

**THE DEVELOPMENT AND EVALUATION OF POSITIVE PSYCHOLOGICAL
INTERVENTIONS AIMED AT HAPPINESS**

Llewellyn Ellardus van Zyl, M.Com

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Promoter: Prof. S. Rothmann

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REMARKS

The reader is reminded of the following:

- The referencing as well as the editorial style as prescribed by the *Publication Manual* (6th edition) of the American Psychological Association (APA) was followed in this thesis. This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University (Vaal Triangle Campus) to use APA style in all scientific documents.
- The thesis is submitted in the form of three research articles.
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SUMMARY

Topic: The development and evaluation of positive psychological interventions aimed at happiness.

Key terms: Happiness, flourishing, hedonism, eudaimonia, academic performance, psychometric properties, positive psychological assessment, positive psychological interventions.

One of the great challenges for *positive psychology* is that academics, researchers and authors are yet to reach agreement on the terminology, constructs and methodology of the various positive psychological concepts and interventions. One such concept that has been ambiguously and often inconsistently conceptualised is *happiness*. Interventions that are structured around these conceptualisations have produced mixed results, which are attributable to various aspects such as the unidimensional conceptualisation of the concept, inconsistent measurement, psychometric measuring instruments that have not been validated for the population in question, and fragmented intervention methodologies. Research was, therefore, needed regarding happiness and the development of interventions aimed at increasing happiness. Therefore, this thesis aimed to investigate the concept, manifestation, measurement and development of happiness and positive psychological interventions (PPIs) within a tertiary educational environment.

A mixed method research approach was followed to reach the research objectives. The first study aimed to examine the psychometric properties of positive psychological assessment measures, and to determine the relationship between flourishing and academic performance within a tertiary educational institution. A quantitative cross-sectional survey design was used to address this objective. The Mental Health Continuum Long Form, Positive and Negative Affect Scale and Satisfaction with Life Scale were administered and indicated acceptable levels of internal consistency. The MHC-LF would need to be adapted for future studies within the tertiary educational environment. No significant correlations could be established between academic performance and flourishing. However, cross-tabulation indicated some evidence of the impact that flourishing/languishing had on academic performance. Individuals with moderate levels of flourishing typically performed in the ‘above average’ to ‘excelling academically’ range. Languishing individuals performed at the lower levels of the academic performance spectrum. The results indicated that a large number of individuals

within this tertiary educational environment were languishing. Flourishing students experienced higher levels of positive affect and satisfaction with life, as well as lower levels of negative affect than their languishing and moderately flourishing counterparts.

The second study aimed to investigate the main streams of research on happiness, the approaches/models flowing from these philosophies and the methodology of happiness interventions. A quantitative meta-analysis of the literature was used to address the aforementioned research objective. Seeing that the literature presents with such incongruent findings regarding the effectiveness of PPIs, research was needed to establish how happiness should be conceptualised, which moderating factors should be addressed in this conceptualisation, and what the content of PPIs should be. A qualitative meta-analysis of the literature indicated that happiness is approached from either a hedonic, eudaimonic or integrated approach. These philosophies gave birth to a stream of scientific literature regarding happiness and its various conceptualisations, namely (a) Subjective well-being; (b) Hedonic well-being; (c) Eudaimonic well-being; (d) Psychological well-being; (e) Flourishing, and (f) Authentic happiness. Furthermore, the results highlighted three causes for failing interventions: (a) unidimensional models/approaches towards happiness, (b) targeting the concept of happiness instead of the mediating factors; and (c) fragmented methodological interventions. The study suggested a multidimensional model for happiness and happiness interventions. Furthermore, the study proposed a multifaceted methodology for happiness interventions, comprising self-administered intentional activities, group-administered interventions and individual coaching.

The third study aimed to evaluate a PPI aimed at increasing happiness of students in a tertiary educational institution. A longitudinal pre-experimental research design was used to address the aforementioned research objective. Qualitative data were used to explore the findings further. The results indicated that the overall happiness of a student may be increased through developing individuals on both an emotional and psychological level. The results showed some scientific merit to a multifaceted approach towards PPIs. The PPI affected all the aspects conceptualised in this study except for two components of authenticity, namely authentic behaviour and relational orientations.

Finally, recommendations for future research were made.

CHAPTER 1

INTRODUCTION

This thesis investigates the concept, manifestation, measurement and development of happiness, flourishing and positive psychological interventions (PPIs) within a tertiary educational environment.

Chapter 1 contains the problem statement as well as a literature review based on previous research done on the constructs. The research objectives, research method and the significance of the study are also presented. Finally, the division of chapters is outlined.

1.1 BACKGROUND

Psychologists have long been concerned with the psychopathological underpinnings of suffering, ill-health and deviance (Cameron, Dutton, & Quinn, 2003; Seligman, 2011). Focusing on these psychopathological aspects of the psyche culminated in the psycho-medical-, or 'disease model' (Peterson & Seligman, 2004). Although the disease model produced accurate means for the classification, identification and treatment of psychopathology, few attempts were made to study well-being or optimal development before 2000 (Peterson & Seligman, 2004; Seligman, 2004). The disease model defines well-being and optimal development as being the absence of distress and psychopathology (Seligman & Csikszentimihalyi, 2000). However, focusing solely on pathology and reemphasising it serves to reinforce low expectations, create dependency on external resources and discourages individuals to develop optimally (Peterson, Park, & Seligman, 2005; Van Zyl & Stander, in press).

Decades of research, which focused on the disease model, overshadowed efforts to enhance the states attributable to well-being and happiness (Seligman & Csikszentimihalyi, 2000). To promote human potential, the approach should be to instil happiness through establishing self-awareness and applying individual strengths (Peterson et al., 2005). This approach culminated in a fairly new paradigm labelled 'positive psychology' (Seligman & Csikszentimihalyi, 2000). Positive psychology refers to the science of subjective experiences, positive institutions and individual traits that improve the quality of life and prevents the

onset of psychopathology, or in short the *science of happiness* (Seligman, 2002). Happiness does not merely refer to the absence of unhappiness, but rather to the subjective experience of joy, satisfaction, and positive well-being, combined with a sense that one's life is meaningful, good and worthwhile (Seligman, 2002).

