spika, Stout, Minton, Sizemore, 1977:439) was developed to 'measure the true multidimensional nature of people's feelings about death, as opposed to the usual focus on anxiety and fear'. The scale comprised of 43 items with eight subscales that varied from four to six items in length. The scale was validated through a sample of 328 college students. The significant subscale identified for use on the PLEX was Scale 8: Death as a Natural End, which comprised of four questions that similarly related to Maslow's definition of the plateau experience. Indeed, this subscale consisted of questions about death being an act of harmony with existence and a natural part of the life cycle. The reliability coefficient K-R20 was .71.

Nelson (1978) developed a three-factor instrument (the 3DAF), initially with 455 undergraduates, then a further sample of 587 undergraduates. The three factors and their associated reliability coefficients were death avoidance .76, disengagement .71 and death fear .74. This last factor was deemed to be synonymous with death anxiety and the associated three questions were used in the PLEX.

A final measure of death anxiety was the Revised Collett-Lester Fear of Death and Dying Scale (Lester, 1990). This was originally developed as a 36 item measure in which was reduced to a 32 item measure consisting of four factors (with associated alpha coefficients in brackets): death of self (.91), dying of self (.92), death of others (.88) and dying of others (.92). Each factor consisted of 8 items. The selected scale most appropriate for the PLEX was the 'death of self'.

4.6 Step 3: Scrutiny of the item pool

The item pool was discussed with three chartered psychologists from two academic institutions. Having discussed the specific characteristics of the plateau experience, and the associated measures proposed to assess these, the first version of the survey was developed.

Once the pool of items was verified, the PLEX-1 went through the relevant University ethical boards. The key aspect for ethical concern centred on the inclusion of questions on death anxiety. Indeed, given the delicate nature of setting such questions, a number of considerations were implemented as discussed below.

On the front of the PLEX-1, a statement stressed that the questionnaire contained questions relating to death, and that participants did not have to progress any further with the questionnaire. In addition to an ethical statement that required signing and dating, a detachable back page to the PLEX-1 was incorporated. This page consisted of a puzzle (crossword or wordsearch) with contact details should participants had wanted to discuss any aspect of the PLEX-1, or the plateau experience. Additionally, the contact details for the University counsellors and the Samaritans were included should the PLEX-1 cause duress during or after completion.

The inclusion of this page was discussed when the PLEX-1 was administered to participants. The ethical discussion highlighted that the participants were under no obligation to complete the PLEX-1 and that they could leave the room before, during or after completing the PLEX-1. However the inclusion of the page was discussed in relation to non-respondents not wanting to get up and leave, to be asked later by peers if they had been upset by the PLEX-1, etc. which in turn could create more duress. Consequently, non-participants could appear engaged with the questionnaire, even if it was only through completing a puzzle.

4.7 Step 4: Administering the PLEX to a developmental sample

The PLEX-1 was originally piloted with a sample of 127 undergraduate students. A five minute introduction to the research and the construct of the plateau experience was explained, relating to an extension of Maslow's Hierarchy of Needs. In addition, the ethical framework was discussed with the students as outlined previously. The sample of 127

students consisted predominantly of females (female 79%, male 21%). The age range was 18 years to 53 years (mean 24.32, SD 7.48).

This pilot was generally small in order to ascertain the length of time it would take to complete the questionnaire, also to ascertain whether internal consistency was of a sufficient standard before being distributed to a larger sample. The questionnaire took between ten and fifteen minutes to complete the sixty-six questions derived from the item pool. The Cronbach Alpha was .78 which was above the acceptable level of .7 (as discussed by DeVellis, 2003; Furr and Bacharach, 2008; Kline, 2000). From the 66 items, the following statistics are derived.

- **Serenity** (mean 39.17, SD 8.12, range 18-60). A positive skewness (.032) was indicated, although the kurtosis indicated a relatively flat distribution (-.031), probably given the low number of respondents.
- **Mindfulness** (mean 87.03, SD 13.16, range 49-122). A negative skewness (-.175) was indicated with a positive kurtosis value (.272) indicating clustering around the centre.
- **Death anxiety** (mean 78.32, SD 11.01, range 46-107). A negative skewness (-.071) was indicated with a positive kurtosis (.376) which indicated a relatively peaked distribution.
- **Total PLEX** (mean 204.52, SD 19.17, range 143-246). A negative skewness (-.335) was indicated with a positive kurtosis (.176) indicating clustering around the centre.

Gender differences for the Total PLEX-1 are provided below.

- **Males** (mean 203.04, 5% trimmed mean 203.36, median 203.00, range 171-231, SD 14.75).
- **Females** (mean 204.92, 5% trimmed mean 205.36, median 207.00, range 143-246, SD 20.25).
- **Sample** (mean 204.52, 5% trimmed mean 204.86, median 206.00, range 143-246, SD 19.17).
- The Kolmogorov-Smirnov statistic (Sig. .20) indicated a non-significant result thus indicating normality within the sample.

Given that the pilot phase indicated good reliability, a sample of 332 undergraduate students completed the same version of the PLEX-1.

The sample of 332 students consisted predominantly of females (female 82%, male 18%). The age range was 18 years to 53 years (mean 23.92, SD 6.78). The Cronbach Alpha (Statistical Analysis 15) was .814, indicating high reliability. From the 66 items, the following statistics are derived.

- **Serenity** (mean 38.24, SD 8.14, range 13-63). A positive skewness (.51) was indicated with a positive kurtosis value (.290) indicating clustering around the centre.
- **Mindfulness** (mean 86.09, SD 14.47, range 44-135). A positive skewness (.037) was indicated with a positive kurtosis value (.750) indicating clustering around the centre.
- **Death anxiety** (mean 77.51, SD 9.445, range 46-107). A positive skewness (.050) was indicated with a positive kurtosis (-.913) which indicating clustering around the centre.
- **Total PLEX** (mean 201.84, SD 21.015, range 131-278). A positive skewness (.009) was indicated with a positive kurtosis (.873) indicating clustering around the centre.

Gender differences for Total PLEX-1 are provided below.

- **Males** (mean 203.53, 5% trimmed mean 203.09, median 203.00, range 141-278, SD 21.48).
- **Females** (mean 201.46, 5% trimmed mean 201.49, median 203.00, range 131-275, SD 20.93).
- **Sample** (mean 201.84, 5% trimmed mean 201.78, median 203.00, range 131-278, SD 21.02).
- The Kolmogorov-Smirnov statistic (Sig. .034) indicates a non-significant result thus indicating normality within the sample.

Given the high level of reliability, the PLEX-1 was evaluated in order to reduce the scale length.

4.8 Step 5: Evaluation of items for reliability

Given that the original PLEX-1 consisted of sixty-six questions, statistical analysis indicated that reducing the number of items could maintain reliability if specific questions were eliminated. DeVellis (2003:96-97) specifically discussed the need to optimise scale length stating, 'a scale's alpha is influenced by two characteristics: the extent of covariance among the items and the number of items in the scale'. By this, DeVellis (2003) continued to discuss a 'trade off' in maintaining the reliability associated with longer scales versus the reduction of burden on respondents if shorter scales are used.

A tension existed in relation to identifying a suitable method for assessing internal consistency in an attempt to reduce the number of items. Two methods are advocated by Clark and Watson (1995), factor analysis and corrected item-total correlations. Clark and Watson (1995) advocate that factor analysis is suitable when the target construction is multidimensional thus requiring subscales. Indeed, given that the PLEX-1 has theoretically been advocated as consisting of three subscales, factor analysis initially appeared appropriate.

4.8.1 Factor Analysis

Factor analysis is a data reduction technique which analyses a large set of variable (i.e. questions on a psychometric) in an attempt to group these variables through inter-correlation into a smaller set (DeVellis, 2003; Kline, 2000; Loewenthal, 2001; Pallant, 2005; Rust and Golombok, 1999/2009). DeVellis (2003:103) suggested that factor analysis can provide 'important properties of a scale', additionally, according to Kline (2000:54) factor analysis is 'a technique critical to every aspect of psychometrics'. Indeed DeVellis (2003) provided three important purposes of factor analysis: determining the number of latent variables (or factors), condensing information, and defining the meaning of the latent variables. These three purposes are discussed as stages at a later point. Additionally, DeVellis (2003) commented that factor analysis enables investigation of whether an item has any influence.

Although the use of factor analysis appears beneficial, Rust and Golombok (2009:112) warned that factor analysis 'has always been more of a conceptual tool than a statistical technique', indicating that the assumptions made by statistical packages are unwarranted in particular cases. Indeed, such use of context is commented by Loewenthal (2001:65) who stated,

If you are developing a scale for professional use or major research purposes, some psychometricians would regard factor analysis as an important, or even essential procedure in the construction of psychological scales and tests. If, however, you have obtained satisfactory reliability and/or you are not applying the scale in a major way, you could skip this bit.

Furthermore Loewenthal (2001:13) provided two criteria for the use of factor analysis in test development,

- *Assessing something complicated, in which you suspect more than one underlying factor. A variety of items are needed for assessment, they would not be well associated with each other, and a conventional reliability analysis yields poor results;*
- *and you are unsure what the underlying factors are. When you know what the different factors are, you can write a subscale to assess each, and then examine the reliabilities of each subscale. When you do not know, then factor analysis may tell you.*

Consequently, given that the 'underlying factors' had *a priori* been identified along with associated validated psychometrics, also that 'conventional reliability analysis' had provided adequate results, the two criteria advocated by Loewenthal (2001) were negated. Indeed, Loewenthal (2001:13) additionally commented, 'when you know what the different factors are, you can write a subscale to assess each, and then examine the reliabilities of each subscale. When you do not know, then factor analysis may tell you'. Given that three distinct characteristics of the plateau experience had been identified, factor analysis did not provide any additional information on the scale: serenity, mindfulness and death anxiety were three distinct factors, although death anxiety did indicate variance between the measures whereby each of the items in the five scales appeared coherently grouped to their scale.

Clark and Watson (1995) therefore suggested that use of corrected item-total correlations can be used to eliminate items that do not strongly correlate with the assessed construct, as similarly discussed by Loewenthal (2001) above.

4.8.2 Corrected item-total correlation

According to Pallant (2005:92) the most important reliability statistic is the Alpha value (which should be above .7), although she highlights the importance of the corrected item-total correlation. This provides an indication of the degree that each item correlates with the total score.

DeVellis (2003) specified that there are two types of item-scale correlation: the corrected item-scale correlation (which correlates each item with all other scale items excluding itself), and the uncorrected item-scale correlation which correlates an item against all other items, including itself. DeVellis (2003) commented that the latter type indicates how representative the item is with the whole scale, and is thus, theoretically makes conceptual sense, however he warns that inclusion of the item can inflate the correlation coefficient.

Kline (2000) defined the corrected-item-total correlation through discussing that each item should correlate with the total score on the scale: that an item would be measuring a different variable if the item failed to correlate. Consequently Kline (2000:52) stated that the item-total correlation ensures that the test is 'homogenous, measuring one variable'.

DeVellis (2003), Kline (2000), Loewenthal (2001) and Pallant (2005) commented that values of less than .3 within the corrected item-total correlation indicate that the item is measuring something different to the scale as a whole.

4.8.3 A conflict and a resolution

Having independently conducted both factor analysis and corrected item-total correlation, different items appeared to be the most 'suitable' for inclusion in a reduced-item measure. The decision to opt for the strongest items from the corrected item-total correlation was based on the notion that factor analysis did confirm that the three subscales were independent and thus did not provide any additional information. This has thus been based on the *a priori* assumptions previously discussed.

An additional conflict was that, as the PLEX-1 was based on existing psychometric measures, each measure, along with the associated items, were deemed reliable in test construction. Consequently through analysis, very few items actually achieved lower than .3 on the corrected item-total correlation. A decision was thus made to identify the highest

scoring items on each of the measures to provide a reduced PLEX-1 which in turn could be assessed additional for psychometric properties, not only in reliability but also in relation to content validity through adopting those highest scoring questions most relevant to Maslow's definition of the plateau experience (thus conforming to content validity). This subsequently resulted in a 20-item reduced version, the PLEX-2 which consisted of eight questions on serenity, seven on mindfulness and five on death anxiety. Although it would have been useful to have had equal numbers of items for each subscale to enable correlation at a later stage, the variance in the original items from an unequal item-pool prevented this.

The PLEX-2 introduced a subsequent measure, Jones and Crandall's (1986) '*Short Index of Self-Actualisation*' (SISA) to assess concurrent validity. Additionally, given the variety of response formats from the original measures that contributed to the item pool (ranging from a four choice to a seven choice format) a four-choice response format was implemented in line with the SISA. Furthermore, the questions from the reduced item pool were randomly assigned.

It is appreciated that at this stage of development introducing four changes (reducing the items on the PLEX-1, incorporating an additional measure for self-actualisation, altering the response format and randomly assigning the questions) could be deemed problematic. However, given that time and resources for this stage of development were not deemed an issue, the changes were implemented. If the resultant analysis was deemed problematic, refinement of this stage would have been re-evaluated.

4.9 Step 6: Exploring concurrent validity

Kline (2000:32) discussed the problems of ensuring concurrent validity when there are no benchmark measures. He suggests that measures of similar but not identical properties can be used, 'with the hope of demonstrating the modest but positive correlation' of .3 to .5. However, Kline (2000:32) concluded that, 'with no benchmark measures, the demonstration of concurrent validity is highly subjective and somewhat unconvincing'.

As mentioned in the previous stage, a measure of self-actualisation was introduced to ascertain whether concurrent validity was evident. In returning to the theoretical discussion of self-actualisation and self-transcendence several issues were raised. Indeed, returning

to Daniels (2005:154) query about the relationship between self-actualisation and self-transcendence, four considerations are provided,

1. *self-actualisation and self-transcendence are simultaneous and equivalent*
2. *self-transcendence is the next level in the hierarchy above self-actualisation*
3. *self-actualisation is a by product of self-transcendence*
4. *there are two different forms of self-actualisation, i.e. transcending and non-transcending*

Consequently, correlating the proposed measure of plateau experience derived through the PLEX with an existing measure of self-actualisation, the Short Index of Self-Actualisation (SISA) (Jones and Crandall, 1986) may have illuminated further the discussion advocated by Daniels. The SISA consisted of fifteen questions with a number of reversed-scored items. As Jones and Crandall (1986:63) discussed, their purpose was to develop 'a short, reliable, and valid index of self-actualisation that will be of value in many research situations' arguing that existing measures, such as Shostrom's Personal Orientation Inventory and Personal Orientation Dimensions, etc. had 'inadequate validation or length that may preclude their usefulness in many research contexts' (Jones and Crandall, 1986:64).

Jones and Crandall (1986:65) discussed that the SISA was developed through using 332 students as respondents, providing an alpha coefficient of .65 with a mean of 45.6 and a standard deviation of 5.57. Furthermore, they report that there was a 12-day test-retest with 67 students (30 male, 37 female) with a reliability of .69 ($p < .001$), with the mean for the test being 46.24 (SD=4.06), the retest having a mean of 45.97 (SD=4.26). From their results, Jones and Crandall (1986) identified that 18 individuals were deemed to be self-actualizing with a mean of 51.2 (SD=4.37): the non-self-actualising mean was 44.00 (SD=4.89). The difference between the means was deemed highly significant [$t(17)=4.74$, $p < .001$].

The SISA has been used in a number of studies since its inception due to the stronger psychometric properties than the POI, also the shorter length of the scale. For example, Dominguez and Carton (1997) used the SISA to explore the relationship between self-actualisation and parenting style. Their study provided an alpha coefficient of .67. Sumerlin and Bundrick (1996) developed their 'Brief Measure of Self-Actualisation' by correlating

with the SISA, demonstrating that the SISA had an alpha coefficient of .87 to .89. Despite these studies appearing dated, the SISA is however still being used as a self-actualisation measure of choice, for example Coppola and Spector (2009) used the SISA for their research into Natural Stress Relief (NSR) meditation.

The revised PLEX-2 was subsequently distributed to a sample of 349 undergraduate and postgraduate students from a variety of disciplines which consisted of a more balanced sample (female 42%, male 58%). The age range was 18 years to 65 years (mean 30.90, SD 12.62).

The resultant Cronbach Alpha for the PLEX-2 was .703 and therefore indicative of a reliable measure. Additionally, the Cronbach Alpha for the SISA was .519 (compared to Jones and Crandall's figure of .65) which indicated that the measure was unacceptable in relation to reliability as defined by DeVellis (2003).

From the 20 item PLEX-2, the following statistics were derived.

- **Serenity** (mean 31.50, SD 4.01, range 9-32). A positive skewness (.002) was indicated with a positive kurtosis value (-.006) indicated a relatively flat distribution.
- **Mindfulness** (mean 22.10, SD 3.03, range 14-32). A positive skewness (.112) was indicated with a positive kurtosis value (-.003) indicated a relatively flat distribution.
- **Death anxiety** (mean 19.07, SD 2.85, range 7-24). A negative skewness (-.62) was indicated with a positive kurtosis (.62) which indicating clustering around the centre.
- **Total PLEX** (mean 62.67, SD 7.01, range 37-83). A negative skewness (-.004) was indicated with a positive kurtosis (.423) indicating clustering around the centre.
- **Total SISA** (mean 41.30, SD 4.75, range 28-56). A positive skewness (.036) was indicated with a negative kurtosis (-.115) which indicated a relatively flat distribution.

Gender differences for the Total PLEX-2 are provided below.

- **Males** (mean 63.10, 5% trimmed mean 63.11, median 63.00, range 37-83, SD 6.99).
- **Females** (mean 62.09, 5% trimmed mean 62.04, median 61.00, range 39-82, SD 7.02).
- **Sample** (mean 62.67, 5% trimmed mean 62.66, median 62.00, range 37-83, SD 7.01).
- Although the Kolmogorov-Smirnov statistic (Sig. .002) indicates a violation of the assumption of normality, Pallant (2005) suggested that this is common in larger samples.