Happiness facilitates the onset of sustainable well-being and optimal development (Seligman, 2008; Sirgy & Wu, 2009). Yet, research has shown that more than half the world's population perceive themselves as being unhappy (Seligman, 2002). Unhappy individuals feel that they are 'stuck in a rut', yet aren't diagnosable with any mental disorder (Della Porta, Sin, & Lyubomirsky, 2009). Happiness prevents the onset of pathology (Lyubomirsky, 2012; Seligman, 2002), and increases general life satisfaction (Seligman, 2004). Experiencing happiness within an educational environment facilitates the development of positive attitudes (Seligman, 2011), higher study engagement (Ouweneel, Le Blanc, & Schaufeli, 2011), enhanced levels of commitment to studies (Howell, 2009) and increased academic performance (Howell, 2009; Seligman, 2011). While happiness can be regarded as both the cause and effect of various desirable life outcomes (for both individuals and institutions), there is a need to understand how one could enhance the optimal development of people and thus increase happiness (Della Porta et al., 2009).

The concept of happiness has recently undergone much scrutiny (Biswas-Diener, Kashdan, & King, 2009; Kashdan, Biswas-Diener, & King, 2008; Lyubomirsky, 2012; Sirgy & Wu, 2007). While it has been found that happiness is related to increased life satisfaction, wellness, engagement, and marital satisfaction (Howell, 2009; Seligman, 2011), there is still debate on how it should be conceptualised (Biswas-Diener et al., 2009; Kashdan et al., 2008; Sirgy & Wu, 2009). Ryan, Huta, and Deci (2008) distinguished between two approaches to well-being, namely 'hedonism' and 'eudaimonia'. The hedonic perspective aims to maximise pleasure and avoid painful experiences (Kahneman, Diener, & Schwarz, 1999), which can promote a life of shallow values, greed, and exploitation of others (Ryan et al., 2008). In contrast, the eudaimonic perspective focuses on the "content of one's life and the processes in living well" (Ryan et al., 2008, p. 142). Eudaimonia is an objective or subjective condition associated with living a life of contemplation and virtue, living in truth to one's "daimon" (true self) and striving toward excellence in fulfilling one's personal potential (Ryan & Deci, 2001; Ryan et al., 2008; Waterman, Schwartz, & Conti, 2008). Whilst hedonism is about

getting what you want, eudaimonia is about activities associated with self-realization and expression of virtue (Ryan et al., 2008).

Both these approaches towards happiness have been criticized (Deci & Ryan, 2008; Kashdan et al., 2008; Waterman et al., 2008). There seems to be little consensus amongst these primary approaches on how happiness should be conceptualised (Kashdan et al., 2008; Lyubomirsky, 2012; Seligman, 2002). These approaches gave birth to several streams of research, operationalisations, and terminology for happiness: hedonic well-being (HWB) (Kahneman et al., 1999), subjective well-being (SWB) (Diener, Emmons, Larsen, & Griffin, 1985), eudaimonic well-being (EWB) (Ryan & Deci, 2008; Waterman et al., 2008), psychological well-being (PWB) (Ryff & Keyes, 1995; Ryff & Singer, 2006), and flourishing (Keyes, 2002; Seligman, 2011). With literature distinguishing between these five main approaches towards happiness, it is clear that there is some variation in its conceptualization and operationalization. This relegates the concept to nothing more than an unscientific theory (Seligman, 2011), which negatively impacts on the perception of the validity of interventions aimed at enhancing this positive emotional state (Della Porta et al., 2009).

Psychologists have utilised the principles of positive psychology to treat pathology and enhance psychological well-being (Della Porta et al., 2009; Seligman, Steen, Parks, & Peterson, 2005). According to Peterson and Seligman (2004), focusing on 'what is right' with a person, rather than 'what is wrong', showed better end-results in a shorter period of time. Similarly, Smith (2006) has stated that when counselling adopts a positive approach, it enhances resilience, builds on self-esteem and promotes happiness. The focus is on facilitating wellness, building on 'what is right' within the individual and instilling positive emotions through a series of positive psychological interventions (PPIs) (Della Porta et al., 2009). PPIs refers to methods, intentional activities or treatments aimed at cultivating positive affect, cognitions and behaviours (Della Porta et al., 2009; Seligman et al., 2005). These interventions target activities relating to individual strengths (Peterson & Seligman, 2004), and cultivating positive emotions (Della Porta et al., 2009) to enhance optimal development to develop flourishing individuals (Lyubomirsky, 2012).

1.2 PROBLEM STATEMENT

Researchers have found mixed results relating to the effectiveness of PPIs and the impact thereof on objective criterion (Della Porta et al., 2009; Seligman, 2011). Research conducted on the effects of PPIs on depressive patients have demonstrated significant positive results (Forbes & Dahl, 2005; Seligman, Rashid, & Parks, 2006; Seligman et al., 2005). Applying PPIs to individuals, either on an individual- or group level, dramatically increased overall well-being (Lyubomirsky, 2012; Seligman et al., 2005). Other studies have shown that PPIs have been useful in inducing positive affect, engagement, and providing a sense of meaning to one's life (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011; Seligman et al., 2005). However, some studies do not confirm the effectiveness of PPIs (Della Porta et al., 2009; Froh, Sefick, & Emmons, 2008; Sin & Lyubomirsky, 2009). Furthermore, limited studies exist on the impact of happiness on objective performance measures such as academic performance (Howell, 2009; Seligman, 2011).

A number of studies addressing one or more of the components of happiness and flourishing (as conceptualised in this study) in various settings have been conducted in South Africa (*see* Barkhuizen & Rothmann, 2006; Barkhuizen, Rothmann, & Van de Vijver, in press; Jackson, Rothmann, & Van de Vijver, 2006; Van Zyl, Deacon, & Rothmann, 2010). However, research regarding empirically validated interventions targeting happiness within the multicultural South African environment is non-existent. Two intervention studies in South Africa which targeted aspects of happiness were undertaken (*see* Jorgensen, 2006; Spangenberg & Orpen-Lyall, 2008). However, neither of these studies resulted in significant changes in the focus areas of the research (engagement or burnout). With such mixed results, solid empirical evidence is needed to determine both the effectiveness of PPIs, as well as its short-term and long-term effects within the multicultural South African context.