The relationship between the plateau experience (as measured by the PLEX-2) and self-actualisation (as measured by the SISA) was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a small, positive correlation between the two measures ($r=.211$, $n=349$, $p<.0005$) thus indicating high levels of self-actualisation are associated with high levels of plateau experience. The amount of shared variance is 4.45% indicating that self-actualisation helps to explain 4% of the variance in respondents' scores on the PLEX.

Consequently the PLEX-2 appeared to be a robust and reliable measure based on construct validity (and to a lesser extent, content validity). However concurrent validity was deemed inconclusive through use of the SISA: the results within this stage of PLEX development failed to replicate the reliability statistics reported by Jones and Crandall (1986).

Further analysis of the reliability statistics demonstrated that the PLEX-2 could be subsequently shortened to fifteen questions. Although the SISA did not replicate a satisfactory level of reliability, it was incorporated within the PLEX-3 to ascertain whether the SISA would yield results similar to those reported in previous studies.

4.10 Step 7: Administration of optimised PLEX for test-retest purposes

The thirty-question version of the PLEX-3 (which incorporated the fifteen-item SISA) was distributed to a further sample of 55 students consisting of a predominantly female sample (female 85%, male 15%). The age range was 21 years to 54 years (mean 38.02, SD 8.17).

4.10.1 Test

For the test, the Cronbach Alpha for the SISA was .447. This level was again deemed unacceptable as previously discussed by DeVellis (2003). However, the Cronbach Alpha for the 15 item PLEX-3 was .816 demonstrating high reliability. Due to the poor reliability of the SISA, the relationship between the PLEX and SISA was not deemed appropriate for investigation.

From the 15 item PLEX-3, the following statistics were derived.

- **Serenity** (mean 19.13, SD 3.84, range 8-26). A negative skewness (-.752) was indicated with a positive kurtosis value (.959) indicating clustering around the centre.
- **Mindfulness** (mean 10.75, SD 2.51, range 5-15). A negative skewness (-.349) was indicated with a negative kurtosis value (-.311) which indicated a relatively flat distribution.
- **Death anxiety** (mean 14.15, SD 1.59, range 10-16). A negative skewness (-.390) was indicated with a negative kurtosis (-.582) which indicated a relatively flat distribution.
- **Total PLEX** (mean 44.02, SD 6.21, range 37-83). A negative skewness (-.318) was indicated with a positive kurtosis (.297) indicating clustering around the centre.
- **Total SISA** (mean 40.98, SD 4.223, range 32-50). A positive skewness (.051) was indicated with a negative kurtosis (-.706) which indicated a relatively flat distribution.

Gender differences for the Total PLEX-3 are provided below.

- **Males** (mean 47.63, 5% trimmed mean 47.81, median 49.00, range 40-52, SD 3.89).
- **Females** (mean 43.40, 5% trimmed mean 43.50, median 44.00, range 28-57, SD 6.35).
- **Sample** (mean 44.02, 5% trimmed mean 44.19, median 44.00, range 28-57, SD 6.21).
- The Kolmogorov-Smirnov statistic (Sig. .200) indicated a non-significant result thus indicating normality within the sample.

4.10.2 Retest

For the retest, the Cronbach Alpha for the SISA was .692. This level is deemed to be almost acceptable as previously discussed by DeVellis (2003). The Cronbach Alpha for the 15 item PLEX-3 was .873, again demonstrating high reliability. As with the test phase, the relationship between the SISA and the PLEX-3 was not deemed appropriate for investigation given the poor reliability level of the SISA.

From the 15 item PLEX-3, the following statistics were derived.

- **Serenity** (mean 19.15, SD 4.002, range 7-27). A negative skewness (-.793) was indicated with a positive kurtosis value (1.454) indicating clustering around the centre.
- **Mindfulness** (mean 10.96, SD 2.341, range 5-16). A positive skewness (.216) was indicated with a positive kurtosis value (.111) which indicated clustering around the centre.
- **Death anxiety** (mean 14.09, SD 1.87, range 5-16). A negative skewness (-1.445) was indicated with a positive kurtosis (3.056) which indicated clustering around the centre.
- **Total PLEX** (mean 44.20, SD 6.95, range 21-59). A negative skewness (-.552) was indicated with a positive kurtosis (1.603) indicating clustering around the centre.
- **Total SISA** (mean 40.91, SD 5.25, range 26-53). A positive skewness (.179) was indicated with a positive kurtosis (.781) which indicated clustering around the centre.

Gender differences for the Total PLEX-3 are provided below.

- **Males** (mean 47.88, 5% trimmed mean 47.86, median 48.00, range 38-58, SD 6.24).
- **Females** (mean 43.57, 5% trimmed mean 43.79, median 44.00, range 21-59, SD 6.93).
- **Sample** (mean 44.20, 5% trimmed mean 44.41, median 44.00, range 21-59, SD 6.95).
- The Kolmogorov-Smirnov statistic (Sig. .038) indicated a violation of the assumption of normality, which Pallant (2005) suggested is common in larger samples.

4.10.3 Discussion of the test-retest

The three-week test-retest results were analysed only for the PLEX-3 (given the poor reliability reported for the SISA).

The three-week test-retest relationship between the two measurements of plateau experience (using the same scale, the PLEX-3) was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a large, positive correlation between the two measures ($r=.733$, $n=55$, $p<.0005$) thus indicating high levels of plateau experience in the original test phase are associated with high levels of plateau experience in the retest phase.

From the test-retest results, it would appear to indicate that the plateau experience is a relatively stable structure, in turn suggesting that it is a trait. Additionally the subscales of serenity, mindfulness and death anxiety were investigated for the test-retest relationship. All three indicating large, positive correlations (serenity = .735, mindfulness = .641, death anxiety = .618), $n=55$, $p<.0005$.

Additional statistical analyses of the characteristics that contributed to the PLEX-3 are provided below in Table 4.2. These indicate the Cronbach Alpha for the three characteristics

Table 4.2: Summary of test-retest results

	Test	Retest
Serenity	.780	.830
Mindfulness	.754	.704
Death Anxiety	.502	.664

4.11 Summary of the 15 item PLEX

The 15 item PLEX-3 was developed from a sample of 863 participants over the academic year 2008 to 2009, all of whom were either undergraduates or graduates from a University whose population predominantly comprised of:

Total population: 7220

Gender: 71% female/29% male

Race: predominantly white

Age: 59% mature students (over 21)

(Based on www.unistats.com, accessed 7th November 2009).

Despite the convenient sample, the ages ranged from 18 years old to 65 years old (mean 27.91, SD 10.71) and the gender balance was male 35%, female 65% which represented the student population identified above. Furthermore, 11.9% of the student population participated in validating the PLEX.

The reliability for the 15 item PLEX-3 ranged from .816 to .873 demonstrating a high reliability. Furthermore, the PLEX-3 had a three week test-retest of .773 demonstrating that the construct was relatively stable.

The norms for the 15 item PLEX-3 and the associated subscales of serenity, mindfulness and death anxiety are provided below:

PLEX

Males (mean 47.63 to 47.88, median 48 to 49, range 38 to 58 from a potential range of 15 to 60)

Females (mean 43.40 to 43.57, median 44, range 21 to 59)

Sample (mean 44.02 to 44.20, median 44, range 21 to 59)

Serenity

Males (mean 20.50 to 21.25, median 21 to 22, range 15 to 27 from a potential range of 7 to 28)

Females (mean 18.79 to 18.89, median 19, range 7 to 27)

Sample (mean 19.13 to 19.15, median 19, range 7 to 27)

Mindfulness

Males (mean 12.63 to 13.00, median 13, range 9 to 15 from a potential range of 4 to 16)

Females (mean 10.36 to 10.68, median 11, range 5 to 16)

Sample (mean 10.75 to 10.96, median 11, range 5 to 16)

Death Anxiety

Males (mean 14.00 to 14.13, median 15, range 7 to 16 from a potential range of 4 to 16)

Females (mean 14.11 to 14.15, median 14 to 15, range 9 to 16)

Sample (mean 14.09 to 14.15, median 14 to 15, range 7 to 16)

It must however be appreciated that in establishing the norms, this is based on a very small sample of 55 respondents, which as Kline (1999:39) warned, 'almost all psychometric tests possess norms but many of these are based on samples so small or so unrepresentative as to be misleading'. Consequently, a far higher sample would be required to ensure that norms are the most representative, thus further use of the PLEX-3 is required.

A potential resolution given the limited sample was to compile a dataset of respondents from the earlier stages of PLEX development, specifically using the items from the PLEX-3 to investigate norms: this is provided for indicative purposes to enable a comparison with the previous results from the n=55 sample. Due to the PLEX-1 being different in the response format to the PLEX-2, only the PLEX-2 data set was used (n=349). However the

sample provided a greater gender balance than the sample for the test-retest of the PLEX-3. Specifically, from n=349, male=202 (57.9%) and female=147 (42.1%).

PLEX

Males (mean 43.63, median 43, range 24-59 from a potential range of 15 to 60)

Females (mean 41.62, median 41, range 22 to 57)

Sample (mean 42.78, median 42, range 22 to 59)

Serenity

Males (mean 19.44, median 19, range 9 to 28 from a potential range of 7 to 28)

Females (mean 18.41, median 19, range 8 to 26)

Sample (mean 19.01, median 19, range 8 to 28)

Mindfulness

Males (mean 10.95, median 11, range 5 to 16 from a potential range of 4 to 16)

Females (mean 10.02, median 10, range 4 to 16)

Sample (mean 10.56, median 11, range 4 to 16)

Death Anxiety

Males (mean 10.95, median 11, range 5 to 16 from a potential range of 4 to 16)

Females (mean 10.59, median 11, range 6 to 14)

Sample (mean 10.80, median 11, range 5 to 16)

4.12 Standardisation

A number of authors advocate the need for standardisation opposed to just presenting norms (e.g. Furr and Bacharach, 2008; Kline, 2000; Rust and Golombok, 1999/2009).

A variety of standardisation procedures are available, for example, percentiles, t-scores, z-scores, stanine scores, and sten scores. Kline (2000:41) criticised the use of percentiles in that they 'exaggerate small differences around the mean score and compress differences at the extremes of distribution', additionally reporting that, as percentiles are ordinate in nature, they are unsuited for statistical analysis. Furthermore, Kline (2000:41) criticised z-scores in that, although there is clarity on how far a score deviates from the mean (which is zero, and approximately differences range from -3 to +3), he warned that 'the

narrowness of the scale is awkward' while suggesting that the z-score can be transformed into 'more familiar scales'. Rust and Golombok (2009) thus advocated that use of stanine scores are the most widely used in psychometrics where a raw score is converted to a set of scores from 1 to 9. A stanine score (or standard + nine), has a mean of 5 and a SD of 2. Furthermore, Rust and Golombok (1999:84) advocated that the stanine can be 'sufficiently imprecise not to be misleading'. Ultimately however, the use of sten scores (standard + ten) makes further conceptual sense as this divides scores into ten units, thus allocating a raw score to a score out of ten. The sten score has a mean of 5.5. and SDs of 2 (Kline, 2000).

The formula for calculating the sten score from a raw score is provided below.

4.12.1 Step 1: Identification of norms

Table 4.3 and 4.4 indicate the norms from previous statistical analyses.

Table 4.3: Descriptive statistics for test/retest phases

	N	Mean	Std. Deviation
Total PLEX (Test)	55	44.02	6.214
Total PLEX (Retest)	55	44.20	6.953
Total Serenity (Test)	55	19.13	3.844
Total Serenity (Retest)	55	19.15	4.002
Total Mindfulness (Test)	55	10.75	2.511
Total Mindfulness (Retest)	55	10.96	2.341
Total Death Anxiety (Test)	55	14.15	1.592
Total Death Anxiety (Retest)	55	14.09	1.869
Valid N (listwise)	55		

Table 4.4: Descriptive statistics for the subscale totals

	N	Mean	Std. Deviation
Total PLEX	349	42.78	6.385
Total Serenity	349	19.01	3.649
Total Mindfulness	349	10.56	2.276
Total Death	349	10.80	1.865
Valid N (listwise)	349		

4.12.2 Step 2: Calculating the z-score

The z-score is calculated from the following formula (Rust and Golombok, 2009:83)

$$Z = (\text{score} - \text{mean score}) / (\text{standard deviation})$$

As an example, if a respondent achieved a raw score of 50 on the PLEX-3, using the larger sample (n=349) the z-score would be calculated as follows:

$$Z = (50 - 42.78) / (6.385)$$

$$Z = (7.22) / (6.385)$$

$$Z = 1.13$$

4.12.3 Step 3: Calculating the sten score

The sten score is calculated from the following formula (Kline, 2000),

$$\text{Sten} = (z \times 2) + 5.5$$

As an example, from the raw score of 50 derived on the PLEX-3 (Step 2), the sten score is calculated as follows:

$$\text{Sten} = (1.13 \times 2) + 5.5$$

$$\text{Sten} = 2.26 + 5.5$$

$$\text{Sten} = 7.76 \text{ (which is rounded to 8).}$$

According to PsyTech International (2009:7), sten scores may be interpreted according to Table 4.5:

Table 4.5: Sten score and interpretation

Sten Score	Interpretation
10	Extremely high
9	Very high
8	High
7	Slightly above average
6	Average
5	Average
4	Slightly below average
3	Low
2	Very low
1	Extremely low

Consequently, a sten score of 8 out of 10 indicates a high score for the PLEX.

4.12.4 Two-way ANOVA (PLEX Retest)

A one-way between-groups analysis of variance was conducted to explore the impact of age and gender on levels of plateau experience, as measured by the Plateau Experience Questionnaire (PLEX-3). Subjects were divided into five groups according to their age

Group 1: 30 or less (23.6%)

Group 2: 31 to 37 (16.4%)

Group 3: 38 to 41 (21.8%)

Group 4: 42 to 47 (18.2%)

Group 5: 48 or more (20%)

There was no statistically significant difference in either age or gender in relation to the PLEX-3 on either the test or retest.

From the results of the ANOVA tests, it would appear that there was no direct correlation of age with the plateau experience. This however raises an issue in relation to Maslow's theory: Maslow suggested that as a person ages, they are more likely to report higher incidences of the plateau experience. Yet he also provides an example of a mother holding her baby as a perfect example of the plateau experience suggesting it can be experienced

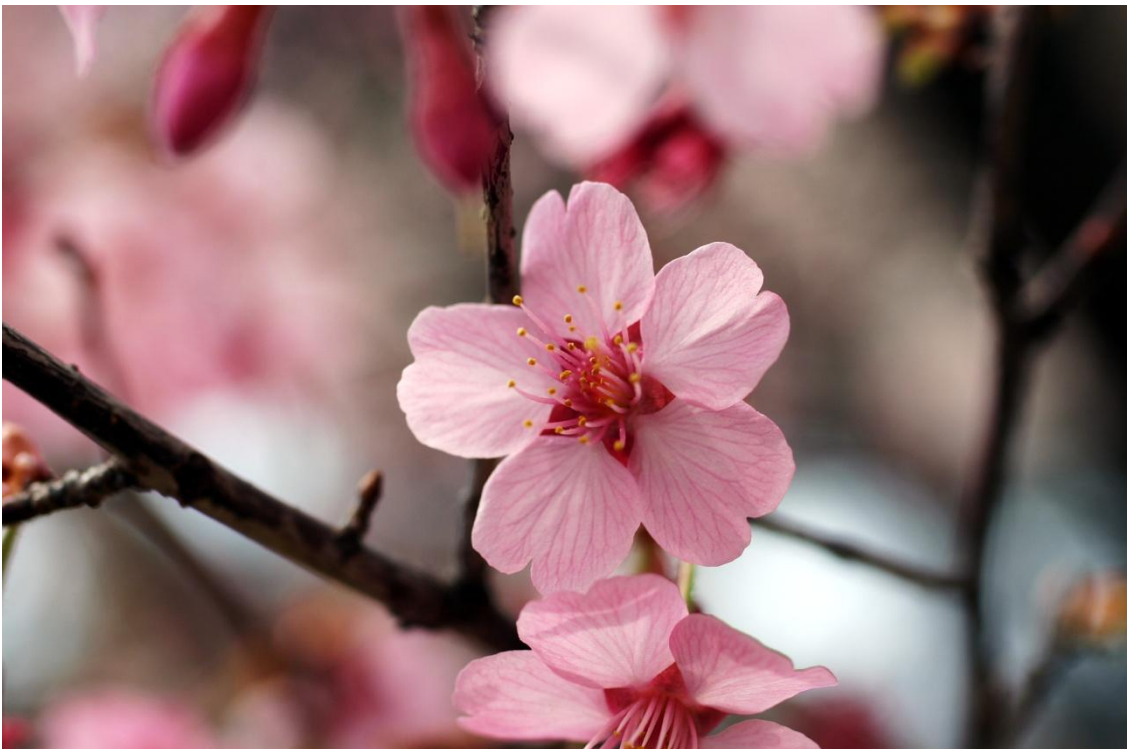
from a younger age range. As presented by the results, incidents of the plateau experience do not appear to correlate with age.

4.13 Conclusion

The 15-item PLEX-3 has demonstrated appropriate psychometric properties thus demonstrating that it can be considered as a reliable measure for Maslow's concept of the plateau experience. However further validation studies are advocated for the PLEX-3: specifically it is recommended that there are,

- Validation studies on discreet samples that engage with what may be deemed transpersonal practices.
- A longitudinal validation of whether the plateau experience is developed as hypothesised through taught transpersonal practices.
- Further correlation of the PLEX-3 with other measures of self-actualisation due to the limitations of the SISA.
- Adoption of a mixed methods approach to reference the PLEX-3 with qualitative responses to further examine face validity.
- Construction of another measure for the plateau experience to correlate with the PLEX-3 to develop concurrent validity.