PPIs structured around individual strengths, personal meaning, engagement and happiness have been shown to be very effective in the past (Seligman et al., 2005). Interventions structured around meaning have been shown to have a positive impact on overall life satisfaction, hope, optimism and resilience (Forbes & Dahl, 2005; Seligman et al., 2005). Research suggests the experience of meaning in life/work attributes to higher levels of engagement (May, Gilson, & Harter, 2004; Olivier & Rothmann, 2007; Van Zyl et al., 2010) and life satisfaction (Peterson et al., 2005). In other studies, PPIs have shown to be useful in

inducing positive emotions, engagement, and meaning in life in non-depressive samples (Seligman et al., 2005). However, it should be noted that other interventions have been shown to have no effect on participants, whether they were in control or placebo groups (Della Porta et al., 2009; Froh et al., 2008). Therefore, it is unclear whether PPIs are effective (Della Porta et al., 2009; Sin & Lyubomirsky, 2009).

Contributing to this fact are the inconsistencies evident in the literature on how happiness and human flourishing should be conceptualised and measured (Seligman, 2011). An example of such inconsistency is the suggestion that the measurement of a construct influences the validity of the results (Salkind, 2012). Various studies have found mixed results on PPIs, which may also be attributable to the low reliability and validity of the measures used (Sin & Lyubomirsky, 2009). Additionally, the sample might also affect the effectiveness of the intervention, since some samples are more complex than others (Lyubomirsky, 2012; Seligman, 2011). Zelenski, Murphy, and Jenkins (2008) suggest that these varying results may also be attributable to inconsistent measurement or utilising non-validated contextual measuring instruments. Furthermore, the operationalization of the concepts “well-being” and “optimal development” as happiness may not be an appropriate proxy for the concept (Lyubomirsky, 2012; Zelenski et al., 2008). Interventions structured around these incorrect operationalisations may also contribute to the mixed results in the literature (Seligman, 2011; Zelenski et al., 2008).

Although intervention research is complex, with both the research participants as well as the research results being open to situational influences, PPIs might contribute to perceived increase in happiness and human flourishing, especially if the antecedents (in terms of psychological processes) are carefully isolated and controlled in well-designed studies. Research suggests that happiness can be promoted through focusing on various factors that mediate between antecedents and outcomes (Della Porta et al., 2009; May et al., 2004; Seligman, 2002; Seligman et al., 2005; Van Zyl et al., 2010). For the purpose of this research the following dimensions of happiness are studied: (a) psychological well-being, (b) emotional well-being, (c) social well-being (Keyes, 2011), (d) competence, relatedness, autonomy (Deci & Ryan, 2002; Ryan et al., 2008), (e) authenticity (Kernis & Goldman, 2005; Rogers, 1961), (f) meaning and engagement (Seligman, 2011), (g) person-environment fit (May et al., 2004) and (h) positive emotion (Keyes, 2002; Seligman, 2011).

These dimensions can be affected through various happiness activities (or 'mechanisms') (Lyubomirsky, 2012; Seligman, 2002). Research suggests that certain prominent PPI mechanisms such as (a) practicing gratitude, (b) cultivating positive emotions and optimism, (c) avoiding social comparisons, (d) investing in social relations, (e) living in the present, (f) learning to forgive, (g) re-crafting work, (h) savouring life's pleasures, (i) taking care of one's physical and psychological well-being (etc.) have been shown to have effects on improving happiness (Lyubomirsky, 2007; Seligman, 2011). However, there is a dearth of scientific information relating to the mechanisms affecting the development of happiness and human flourishing within a South African context. No research has been conducted on happiness and human flourishing within the South African educational environment. There is thus a need to explore how happiness and human flourishing impact on the South African educational environment.

The South African tertiary educational environment presents an interesting case for validating PPIs. South Africa has accepted a strategy of working towards a knowledge-based economy, in contrast with a resource-based or production-based economy (Adendorff, 2009). The term '*knowledge-based economy*' implies that economic growth is stimulated through the production, distribution and application of knowledge (Meyers, 2007; Noddings, 2003). In recent years knowledge has become central to economic development and national prosperity (Noddings, 2003). It has been estimated that more than 50% of South Africa's Gross Domestic Product (GDP) is knowledge-based, with knowledge-intensive service sectors, such as education, growing rapidly (Adendorff, 2009). Education is therefore imperative to economic prosperity. However, the country also faces enormous challenges in striving towards a knowledge-based economy, which requires high quality educational and research outcomes (Adendorff, 2009). Therefore, implementing a knowledge-based economy implies challenges for students at tertiary education institutions.

With the current pressures of student throughput in the education sector (Letseka & Maile, 2008), pressure to perform and high dropout rates (Letseka, 2007), students in tertiary educational institutions are experiencing diminished levels of perceived happiness (Noddings, 2003). Interventions should be developed and evaluated to target these individuals' happiness, in order to buffer against the onset of negative personal and performance related factors (Seligman, 2011). Furthermore, studies suggest that happy, engaged, and optimistic people (compared with unhappy, disengaged, and pessimistic people) are more motivated, healthy,

and produce better academic results (Cameron et al., 2003; Luthans, 2002; Noddings, 2003; Seligman, 2004). Therefore, interventions need to be developed to cultivate these positive psychological concepts in order to produce highly-functional and high-achieving individuals (Seligman, 2011). However, interventions conducted in the past were reactive in nature and based on addressing deviance (Noddings, 2003; Seligman, 2011). No studies were found regarding the effectiveness of PPIs within a South African context. It is, therefore, necessary to test the effectiveness of PPIs in tertiary educational environments, as these are expected to contribute to the development of knowledge-based economies.

Although no studies regarding the happiness or flourishing of students at tertiary education institutions were found, various studies have focused on the engagement, meaning and life satisfaction within these contexts. According to Lyubomirsky (2012), coping with stress and preventing burnout are necessary to promote the happiness of individuals. Schaufeli, Martínez, Marques Pinto, Salanova, and Bakker (2002) found that student engagement has a direct impact on academic achievement. In a South African study, Pienaar and Sieberhagen (2005) showed that student engagement is strongly predicted by dispositional optimism and the presence of resources. Furthermore, overwhelming academic demands and a lack of study resources have been shown to contribute to student burnout (Schaufeli et al., 2002).

As a result of the above it is evident that the ability of PPIs to instil happiness and promote human flourishing needs to be investigated (Lyubomirsky, 2012), with a focus on the effectiveness of the PPI interventions targeting the various mediators and mechanisms that affect the levels of happiness and human flourishing. Although some studies could be found within the US and UK environment, no literature has been found regarding the effects of PPIs within a tertiary educational environment in South Africa; a gap in literature that needs to be bridged. Finally, information is needed regarding the effective measurement of the concept as well as its impact on performance related variables such as academic performance.