Chapter Five:
Discussion and future directions



Chapter contents

5.1	Introduction	72
5.2	Evaluation of PLEX development	73
5.3	Future research directions	75
5.4	Conclusion	76
5.5	Postscript	77

5.1 Introduction

Maslow's concept of the plateau experience has received little attention since he advocated the concept as a future research direction. Over the past forty years, the plateau experience has become relatively obscure: where the plateau experience has been mentioned, this has tended to provide a descriptive overview from Maslow's original work.

Given the problematic nature in defining self-actualisation and the characteristic state of peak experience, research into the plateau experience has been advocated. Although the flow experience is currently receiving a lot of attention, it has been suggested that the same problems for the peak experience apply to flow given their synonymous nature.

It was proposed that the development of a psychometric for the plateau experience may help further the research into Maslow's concept of self-transcendence. The properties for the plateau experience were identified from all available sources as summarised in Table 3.1. In summary, the plateau experience is claimed to be voluntary, can be taught, is cross-cultural, and relates to dualities. The resultant characteristics of the plateau experience are that a person feels calmer, gaining a sense of serenity; that there is a cognitive, witnessing or mindfulness; finally that there is an acceptance of the impermanence of life, an acceptance of death.

The three characteristics have an established set of developed psychometrics. Although the psychometrics could be given to an individual to complete, the resultant questionnaire would be lengthy and confusing given the range of response formats for the various scales. To this extent, development of a psychometric adhering to informed practice has

been developed resulting in the 15-item PLEX-3. The PLEX-3 has demonstrated secure psychometric properties.

The development of such a psychometric may strengthen the empirical basis for transpersonal psychology and provide a measure to enable comparison of transpersonal practices and the effects on participants.

The PLEX-3 was developed through a sample of 863 respondents, with a very high reliability of between .816 to .873, and a three-week test-retest with high reliability of .773. However given the poor reliability of the SISA during the development of the PLEX, the correlation between self-transcendence (as measured by the plateau experience assessed by the PLEX) and self-actualisation as measured by the SISA has been inconclusive.

From the results, the PLEX-3 appears to conform to strong psychometric principles advocated in the literature.

5.2 Evaluation of the PLEX development

The PLEX-3 has been developed in adherence to psychometric developmental stages advocated by a number of authors. This has culminated in a psychometric with strong properties. However, a number of issues are presented below which are highlighted to provide a basis for future research.

Conceptual construct of the plateau experience

As discussed in Chapter 3, the plateau experience has remained relatively obscure for forty years. A reason for this may be related to the passing of Maslow and the subsequent lack of direction which he may have subsequently provided. An alternate reason may be that the concept has remained quite lucid opposed to the stronger theoretical basis for research into self-actualisation and peak experiences. Indeed such concepts are widely advocated even today within literature (for example, sport, nursing, business, education). Additionally there are a number of psychometrics that have been developed to measure these concepts which enable researchers with less theoretical understanding of the issues associated with self-actualisation to continue to generate research using 'accepted' tools.

However, research into the plateau experience needs to start somewhere: the discussion within this book should thus be deemed the spark to reignite research and discussion into the area.

Concurrent validity of the PLEX-3

Chapter 4 discussed how the PLEX could be validated through analysis with an existing measure of self-actualisation. The SISA was selected for this purpose due to the relatively brief nature and strong psychometric properties compared to other measures of self-actualisation (e.g. the POI). However the SISA did not produce strong reliability results through the development stages of the PLEX, thus assessing concurrent validity was problematic.

The reason for validating the plateau experience against a measure of self-actualisation was advocated to provide an initial frame of reference in the absence of validation studies. Consequently, if the PLEX-3 can be validated with participants from transpersonal practices, this may provide a stronger basis for validation. By this, after other factors (such as age) are negated, the length of engagement with a transpersonal practice may be found to positively correlate with higher reports of plateau experience.

Sampling procedures

As discussed in Chapter 4, psychometrics tend to be developed through using convenient samples, predominantly those of an undergraduate university population. The PLEX-3 was similarly developed using a university population, although given the demographic diversity of the population, a wider sampling base was used than other psychometrics. Consequently further validation studies using a wider demographic of participants engaged in what may be deemed transpersonal practices are advocated.

Positivist nature of the PLEX-3

The use of any psychometric is deemed problematic in the limited scope it provides: by this, a personal attribute is reduced to a number, negating the complexity of the human being. Indeed, although psychometrics are used for recruitment and selection purposes, they are seldom, if ever, used as the sole source for a decision. Indeed, although it is worthy to strengthen the empirical base for transpersonal psychology, the use of purely quantitative measures is as limiting as using purely qualitative measures. The recent development of mixed methodology/mixed methods research is thus advocated, whereby

the strengths of one paradigm complement the weaknesses of the other (e.g. Cresswell and Plano-Clark, 2007; Tashakkori and Teddlie, 1998, 2008; Teddlie and Tashakkori, 2003, 2009). Specifically, mixed methodology is advocated for a range of purposes: complementary, completeness, developmental, expansion, corroboration/confirmation, compensation, diversity (Tashakkori and Teddlie, 2008). Such a discussion of the relative advantages of mixed methodology would require a chapter in its own right, thus is offered here as a suggestion to negate the positivist nature of psychometrics.

Consequently the PLEX-3 should be used with other qualitative methods to strengthen the methodological basis. As an example, providing open-ended questions on the PLEX-3 questionnaire, asking whether the practice the individual is engaged with has provided any benefits, would complement the research.

In summary, the PLEX-3 is offered to provide a basis for discussion and potentially future research, as discussed below.

5.3 Future research directions

5.3.1 Implications

The issue of self-actualisation, peak experiences and flow have systematically been critiqued: the plateau experience has thus been advocated as a future research direction. Indeed, the rationale for using the plateau experience as a future research direction initially came from Maslow, although the subsequent debate in this thesis has similarly raised the plateau experience for debate.

Maslow suggested that the plateau experience is deemed to be voluntary, can be taught, and is cross-cultural. Indeed, transpersonal practices are similarly voluntary, can be taught and are often cross-cultural. Consequently, a measure of the plateau experience may be deemed more inclusive in ascertaining the effects of transpersonal practices than more refined psychometrics that measure a specific characteristic (for example, religiosity). Furthermore, use of one psychometric will negate the range of studies that use different psychometrics on similar practices, whereby comparison of studies is problematic. The PLEX-3 may thus enable research into a variety of practices to ascertain the resultant effects on the individual. Given that the plateau experience is deemed to be inclusive in nature, a variety of transpersonal practices can thus be compared

It is strongly advocated that the PLEX-3 is used to assess the validity of the psychometric, and in turn Maslow's concept of the plateau experience.

5.3.2 Applications

Associated with the previous point, if a transpersonal practice is deemed to be beneficial, perhaps through developing a sense of mindfulness or serenity, then the PLEX-3 may be used at various stages throughout a person's practice. For example, a study on new practitioners of a meditation practice can be subsequently assessed at differing intervals to ascertain whether their practice has in some way developed them. This in turn may provide a justification for the practice while providing feedback to the individual.

5.4 Conclusion

The plateau experience is worthy of further research to strengthen the empirical basis for transpersonal psychology, specifically given the limitations of research into self-actualisation and the peak experience.

The plateau experience has been characterized as promoting serenity and mindfulness while reducing death anxiety. The PLEX-3 has been developed from a synthesis of existing measures of the aforementioned attributes, each measure having strong psychometric qualities. The PLEX-3 is deemed reliable and valid adhering to such psychometric qualities.

The development of the PLEX-3 may strengthen the empirical basis for transpersonal psychology and provide a measure to enable comparison of transpersonal practices and the effects on participants. However the PLEX-3 is predominantly offered to enable future discussion and research, although the use of mixed methods is advocated to complement the psychometric.

5.5 Postscript

Although this book has discussed the foundation of the plateau experience from Maslow's perspective, in turn adopting his perspective to validate a psychometric, the subsequent discussion will consider the wider application of the plateau experience. In breaking with the academic discipline that has informed this book, I will share my personal thoughts on the future development of the plateau experience.

At a time when the world appears to be encased in increasing turmoil, where interpersonal and intrapersonal tensions manifest on a daily basis, a return to a more balanced perspective would no doubt be welcome. We cannot wait for this to occur from a 'top-down' approach, waiting for the chaos to be resolved by those in power. Instead, we need to engage in balancing our perspective from an individual perspective. If we can regain some semblance of balance in our own lives, we can help others to similarly engage to balance their own.

It is the simple steps that can enable us to restore such balance, for example, taking time to observe what is actually going on opposed to what we think may be going on. As such, the practice of mindfulness, or being aware of the present moment, can certainly be one element of this process. Such mindful awareness only needs to be conducted on a few occasions during the day to initiate such benefits. Examples of mindful engagement relate to any activity where full attention can be devoted, when walking, when eating, etc. Perhaps the simplest of all activities is to take a couple of minutes to focus on your breathing.