Based on the abovementioned description, the research problems can be summed up as six distinct areas of inquiry. Firstly, while it is necessary to increase the perceived happiness experienced by individuals, it is not clear how happiness or human flourishing should be conceptualised, and what the content and methodology of interventions aimed at achieving a high level of happiness should be. Secondly, scientific information is needed regarding the mediating mechanisms (i.e. psychological processes which occur within individuals) that

should be targeted when happiness interventions are implemented. Thirdly, scientific information regarding the reliability and validity of measures of flourishing within a tertiary educational environment is needed. Fourthly, research is needed regarding the manifestation of happiness or human flourishing and its impact on objective performance variables (such as academic performance) within the tertiary educational environment. Fifthly, because no studies have been found regarding the empirical validation of happiness interventions within a South African context, it is not clear what the effect of interventions that target happiness will be within the South African tertiary educational environment. Finally, scientific information is needed regarding both the short-term and long-term effects of interventions directed at increasing the happiness of individuals.

The following research questions emerged from the above-mentioned description of the research problem:

- How are happiness, its approaches/models and intervention methodologies conceptualised in the literature?
- Which mechanisms bring about changes in individual happiness and its components (i.e. pleasure, engagement and meaning)?
- What should the content and methodology of an intervention programme aimed at increasing happiness be?
- How valid and reliable are instruments for measuring happiness and human flourishing within a tertiary educational institution?
- Is happiness related to academic performance of students in a tertiary educational institution?
- What are the effects of an intervention programme aimed at the happiness of students in a tertiary educational environment?

1.2.1 Contributions of this thesis

A given field of study advances as individuals develop a better understanding of key aspects, concepts and methodologies within said field (Seligman, 2011). This study aims to make the following contributions to Industrial Psychology as a science: First, the study revisits the ‘happy-productive student’ thesis within a tertiary educational environment in an effort to

establish the validity of this hypothesis. The study contributes to the literature through illuminating reasons for contradictory research findings regarding the relationship between happiness and productivity. The study contributes to the literature regarding the measurement of happiness and flourishing by exploring these variables within a multicultural context, and presents evidence regarding the validity and reliability of a measuring instrument for flourishing within a multicultural environment. This study expands on the knowledge regarding the psychometric properties of the Mental Health Continuum Long Form (Keyes, 2002) within a multicultural context. Further, the thesis presents recommendations on how the instrument would need to be adapted for the tertiary educational environment within South Africa.

Second, the thesis contributes to positive psychological intervention literature. The study furthers theoretical and empirical knowledge regarding the effectiveness of three methodological approaches for positive psychological interventions, namely self-administered activities, group-based development and individual development. The study contributes to the existing literature on happiness and flourishing through developing a theoretically sound methodology for positive psychological interventions aimed at cultivating these psychological states. The study systematically evaluates the happiness literature to identify gaps in theoretical approaches and models relating of happiness and flourishing. A theoretical model to approaching happiness and flourishing will be proposed in an effort to address the presented fissures in literature.

Third, the study builds on positive psychological intervention theory through developing and evaluating an intervention aimed at increasing happiness within a multicultural environment. The thesis contributes to applied positive psychology through highlighting the importance of positive psychological interventions as a vehicle through which self-development can take place.

The information obtained through this research will contribute to the field of positive psychology and positive psychological assessment. The validity and reliability of the Mental-Health Continuum Long Form is evaluated within a multicultural tertiary educational environment. Furthermore, the study will contribute to existing knowledge about happiness and its components within the multicultural South African context. The study will further broaden the current knowledge concerning the role of mediating mechanisms (engagement,

meaning, pleasure, person-environment fit, autonomy, relatedness, competence, authenticity, life satisfaction and affect-balance) impacting on happiness and its components. Finally, an intervention programme that aims to promote the happiness of students will be developed.

1.3 RESEARCH OBJECTIVES

The research objectives are divided into a general objective and specific objectives.

1.3.1 General objective

The general objective of this research was aimed at investigating the conceptualisation, manifestation, measurement and development of happiness and PPIs within a tertiary educational environment.

1.3.2 Specific objectives

The specific research objectives are:

- To conceptualise happiness, its approaches/models and happiness intervention methodologies from the existing literature.
- To investigate the mechanisms which bring about changes in individual happiness and its components (i.e. pleasure, engagement and meaning).
- To study the content and methodology of an intervention programme aimed at increasing happiness.
- To determine the validity and reliability of measuring instruments measuring happiness and human flourishing within a tertiary educational institution.
- To establish whether increased happiness manifests in improved academic performance of students in a tertiary educational institution.
- To evaluate the short-term and long-term effects of an intervention programme aimed at the happiness of students in a tertiary educational environment.

1.4 PARADIGM PERSPECTIVE OF THE RESEARCH

Paradigm perspectives direct research through the identification of its intellectual climate and resources (Mouton & Marais, 1988). Identifying the paradigm from which to approach a study, provides a theoretical foundation for all aspects relating to the given research project.

1.4.1 Intellectual climate

According to Mouton and Marais (1988), the intellectual climate of research refers to a wide array of meta-theoretical assumptions that is held by the individuals participating in the project, or following a specific frame/domain/paradigm in research at any given stage. These assumptions can be traced back to non-scientific contexts that do not directly impact on the theoretical objectives of the research, but rather serve to shape the process (Mouton & Marais, 1988).

1.4.1.1 Discipline

This research falls within the boundaries of social sciences, more specifically the behavioural sciences. The main paradigm of this research is industrial psychology, where the focus lies on studying the behavioural and mental processes of individuals within an organisational setting (Meyers, 2007). The main principle underlying this paradigm in psychology is to apply psychological principles, processes and practices within an organisational setting with the view of facilitating both an increase in overall efficacy and effectiveness within the organisation and to increase wellness within the individual (Kreitner & Kinicki, 2007; Meyers, 2007). However, to direct the research one must elaborate on the sub-disciplines of the paradigm to enhance the understanding of the current research project.

According to Shaughnessy, Zechmeister, and Zechmeister (2003), a sub-discipline can be defined as a field of study that relates to one dimension of a paradigm of a broader field of study, but not to the whole (in this case industrial psychology). In essence, the sub-disciplines that are applicable to this research are (a) career psychology, and (b) psychological assessment. In order to enhance the understanding of these constructs, formalised definitions will be provided to facilitate an understanding of the context in which it resides:

According to Schreuder and Coetzee (2010), *career psychology* is concerned with the dynamic relationship between an individual and the environment in order to describe the nature of career choices and patterns throughout an individual's life. Career psychology aims to provide explanations, models and measures to predict and understand career-related activities (Schreuder & Coetzee, 2010).