Stripping breathing of any religious, philosophical or spiritual connotations, taking a deep abdominal breath, holding it for a moment, then releasing, is one of the most direct and simplest ways to restore balance from a physiological and a psychological perspective (Castle and Buckler, 2009). Such abdominal breathing can be observed in a relaxed child, where their stomachs rise and fall rhythmically as their diaphragms maximise the full capacity of their lungs. Such breathing can require practice if years of adult tension has resulted in purely thoracic breathing.

Thus to engage in mindful breathing, take one deep breath in a slow and controlled manner through the nose, allowing the stomach to extend. As you breathe in, say in your mind the word 'calm'. Hold the breath for a second, then allow the stomach to fall, as you exhale through your nose in a similarly slow and controlled manner. As you breathe out, say in your mind the word 'relax'. Repeating nine cycles of this breathing exercise, where

your concentration is fully engaged will only take a couple of minutes and has the advantaged that it can be practiced anywhere (sitting on a bus, standing in a queue, etc).

Through working on being present in the moment through such a simple activity as breathing, we can react more openly to any situation in a calm, assured manner. We can gauge the right action and the right response for the situation, listening to what is required and acting in accordance with a pervading sense of serenity. If a motorist pulls out in front of us, we can be thankful that we acted accordingly in preventing an accident, and that we did not antagonise a person whose attention may have momentarily been elsewhere with a two fingered gesture. We may want to recall a time when we were not operating in the present, a time when we may have similarly have pulled out in front of another motorist!

By engaging with, or at least being aware of how we can live in accordance with the plateau experience, through increasing our mindfulness and in turn, our sense of serenity, we may be able to help others who are engaged in the frenetic onslaught of daily life. As a healthcare professional, you may be aware of how mindfulness can support patients in relation to pain management, etc. As a teacher, I am aware of the benefit of mindfulness-based programmes on children through, for example, guided relaxation or guided meditation. In returning to Maslow, he acknowledged that aspects of the plateau experience can be taught to children. Thus, in attempting to orientate one's life in accordance with the plateau experience, we may be able to assist others.

What I have outlined here is a simple step in working with the plateau experience. As previously discussed, there are many activities that may lend themselves to such experiences and the PLEX is offered as a way of investigating the benefits of such practices.

Although the plateau experience has been discussed from an academic perspective, with associated images from Maslow's work and from associated photographs which I feel represent the plateau experience to some extent, I have provided a further conceptual diagram which I feel encapsulates the plateau experience further.



Working from the centre outwards, the Taijitu or Taiji diagram (commonly referred to as the Yin/Yang symbol) represents the Taoist philosophy, a philosophy that embraces dualities and appreciates that such opposites are complementary, a philosophy of working with, and not against, a situation. The three sides of the triangle relate to the three characteristics of the plateau experience: serenity, mindfulness and acceptance of death. The circle represents the holistic nature of the plateau experience, which is cross-cultural in nature, although alternate symbolism may similarly be discussed (e.g. the circle representing the Wuji or emptiness),

Please understand that this conceptual diagram relates solely to my perspective: I would encourage you to develop your own personally meaningful diagram which represents the elements of the plateau experience. Indeed, I would similarly encourage you to engage with extending the discussion of the plateau experience, a concept which I feel is as relevant today as when Maslow first outlined his theory.

Appendix I: The PLEX-3

Please consider the extent to which you agree or disagree with the following statements by circling your answer.

Disagree	Somewhat disagree	Somewhat agree	Agree
D	SD	SA	A

	Question	D	SD	SA	A
1	I experience an inner quiet that does not depend upon events.	D	SD	SA	A
2	I feel connected to my experience in the here-and now.	D	SD	SA	A
3	I may be mortal, but the streams and mountains will remain.	D	SD	SA	A
4	Streams, trees, and people are all one in nature.	D	SD	SA	A
5	I take care of today, and let yesterday and tomorrow take care of themselves.	D	SD	SA	A
6	I watch my feelings without getting lost in them.	D	SD	SA	A
7	I can feel angry, and observe my feeling of anger, and separate myself from it and still feel an inner peace.	D	SD	SA	A
8	I experience moments of inner peace and ease, even when things get hectic and stressful.	D	SD	SA	A
9	In problem situations, I do what I am able to do and then accept whatever happens even if I dislike it.	D	SD	SA	A
10	I experience peace of mind.	D	SD	SA	A
11	I accept situations that I cannot change.	D	SD	SA	A
12	No matter what, all of us are part of nature.	D	SD	SA	A
13	I am friendly to myself when things go wrong.	D	SD	SA	A
14	Death is part of the life cycle.	D	SD	SA	A
15	I am aware of an inner peace.	D	SD	SA	A

Scoring

For each question, assign a score as follows:

<i>Answer</i>	<i>Score</i>
Disagree	1
Somewhat disagree	2
Somewhat agree	3
Agree	4

<i>Question</i>	<i>Score</i>		<i>Question</i>	<i>Score</i>
1			9	
2			10	
3			11	
4			12	
5			13	
6			14	
7			15	
8				
Subtotal			Total	
			PLEX	

Subscales

<i>Subscale</i>	<i>Questions</i>
Serenity	1, 5, 7, 9, 10, 11, 15
Mindfulness	2, 6, 8, 13
Death Anxiety	3, 4, 12, 14

Standardisation of Score Related to the Developmental Sample

Z score

$$Z = \frac{(\text{Total PLEX}) - 42.78}{6.385}$$

$$Z =$$

Sten score

$$\text{Sten} = (Z \times 2) + 5.5$$

$$\text{Sten} = + 5.5$$

$$\text{Sten} =$$

Sten Score	Interpretation
10	Extremely high
9	Very high
8	High
7	Slightly above average
6	Average
5	Average
4	Slightly below average
3	Low
2	Very low
1	Extremely low

References

- Akyalcin, E., Greenway, P. & Milne, L. (2008). Measuring Transcendence: Extracting Corse Constructs. *The Journal of Transpersonal Psychology*, 40:1, 41-59.
- Allman, L.S., De La Rocha, O., Elkins, D.N. and Weathers, R. (1992). Psychotherapists' attitudes toward clients reporting mystical experiences. *Psychology*, 29:4, 564-569.
- Arnold, P. (1979). Intellectualism, physical education, and self-actualisation. *Quest*, 31:1, 87-96
- Battista, J.R. (1996). 'Abraham Maslow and Roberto Assagioli: Pioneers of Transpersonal Psychology'. In Scotton, B.W., Chinen, A.B. and Battista, J.R. (Eds.) *Textbook of Transpersonal Psychiatry and Psychology*. New York: Basic Books.
- Berger, D.G., Pargman, D. & Weinberg, R.S. (2002). *Foundations of Exercise Psychology*. Morgantown: Fitness Information Technology, Inc.
- Beyer, J.D. (1999). Experiencing the self as being part of nature: A phenomenological-hermeneutical investigation into the discovery of the self in and as the flesh of the earth. *Dissertation Abstracts international: Section B: The Sciences and Engineering*, 60 (4-B), 1900.
- Bonenfant, R.J. (2004). A Comparative Study of Near-Death Experience and Non-Near-Death Experience Outcomes in 56 Survivors of Clinical Death. *Journal of Near-Death Studies*, 22, 155-178.
- Boniwell, I. (2006). *Positive Psychology in a Nutshell: A Balanced Introduction to the Science of Optimal Functioning*. London: PWBC.

Brown, K.W. & Ryan, R.M. (2003). The Benefits of Being Present: The Role of Mindfulness in Psychological Well-Being. *Journal of Personality and Social Psychology*, 84, 822-848.

Castle, P. and Buckler, S. (2009). *How to be a successful teacher: Strategies for personal and professional development*. London: Sage Publications, Ltd.

Chambers-Christopher, J., Masaster, G.J., Cambell, R.L. and Weinfeld, M.B. (2002). Peak experiences, social interest, and moral reasoning: an exploratory study. *The Journal of Individual Psychology*, 58:1, 35-51.

Clark, L.A. and Watson, D. (1995). Constructing Validity: Basic Issues in Objective Scale Development. *Psychological Assessment*. 7:3, 309-319.

Cleary, T.S. (1997). Abraham Maslow and the father reaches of human nature: The plateau experience. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 57 (7-B), 4689.

Cleary, T.S. & Shapiro, S.I. (1995). The Plateau Experience and the Post-Mortem Life: Abraham H. Maslow's Unfinished Theory. *The Journal of Transpersonal Psychology*, 27:1, 1-23.

Cohen, R.J. & Swerdlik, M.E. (2005). *Psychological Testing and Assessment: An Introduction to Tests and Measurement – Sixth Edition*. New York: MacGraw-Hill.

Cooper, A. (1998). *Playing in the Zone: Exploring the Spiritual Dimensions of Sports*. Boston: Shambhala.

Coppola, F. and Spector, D. (2009). Natural Stress Relief Meditation as a Tool for Reducing Anxiety and Increasing Self-Actualisation. *Social Behaviour and Personality*, 37:3, 307-312.

Creswell, J.W. & Plano Clark, V.L. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks: Sage Publications, Inc.

Csikszentmihalyi, M. (1988). 'The future of Flow'. In Csikszentmihalyi, M. & Csikszentmihalyi, I. (Eds.) (1988). *Optimal Experience: Psychological Studies of Flow in Consciousness*. Cambridge: Cambridge University Press. 364-383.

Csikszentmihalyi, M. (1993). *The Evolving Self: A Psychology for the Third Millennium*. New York: Harper Perennial.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the Psychology of Discovery and Invention*. New York: Harper Perennial.

Csikszentmihalyi, M. (2000). *Beyond Boredom and Anxiety: Experiencing Flow in Work and Play*. San Francisco: Jossey Bass Inc, Publishers.

Csikszentmihalyi, M. (2002). *Flow: The Classic Work on How to Achieve Happiness*, London: Rider.

Csikszentmihalyi, M. & Csikszentmihalyi, I. (Eds.) (1988). *Optimal Experience: Psychological Studies of Flow in Consciousness*. Cambridge: Cambridge University Press.

Daniels, M. (1988). The myth of self-actualisation. *Journal of Humanistic Psychology*, 28:1, 7-38.

Daniels, M. (2005). *Shadow, Self, Spirit: Essays in Transpersonal Psychology*. Exeter: Imprint Academic.

DeVellis, R.F. (2003). *Scale Development: Theory and Applications (Second Edition)*. Thousand Oaks: Sage Publications, Inc.

DirectGov (2009). Unistats from Universities and Colleges in the UK.

www.unistats.com

(Date accessed: 7th November 2009)

Dominguez, M.M. and Carton, J.S. (1997). The Relationship Between Self-Actualisation and Parenting Style. *Journal of Social Behaviour and Personality*, 12:4, 1093-1100.

- Edwards, A. (2003). Potential Sources of Bias in Questionnaires in Researching Transpersonal Psychology. *Transpersonal Psychology Review*, 7:1, 3-14.
- Engler, B. (2006). *Personality Theories: An Introduction – Seventh Edition*. Boston: Houghton Mifflin Company.
- Fontana, D. (2003). *Psychology, Religion, and Spirituality*. Leicester/Oxford: BPS Blackwell.
- Fontana, D. & Slack, I. (2005). The need for transpersonal psychology. *Transpersonal Psychology Review: Special Issue*, Winter 2005, 7-11.
- Forest, J. & Sicz, G. (1980). Data Discrepancies in the Personal Orientation Inventory Manual. *Journal of Personality Assessment*, 44:5, 538-540.
- Friedman, H. (2002) Transpersonal Psychology as a Scientific Field. *International Journal of Transpersonal Studies*, 21, 175-187.
- Friedman, H. & Hartelius, G. (2007). Applying Quantitative Research Methods in Transpersonal Psychology: Introduction to Special Topic Section. *International Journal of Transpersonal Studies*, 26, 56-57.
- Friedman, H. L. & MacDonald, D.A. (1997). Toward a Working Definition of Transpersonal Assessment. *The Journal of Transpersonal Psychology*, 29:2, 105-122.
- Furr, R.M. & Bacharach, V.R. (2008). *Psychometrics: An Introduction*. London: Sage Publications Ltd.
- Goldstein, K. (1995). *The Organism: A Holistic Approach to Biology Derived from Pathological Data in Man*. New York: Zone Books.
- Heitzmann, A.L. (2003). The plateau experience in context: An intensive in-depth psychobiographical case study of Abraham Maslow's 'post-mortem life'. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 64 (1-B), 453.

- Heylighen, F. (1992). A cognitive-systemic reconstruction of Maslow's theory of self-actualisation. *Behavioural Science*, 1992, 37:1, pp.39-57.
- Hoffman, E. (1988). *The Right to be Human: A Biography of Abraham Maslow*. Los Angeles: Jeremy B. Tarcher, Inc.
- Hogan, H.W. and McWilliams, J.M. (1978). Factors related to self-actualisation. *The Journal of Psychology*, 100, 117-122.
- Hood, R.W. & Morris, R.J. (1983a). Toward a Theory of Death Transcendence. *Journal for the Scientific Study of Religion*, 22, 353-365.
- Hood R. W. & Morris R.J. (1983b). 'Death transcendence scale'. In Hill, P.C. and Hood, R.W. (1999). *Measures of Religiosity*. Birmingham: Religious Education Press. (pp. 442-445)
- Jackson, S.A. & Csikszentmihalyi, M. (1999). *Flow in Sports: The Keys to Optimal Experiences and Performances*. Champaign: Human Kinetics.
- Jackson, S.A. (1995). Factors influencing the occurrence of flow in elite athletes. *Journal of Applied Sport Psychology*, 7, 138-166.
- Jackson, S.A. (1996). Toward a conceptual understanding of the flow experience in elite athletes. *Research Quarterly for Exercise and Sport*, 67, 79-90.
- Jackson, S.A., Thomas, P.R., Marsh, H.W. & Smethurst, C.J. (2001). Relationships between flow, self-concept, psychological skills, and performance. *Journal of Applied Sport Psychology*, 13, 129-153
- Jones, A. and Crandall, R. (1986). Validation of a short index of self-actualisation. *Personality and Social Psychology Bulletin*. 12:1, 63-73.
- Kiehne, G.O. (2003). The experience of flow for established Tai Chi practitioners (Mihalyi Csikszentmihalyi). *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 63 (10-B), 4881.

Kimiecik, J.C. & Jackson, S.A. (2002). 'Chapter 16: Optimal experience in sport: a flow perspective'. In Horn, T.S. (ed.) (2002). *Advances in Sport Psychology*, Champaign: Human Kinetics.

Kimiecik, J.C. & Stein, G.L. (1992). Examining flow experiences in sport contexts: conceptual issues and methodological concerns. *Journal of Applied Sport Psychology*, 4, 144-160

Kline, P. (2000). *A Psychometrics Primer*. London: Free Association Books.

Kolto-Rivera, M.E. (2006). Rediscovering the Later Version of Maslow's Hierarchy of Needs: Self-Transcendence and Opportunities for Theory, Research, and Unification. *Review of General Psychology*, 10, 302-317.

Krippner, S. (Ed.) (1972). The Plateau Experience: A.H. Maslow and Others. *Journal of Transpersonal Psychology*, 2:2, 107-120.

Leak, G.K. (1984). A Multidimensional Assessment of the Validity of the Personal Orientation Inventory. *Journal of Personality Assessment*, 48:1, 37-41.

Leclerc, G., Lefrancois, R., Dube, M., Hebert, R. & Gaulin, P. (1998). The Self-Actualisation Concept: A Content Validation. *Journal of Social Behaviour and Personality*, 13:1, 69-84.

Lefrancois, R., Leclerc, G., Dube, M., Hebert, R. & Gaulin, P. (1997). The Development and Validation of a Self-Report Measure of Self-Actualisation. *Social Behaviour and Personality*, 25:4, 353-366.

Lefrancois, R., Leclerc, G., Dube, M., Herber, R. and Gaulin, P. (1999). Criterion validity of a new measure of self-actualisation. *Psychological Reports*, 85, 1167-1176.

Lester, D. (1990). The Collett-Lester Dear of Death Scale: The Original Version and a Revision. *Death Studies*, 14, 451-468.

Lipscombe, N. (1999). The Relevance of the peak experience to continued skydiving participation: a qualitative approach to assessing motivations. *Leisure Studies*, 18, 267-288.

Loewenthal, K.M. (2001). *An Introduction to Psychological Tests and Scales: Second Edition*. Hove: Psychology Press Ltd.

MacDonald, D.A., Friedman, H.L. & Kuentzel, J.G. (1999). A Survey of Spiritual and Transpersonal Constructs: Part one – Research Update. *The Journal of Transpersonal Psychology*, 31:2, 137-154.

MacDonald, D.A., Tsagarakis, C.I. & Holland, C.I. (1994). Validation of a Measure of Transpersonal Self-Concept and its Relationship to Jungian and Five-Factor Model Conceptions of Personality. *The Journal of Transpersonal Psychology*, 26:2, 175-201.

Maslow, A. (1962). Lessons from the peak-experiences. *Journal of Humanistic Psychology*, 2, 9-18.

Maslow, A.H. (1969). Theory Z. *The Journal of Transpersonal Psychology*, 1:2, 31-47.

Maslow, A.H. (1970). *Religions, Values, and Peak-Experiences*. New York: Penguin Compass.

Maslow, A.H. (1987). *Motivation and Personality: Third Edition*. Delhi: Pearson Education, Inc.

Maslow, A. (1996). 'Critique on Self-Actualisation Theory'. In Hoffman, E. (ed.) *Future Visions: The Unpublished Papers of Abraham Maslow*. Thousand Oaks: Sage Publications, Inc. 26-32.

Maslow, A.H. (1993). *The Farther Reaches of Human Nature*. London: Penguin Books.

Maslow, A.H. (1999). *Toward a Psychology of Being: Third Edition*. Chichester: John Wiley & Sons.

Mathews, T.J. and Hamilton, B.E. (2009). Delayed childbearing: More women are having their first child later in life. *NCHS Data Brief: No. 21, August 2009*. Hyattsville, MD: National Center for Health Statistics.