Psychological assessment, which includes psychometrics, refers to the development of valid measuring instruments to predict, interoperate, integrate and communicate various cognitive, emotional and behavioural characteristics of individuals (Schreuder & Coetzee, 2010). These measures are used for various purposes such as personnel selection, career guidance and personal development (Schreuder & Coetzee, 2010).

1.4.1.2 Meta-theoretical assumptions

According to Mouton and Marais (1988), meta-theoretical assumptions are those assumptions that are concerned with other assumptions of other theories. Both the literature review and the empirical study are done with the positive psychological approach in mind.

Literature review

The literature review is focused on the ecosystemic and the positive psychological paradigms. According to Meyer, Moore, and Viljoen (2005), the ecosystemic approach is not a specific paradigm, but can rather be seen as an integration of various focus areas. These areas include, but are not limited to, cybernetics, systems and ecology (Meyer et al., 2005). The basic assumption behind this approach is centred on the idea that an individual is comprised of various interrelated systems, and is viewed as a subsystem which functions as part of a hierarchy of larger systems (Meyer et al., 2005; Ross & Deverell, 2005). According to Seligman (2004), positive psychology refers to a new movement in psychology that focuses on subjective positive experiences, strengths and institutions which aim at improving the quality of life and fostering optimal development of individuals, groups, and organisations. Seligman (2002) loosely defines positive psychology as the '*science of happiness*', which is concerned with increasing an individual's level of happiness.

Empirical study

The empirical study is focused on the positivistic, functionalistic and phenomenological paradigms.

The positivistic paradigm is based on a wide array of ideologies and principles relating to the belief that social reality is objective in nature (Angen, 2000; Creswell, 1998; Guba & Lincoln, 1994). According to this approach, knowledge can only be acquired through data that can be experienced and verified over time (Guba & Lincoln, 1994). Behaviour can be broken down into small facets, which can be measured directly through various techniques (Angen, 2000). From this perspective, Alvesson and Sköldberg (2000, p. 127) state that from "data, facts, the unequivocal imprints of 'reality', it is possible to acquire a reasonably adequate basis for empirically grounded conclusions and, as a next step, for generalizations and theory-building". It is important to understand that from this perspective, phenomena are subjected to the laws of nature, physics and quantum reality which individuals perceive as being logical through empirical testing (Creswell, 1998). These 'logical realities' are studied bit-by-bit through utilising inductive and deductive presumptions based on scientific theory (Alvesson & Sköldberg, 2000; Angen, 2000; Creswell, 1998; Guba & Lincoln, 1994). These ideas rely heavily on quantitative measures, where relationships are understood by statistical means (Alvesson & Sköldberg, 2000).

The functionalistic paradigm has dominated organisational research over the past few decades (Ross & Deverell, 2005). It explains behaviour in terms of its function and purpose, which manifests in regulative and pragmatic manner (Alvesson & Sköldberg, 2000; Morgan, 1980). From this paradigm, human nature is contextually bound to a set of real world variables (Morgan, 1980). It focuses on understanding organisational behaviour in such a way that it represents functional, empirical data (Alvesson & Sköldberg, 2000; Meyer et al., 2005). According to Meyer et al. (2005), this paradigm's primary aim is to understand the role of the individual within the organisation.

Finally, the phenomenological paradigm is based on the assumption that human nature has to be studied from the 'insider's perspective' (Alvesson & Sköldberg, 2000). The primary focus of this paradigm is to attempt to understand and describe human behaviour, rather than predicting and explaining it (Alvesson & Sköldberg, 2000; Cohen & Manion, 1987). Cohen and Manion (1987, p. 151) summarises the paradigm through stating that "phenomenology is

a theoretical point of view that advocates the study of direct experience taken at face value; and one which sees behaviour as determined by the phenomena of experience rather than by external, objective and physically described reality". According to Alvesson and Sköldbberg (2000), the phenomenological paradigm is in direct contrast to the positivistic paradigm, as this approach doesn't consider human behaviour to be objective experiences which can be quantified and generalized, but rather states that the focus should be on an individual's perceived subjective experiences. Furthermore, the paradigm posits that each situation is unique and should, thus, be treated in such a manner (Cohen & Manion, 1997). The meaning of each situation is based on the circumstances and perceptions of the individuals involved (Alvesson & Sköldbberg, 2000).

1.4.2 Market of intellectual resources

According to Mouton and Marais (1988, p. 64), the market of intellectual resources refers to "the collection of beliefs which has a direct bearing upon the epistemic status of scientific statements". The market of intellectual resources is divided into two main categories, (a) theoretical beliefs and (b) methodological beliefs.

1.4.2.1 Theoretical beliefs

Theoretical beliefs can be described as the set of beliefs that produce measurable end-results regarding any form of social phenomena being studied (Mouton & Marais, 1988). In accordance with this, this section is divided into two sections, (a) conceptual definitions and (b) models and theories which should serve as the foundation for the research.

Conceptual definitions

The following conceptual definitions are relevant to this research:

Happiness refers to the subjective experience of joy, satisfaction, and positive well-being, combined with a sense that one's life is meaningful, good and worthwhile (Seligman, 2002), and is indicated by life satisfaction.

Pleasure refers to a broad class of mental states that humans experience as positive or enjoyable where one seeks out pleasures of the mind and body to avoid pain (Peterson &

Seligman, 2004; Seligman, 2002). Pleasure culminates in having as many enjoyable experiences as possible and learning new skills to amplify this experience (Seligman, 2002).

Meaning refers to a feeling that one is connected to something larger than oneself (Park, Peterson, & Ruch, 2009). It manifests in the search for and experience of meaning in one's life (Seligman, 2002).

Engagement refers to a state in which an individual is actively involved in an activity, categorised by a feeling that nothing else matters (Seligman, 2002). Engagement is defined as “the efforts exerted by an individual to bring in or leave out their personal selves during work role exertions [...] and manifests in an emotional, cognitive and behavioural dimension” (Kahn, 1990, p. 694).

Flourishing is defined as “*a syndrome of subjective well-being which combines feeling good (emotional well-being) with positive functioning (psychological- and social well-being)*” Keyes (2005, p. 7).

Positive psychological interventions (PPIs) refer to methods, intentional activities or treatments aimed at cultivating positive emotions, cognitions and behaviours. These interventions target activities relating to individual strengths (Peterson & Seligman, 2004), and cultivating positive emotions (Della Porta et al., 2009) to enhance optimal development.

Models and theories

A model is seen as a hypothetical description of a complex process (Mouton & Marais, 1988). According to Mouton and Marais (1988), a model in social sciences can be defined as a theoretical construct which represents a specific social or psychological process via a set of defined variables; and the logical and qualitative (and quantitative) relationships that exist between them. In essence, the model provides a simplified framework to illustrate complex processes. A theory in the social sciences can be seen as an organised system of proposed models, comprised of various facts, constructs, phenomena, perceptions and definitions, which manifests as a certain belief which can guide behaviour (Mouton & Marais, 1988). This system of knowledge applies to a variety of different circumstances and is used to explain or predict a set of specific phenomena (Mouton & Marais, 1988).

1.4.2.2 Methodological beliefs

Methodological beliefs can be defined as a set of philosophies which inform the decisions regarding the essential nature and organisation of scientific research (Mouton & Marais, 1988). Methodological beliefs manifest in a set of philosophical traditions and methodological models underpinning the research. The empirical study culminates in the ecosystemic approach which, for the purpose of this study, is presented within the positivistic, functionalistic and phenomenological paradigms.

The ecosystemic paradigm propagates that individuals are comprised of various interrelated systems, with the individual being regarded as a subsystem which functions as part of a hierarchy of other larger systems (Meyer et al., 2005; Ross & Deverell, 2005). Flowing from this, the positivistic paradigm is based on ideologies and principles relating to the belief that social reality are objective and measurable (Angen, 2000; Creswell, 1998; Guba & Lincoln, 1994). According to this approach, an individual's behaviour can be broken down into smaller sub-domains which can be measured both subjectively and objectively (Angen, 2000). Researchers are in much debate regarding whether happiness is an objective or subjective phenomenon (Kahneman et al., 1999; Seligman, 2002). Therefore, the empirical research was aimed at measuring various facets of the participant's behaviour through different objective and subjective measuring techniques. These measurements are based on the theoretical models predicting happiness (in its various manifestations).

The second paradigm of the research is focused on the functionalistic paradigm. According to Morgan (1980), functionalists believe human nature is essentially environmentally-bound and influenced by a set of "real world variables". Geldenhuys and Rothmann (in press) found that individuals' levels of engagement differ across different timestamps. This implies that interventions should be customised to suit individual needs (Della Porta et al., 2009), since individuals differ with regards to their predisposition, environment and functional paradigms (Lyubomirsky, 2007). Therefore, each participant should be provided with unique skills to optimise his/her strengths and to address the demands of their current functional realities (Alvesson & Sköldberg, 2000; Morgan, 1980). It is, therefore, imperative for each individual to become sensitised to his/her strengths (Peterson & Seligman, 2004), to understand the impact of the environment on his/her current level of affect (Lyubomirsky, 2007) and to

capitalise on their underutilised potential in order to optimise personal development and growth (Seligman, 2002, 2011).

The third paradigm underpinning this research manifests in the phenomenology. According to Alvesson and Sköldberg (2000), human nature needs to be studied on an individual level in order to understand human nature, rather than to predict or quantify it. Given the debate on the subjectivity or objectivity of happiness, this research aims to study experiences at face value. This should provide one with an opportunity to sample each participant's current manifested reality in order to understand the reasons behind their manifested behaviour (Cohen & Manion, 1987). Given the nature of this research, the primary aim is to develop individuals. While the process needs to be empirically documented (through the utilisation of the previous paradigms), the primary focus lies on understanding the participants' current realities through qualitative measures. This was done in order to develop individually tailored interventions, with high impact value.

1.5 RESEARCH METHOD

The research method for this research consists of a literature review, an empirical study and three interventions. The results are presented in the form of three research articles.

1.5.1 Phase 1: Literature review

The literature review focuses on existing research relating to happiness, the mechanisms which influence individuals' levels of happiness, as well as the content and methodology of a development programme aimed at increasing happiness.

Relevant articles published between 1950 and 2012 will be identified, using the following article databases: *EBSCOHOST*, *Emerald*, *Science Direct*, *Google Scholar*, *WEBfet*, *SAePublications*, *Proquest*, *ISI Web of Knowledge*, *SAB Inet Online*, *JSTOR*, *Springlink* and *Metacrawler*. The following terms will be used (individually and in combination) as search terms: pleasure, meaning, engagement, flow, happiness, interventions, positive psychological interventions, students accompanied by positive psychology, psychofortology, positive organisational scholarship, models, and interventions. Cross-referencing will be done when

identifying other important sources of information whilst studying a specific article mentioning a reliable source.

1.5.2 Phase 2: Empirical study

The empirical study consists of the research design, the participants, the measuring battery, the statistical analysis, interventions and the ethical considerations of the study.

1.5.2.1 Research design

Firstly, a cross-sectional research design is used to investigate the psychometric properties of various positive psychological assessment measures as well as to determine relationship between happiness and academic performance (Salkind, 2012). Secondly, a qualitative meta-analysis of the literature on happiness, its components and intervention methodologies is used to conceptualise the construct and to develop a PPI methodology for promoting happiness. Thirdly, a pre-experimental longitudinal design is used to evaluate a PPI aimed at increasing happiness of students in a tertiary educational environment (Salkind, 2012). A single group pre-, post-, and post-post-test longitudinal design is used, in conjunction with qualitative impressions of the participants during the process. The researcher will take field notes of participants behaviours and expressed emotions during the course of the intervention. Thematic content analysis is used to analyse the qualitative data. Surveys are utilised to obtain data about the respondents' initial levels of happiness as it manifests in various sub domains. The pre-test is administered 90 days before the first phase of the intervention. The post-test is conducted one month after completion of the second phase of the intervention. The post-post-test is conducted four months after the completion of the intervention.

1.5.2.2 Participants

A convenience sample of students in a tertiary educational institution ($n = 845$) is drawn from the entire population of students within a tertiary educational institution in South Africa to obtain data for the cross-sectional research design for Chapter 2. A sample of 20 individuals from the same population group was drawn for the intervention (Chapter 3). This sample was drawn from third year students in a tertiary educational institution.

1.5.2.3 Measuring battery

The importance of valid and reliable instruments to sample happiness (and its components) is not only important for the purpose of the empirical research, but also for the individual. It is important that the participants are aware of their own progress throughout the process.