McInman, A.D. & Grove, J.R. (1991). Peak moments in sport: a literature review. *Quest*, 43, 333-351.

Neher, A. (1991). Maslow's Theory of Motivation: A Critique. *Journal of Humanistic Psychology*, 31, 89-112.

Neimeyer, R.A. (Ed.) (1994). *Death Anxiety Handbook: Research, Instrumentation, and Application*. Washington DC: Taylor & Francis.

Neimeyer, R.A. and Moore, M.K. (1983). 'Validity and reliability of the multidimensional fear of death scale'. In Neimeyer, R.A. (Ed.) (1994). *Death Anxiety Handbook: Research, Instrumentation and Application*. Washington: Taylor & Francis. (pp. 103-112)

Nelson, L.D. (1978). The multidimensional measurement of death attitudes: construction and validation of a three-factor instrument. *The Psychological Record*. 28, 525-533.

Pallant, J. (2005). *SPSS Survival Manual: Second Edition*. Maidenhead: Open University Press.

Podeshci, R. (1974). The father reaches of physical activity. *Quest*, 21:1, 12-18.

PsyTech International (2009) 15FQ+ Fifteen Factor Questionnaire Technical Manual

<http://www.15fq.com/Downloads/15fq%2Bman.pdf>

(Date accessed: 9th November 2009).

Raman, V.V. (2008). Variety in Mysticism and Parallels with Science. *Theology and Science*, 6:3, 273-286.

Ravizza, K. (1977). Peak experiences in sport. *Journal of Humanistic Psychology*, 17:4, 35-40.

Ravizza, K. (1984). Qualities of the Peak Experience in Sport'. In Silva, J.M. & Weinberg, R.S. (Eds.) *Psychological Foundations of Sport*. Champaign: Human Kinetics Publishers, Inc.

Roberts, K.T. & Aspy, C.B. (1993). Development of a Serenity Scale. *Journal of Nursing Management*, 1:2, 145-164.

Roberts, K. and Cunningham, G. (1990). Serenity: Concept analysis and measurement. *Educational Gerontology*, 16, 577-589.

Rogers, C. R. (1961). *On Becoming A Person: A Therapist's View of Psychotherapy*. London: Constable & Robinson, Ltd.

Rowan, J. (1983). The real self and mystical experiences. *Journal of Humanistic Psychology*, 23:2, 9-27.

Rowan, J. (1999). Ascent and Descent in Maslow's Theory. *Journal of Humanistic Psychology*, 39, 125-133.

Rowan, J. (2005). *The Transpersonal: Spirituality in Psychotherapy and Counselling – Second Edition*. London: Routledge.

Rust, J. & Golombok, S. (1999). *Modern Psychometrics: The Science of Psychological Assessment – Second Edition*. Hove: Routledge.

Rust, J. & Golombok, S. (2009). *Modern Psychometrics: The Science of Psychological Assessment – Third Edition*. Hove: Routledge.

Saul, H. (1993). Dying Swans? *Scientific American*, December, 25-7.

Seligman, M.E.P and Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5-14.

Shostrom, E.L. (1964). An inventory for the measurement of self-actualisation. *Educational and Psychological Measurement*, 24, 207-218.

Spilka, B., Stout, L., Minton, B. & Sizemore, D. (1977). 'Death perspective scale'. In Hill, P.C. and Hood, R.W. (1999). *Measures of Religiosity*. Birmingham: Religious Education Press. (pp. 439-442)

Stamatelos, T. (1984). Peak and plateau experiences among persons labelled mentally retarded. *The Arts in Psychotherapy*, 11:2, 109-115.

Sumerlin, J.R. & Bundrick, C.M. (1996). Brief Index of Self-Actualisation: A Measure of Maslow's Model. *Journal of Social Behaviour and Personality*, 11:2, 253-271.

Sutich, A.J. (1976). The emergence of transpersonal orientation.: A personal account. *Journal of Transpersonal Psychology*, 8:1, 5-19.

Tashakkori, A. and Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. *Applied Social Research Methods Series, Volume 46*. London: Sage Publications Ltd.

Tashakkori, A. & Teddlie, C. (2008). 'Quality of Inferences in Mixed Methods Research: Calling for an Integrative Framework'. Bergman, M.M. (Ed.) (2008). *Advances in Mixed Methods Research: Theories and Applications*. London: Sage Publications Ltd.

Teddlie, C., and Tashakkori, A. (2003). 'Major issues and controversies in the use of mixed methods in the social and behavioural sciences'. Tashakkori, A. and Teddlie, C. (Eds.) (2003). *Handbook of Mixed Methods in Social and Behavioural Research* (pp.3-50). Thousand Oaks: Sage Publications, Inc.

Teddlie, C. and Tashakkori, A. (2009). *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioural Sciences*. London: Sage Publications, Ltd.

Thorson, J.A. and Powell, F.C. (1992). A revised death anxiety scale. *Death Studies*. 16, 507-521.

- Tosi, D.J. & Lindamood, C.A. (1975). The Measurement of Self-Actualisation: A Critical Review of the Personal Orientation Inventory. *Journal of Personality Assessment*, 39:3, 215-224.
- Voelkl, J., Ellis, G. & Walker, J. (2003). Go with the flow: How to help people have optimal recreation experiences. *Parks & Recreation*, August, 20-29.
- Walach, H., Buchheld, N., Buttenmüller, V., Kleinknecht, N. & Schmidt, S. (2006). Measuring Mindfulness – The Freiberg Mindfulness Inventory (MFI). *Personality and Individual Differences*, 40, 1543-1555.
- Walchuk, P. & Orlick, T. (1980). Altered states of consciousness in sport experiences. *Psychological and Sociological Factors in Sport*, 233-244.
- Walliman, N. and Buckler, S. (2008). *Your Dissertation in Education*. London: Sage Publications, Ltd.
- Watson, N.J. & Nesh, M. (2005). The Role of Spirituality in Sport Psychology Consulting: An Analysis and Integrative Review of Literature. *Journal of Applied Sport Psychology*, 17, 228-239.
- Weiser, N.L. & Myers, L.S. (1993). Validity and Reliability of the Revised California Psychological Inventory's Vector 3 Scale. *Educational and Psychological Measurement*, 3, 1045-1054.
- Weiss, A. (1987). Shostrom's Personal Orientation Inventory: Arguments Against Its Basic Validity. *Personal Individual Differences*, 8:6, 895-903.
- Wilber, K. (1998). *The Essential Ken Wilber: An Introductory Reader*. Boston: Shambhala.
- Wilson, S.R. & Spencer, R.C. (1990). Intense personal experiences: subjective effects, interpretations, and after effects. *Journal of Clinical Psychology*, 46:5, 565-573.

Index

A

acceptance of death, 33, 34, 38, 46, 77

C

corrected item-total correlations, 57, 59

Csikszentmihalyi, 3, 8, 13, 21, 22, 23, 24, 25, 26, 40, 89, 91, 92, 96

D

Daniels, 4, 5, 8, 9, 14, 15, 19, 37, 40, 61, 62, 89

F

factor analysis, 57, 58, 59, 60

flow, 2, 3, 13, 21, 22, 23, 24, 25, 26, 27, 30, 36, 40, 77, 80, 91, 92, 97

I

item-total correlation, 59, 60

M

mindfulness, 32, 39, 43, 46, 47, 48, 51, 52, 59, 60, 68, 69, 77, 81

mortality, 33, 34, 35, 38, 39

P

peak experience, 2, 5, 10, 13, 17, 18, 19, 20, 21, 24, 25, 26, 27, 30, 31, 32, 33, 35, 77, 81, 93

Personal Orientation Inventory, 16, 62, 90, 92, 97, 98

plateau experience, 1, 2, 3, 5, 6, 9, 10, 13, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 43, 46, 47, 48, 50, 51, 53, 54, 55, 59, 60, 62, 64, 67, 68, 74, 75, 77, 78, 79, 80, 81, 88, 91

PLEX, 2, 6, 43, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 72, 73, 74, 75, 77, 78, 79, 80, 81, 82, 84, 86

psychometrics, 8, 43, 44, 47, 48, 50, 58, 59, 71, 77, 78, 79, 81

S

self-actualisation, 5, 9, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 27, 28, 30, 37, 40, 46, 47, 61, 62, 63, 64, 75, 77, 78, 79, 80, 81, 87, 89, 91, 92, 93, 96

serenity, 5, 28, 32, 33, 35, 36, 38, 39, 43, 46, 47, 48, 50, 51, 59, 60, 68, 69, 77, 81

Short Index of Self-Actualisation, 17, 61, 62

SISA, 61, 62, 63, 64, 65, 66, 67, 75, 78, 79

sten score, 71, 72, 73, 74

T

transcendence, 5, 8, 9, 10, 13, 18, 23, 24, 28, 30, 31, 36, 37, 39, 40, 46, 61, 62, 77, 78, 91

transpersonal, 6, 8, 9, 10, 14, 31, 38, 44, 46, 74, 75, 78, 79, 80, 81, 82, 90, 96

W

witnessing, 31, 32, 33, 34, 35, 38, 39, 43, 46, 77