The following questionnaires are used in the empirical study:

A *biographical questionnaire* is used in order to gather information relating to the age, gender, ethnicity, demographic origin, marital status, parental status, and home language of the participants.

The *Satisfaction with Life Scale* (SWLS; Diener et al., 1985) is used to measure the cognitive component of subjective well-being. The SWLS consists of five items which measure the individual's evaluation of satisfaction with life in general (e.g. "I am satisfied with my life" and "If I could live my life over, I would change almost nothing"). Responses range from 1 (*strongly disagree*) to 7 (*strongly agree*) for each question. Responses is then averaged to provide a total life satisfaction score. The higher the mean score, the higher levels of life satisfaction is experienced. Research has established acceptable psychometric properties for the SWLS (Diener et al., 1985). Reliability by means of consistency was satisfactory within a population of 167 participants, 67 of which were re-tested after one month with a correlation coefficient of 0.82 and coefficient alpha of 0.87 were reported (Diener et al., 1985).

The *Orientations to Happiness Scale* (OHS; Peterson et al., 2005) is utilised in order to determine participants' orientation to happiness through the pursuit of pleasure, meaning and engagement (Park et al., 2009; Peterson et al., 2005). The scale consists out of 18 items rated on a 5-point Likert scale. Responses range from 1 (*not at all like me*) to 5 (*very much like me*). The higher the mean score, the higher levels of pleasure, meaning and engagement is experienced. Some of the items included in the measure are: "My life serves a higher purpose"; "life is too short to postpone the pleasures it can provide"; and "Regardless of what I am doing, time passes quickly". According to Peterson et al. (2005), in a group of students, the internal consistency of the OHS yielded Cronbach alpha coefficients which range from 0.70 to 0.83 on the various sub scales: (a) pleasure 0.80; (b) meaning 0.83; and (c) engagement/flow 0.70.

The *Positive and Negative Affect Schedule Short Form* (I-PANAS-SF; Thompson, 2007) is used in order to measure participants' level of general positive and negative affect. The I-PANAS-SF requires participants to rate themselves on a 5-point Likert scale, ranging from 1 (*never*) to 5 (*always*) the frequency they experience 10 broad clusters of positive affect (PA; alert, inspired, attentive, determined and active) and negative affect (NA; hostile, ashamed, nervous, afraid, and upset). The higher the mean score, the higher levels of positive and negative affect is experienced. Thompson (2007) found the internal consistency of the I-PANAS-SF was represented by Cronbach alpha coefficients ranging from 0.78 on Positive Affect and 0.76 on Negative Affect.

The *Mental Health Continuum – Long Form* (MHC-LF; Keyes, 2002, 2009) is used to measure the emotional-, psychological-, and social well-being of students. On the Emotional Well-being measure, participants indicate how much of the time they felt each type of positive emotion during a 30 day period. It consisted of six items and was rated on a 5-point Likert scale ranging from 1 (*all of the time*) to 5 (*none of the time*). Examples of these items are “cheerful” and “in good spirits”. Furthermore, participants also evaluate their life satisfaction on a 10 point scale where 1 indicated *the worst possible life overall* and 10 meant *the best possible life overall*. Keyes, Shmotkin, and Ryff (2002) obtained a relatively high Cronbach alpha value of 0.90 in a sample of college students. Psychological Well-being consists of 18 items and was rated on a Likert scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Examples of these items includes: “The world is too complex for me”, and “People do not care about other people’s problems”. Robitschek and Keyes (2009) obtained relatively high Cronbach alpha values ranging from of 0.71 to 0.89 on the various subscales. Social Well-being consists of 15 items rated on a 7-point Likert scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Examples of these items includes: “I have something valuable to give the world” and “The world is becoming a better place for everyone”. Keyes and Shapiro (2004) obtained relatively high Cronbach alpha values ranging from of 0.70 to 0.91 on the various sub-scales.

The *Basic Psychological Needs Scale* (BPNS; Ilardi, Leone, Kasser, & Ryan, 1993) is used to determine the degree towards which an individual experiences the satisfaction of three primary needs (Autonomy, Competence and Relatedness). It consisted of 14 items relating to each of these needs and is rated on a 7-point Likert scale ranging from 1 (*totally disagree*) to 7 (*totally agree*). Seven items relate to autonomy (“I express my ideas and opinions freely in

class”), six items to competence (“People in class tell me that I am good at what I do”) and eight items to relates relatedness (“I get along with people in class”). According to Gagné (2003), the adapted version for students’ internal consistency was represented by Cronbach alpha coefficients which ranged from 0.70 to 0.86 on the various sub scales: (a) Autonomy: 0.70; (b) Competence: 0.71; and (c) Relatedness: 0.88.

The *Authentic Self Inventory* (ASI; Kernis & Goldman, 2005) is used in order to measure the level of authenticity of the respondents. The survey aims to measure four components of authenticity, namely: (a) awareness, (b) unbiased processing, (c) behaviour, and (d) relational orientation. The survey contains 44 items which is rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A high mean score on each dimension implies higher levels of authenticity. Some of the items included in this measure are: “For better or for worse I am aware of who I truly am (awareness)”; “I am very uncomfortable objectively considering my limitations and shortcomings (r) (unbiased processing)”; “I find that my behaviour typically expresses my personal needs and desires (behaviour)” and “I am willing to endure negative consequences by expressing my true beliefs about things (relational orientation)”. Kernis and Goldman (2005) found the internal consistency and reliability of the survey was represented by Cronbach alpha coefficients ranging from 0.64 (unbiased processing) to 0.90 (awereness).

An adapted version of the *Person-Environment Fit Scale* (PEF; May et al., 2004) is used to measure the perceived fit between occupations and individuals’ self-concept. The adapted version substitutes ‘jobs’ for ‘studies’. For all five items, a 5-point Likert scale was used, which ranged from 1 (*never*) to 5 (*always*). A high mean score implies higher levels of person-environment fir. Some of the items included in this measure are “My field of study ‘fits’ how I see myself”; “I like the identity my field of study gives me”; and “My field of study ‘fits’ how I see myself in the future”. According to May et al. (2004), the internal consistency of this scale in a large insurance company was represented by a Cronbach alpha coefficient of 0.92.

A *qualitative questionnaire*, based on the phenomenological paradigm, is used to explore the experiences of each individual after the intervention. Open-ended questions related to the change in the participants' happiness, as well as the components and antecedents thereof. The researcher studies the phenomenon without predetermined expectations of categories and

tried to understand the data from the perspective of the participant. Further, qualitative impressions (through the use of field notes) of participants behaviour and expressed emotions were taken.

1.5.2.4 Research procedure

In order to address the research questions, a mixed method approach is utilised for the various chapters. A brief explanation of the research procedure for each chapter is outlined below:

Chapter 2: A quantitative cross-sectional, survey-based research design is used in order to test a model for human flourishing and academic performance in a tertiary educational institution in South Africa. Based on the sample size and availability, a convenience sample is used (Salkind, 2012). A dual-distribution channel is utilised to obtain the data. A “pen-on-paper” version is administered to students during their first contact session and an ‘electronic’ version is distributed to sample those whom have missed out during the first administration. In order to ensure that participants do not complete the survey more than once, a unique code is assigned to each participant (based on specific criteria: e.g. What is the second letter of your surname?). Surveys completed twice are identified by this unique code, coupled with the biographical data, and will be removed from the analysis.

Chapter 3: A qualitative meta-analysis of the literature on happiness and human flourishing (1950 to 2012) is performed. The sample consists of peer-reviewed publications, books, theses and dissertations that were presented in Afrikaans and English. Cross-referencing is done to identify other important sources of information from reliable sources. Inclusion and exclusion criteria are developed to ensure the retrieval of valid scientific records. The selection criteria for inclusion into the sample include: (a) articles written between 1950 and 2012, (b) those articles written in English or Afrikaans, and (c) articles that examined happiness (in terms of its constructs, models, and antecedents) within any type of occupation. The criteria for exclusion relate to: (a) articles from areas remote to the field of psychology, unless they were strictly related to the concept of happiness, (b) studies such as dissertations, theses, and chapters in books are excluded, except those that directly addressed the concept of happiness and human flourishing.

Chapter 4: A mixed-method approach is used to address the research questions in this section. A longitudinal pre-experimental research design is used in order to evaluate a positive psychological intervention aimed at increasing happiness of students within a tertiary educational environment. Furthermore, qualitative data and impressions of the participants are presented to substantiate the findings. Based on the methodology identified in Chapter 3, a positive psychological intervention was developed and administered to the participants. Measurements take place at three intervals during the intervention. The first measure takes place 90 days before the intervention commenced, the second measure one month after the group-based intervention, and the final measurement occurs four months after the individual coaching had been completed.

1.5.2.5 Interventions

Primary, secondary, and tertiary interventions (Kompier & Cooper, 1999) can be implemented to address the happiness of individuals. Primary level interventions are mainly concerned with modifying or eliminating factors inherent in the workplace in order to adapt the environment to better fit the individual. Secondary level interventions focus on the individual and are concerned with increasing awareness and extending the physical and psychological resources of employees. Tertiary level interventions are targeted at individuals, but their role is recuperative rather than preventative (such as counselling). Although there is merit in addressing all three intervention levels, the point of departure in this study was to focus on the individual (i.e. secondary level interventions). According to Lyubomirsky (2012), individuals have a genetically determined set point for happiness to which they will always return, and which affects 50 percent of their happiness. About 10 percent of individual happiness is influenced by circumstances, while 40 percent of happiness can be influenced by activities, with the individual focusing on activities that optimise pleasure, and specifically engagement and meaning. While the researcher acknowledges that individual happiness can also be increased by changing the environment to fit the individual, this research focuses on change in the individual as a point of departure.

When developing an intervention, there needs to be a sound theoretical foundation (Halbesleben, Osburn, & Mumford, 2006). Sin and Lyubomirsky (2009) suggest that happiness can be increased through the use of PPIs. These interventions target activities relating to individual strengths (Peterson & Seligman, 2004), and cultivating positive

emotions (Della Porta et al., 2009) to enhance optimal development. PPIs motivate change through focusing on individual strengths. The content and methodology of the positive psychological interventions which are used to increase happiness in this research is determined by a meta-analysis of the literature.

Positive Psychological Intervention

An intervention targeting the level of happiness of third year students within a tertiary educational environment was developed and implemented. The intervention focussed on happiness in the past; present; and future (Seligman, 2002). Research suggests that students are burdened with the second highest levels of negative affect than any other age group, second only to individuals between the ages of 45 and 55 (Seligman, 2011). Therefore, interventions aimed at providing the skills needed to pursue lasting and sustainable happiness is imperative to their personal development and overall wellness. The models of Seligman (2002), Lyubomirsky (2007), Deci and Ryan (2002), Kernis and Goldman (2005), May et al. (2004) and Keyes (2002) were used as theoretical frameworks. Happiness activities included practicing gratitude and forgiveness, savouring life's pleasures, cultivating optimism, living in the present, engaging by using strengths, practicing kindness, investing in social connections, developing coping strategies, and developing spirituality (Lyubomirsky, 2007).

1.5.2.6 Statistical analysis

The statistical analysis is carried out with SPSS (SPSS Inc., 2012). Descriptive statistics (in terms of standard deviations, kurtosis, skewness, and means) are used in order to describe the data. Exploratory factor analyses and Cronbach alphas are used to determine the construct validity and reliability of the measuring instruments. Rasch item calibrations and fit statistics for the various scales are produced in order to identify items that produced inconsistent responses on the various items. Rasch modelling is based on the assumption that the likelihood of ratifying items on a measuring instrument is the function of the difficulty of the item as well as the ability of the individual (Rasch, 1960). Outfit statistics is used to identify difficult items. Both person-reliability and item-reliability are presented to determine reliability of the items.

Salkind (2012) suggests the use of non-parametric statistics for samples smaller than 30. The Wilcoxon signed-rank test is used in order to evaluate the effectiveness of the intervention.

The Wilcoxon signed-rank test is a non-parametric statistical technique, which is utilised to analyse the data of small sample sizes ($n < 30$). The Wilcoxon signed-rank sum test is used to compare the three measurements on a single sample (pre- post- and post-post-test), in order to determine if the sample populations' mean rank scores on the various constructs changed/differ across the various times. According to Salkind (2012), these results can be seen as significant if the p -values are smaller than 0.05.

1.5.2.7 Ethical considerations

Fair and ethical research regarding psychological interventions is crucial. The absence of such behaviour could lead to consequences such as the exploitation of the research participants; researchers overstepping the ethics laid down by legislation and councils such as the American Psychological Association (APA), National Research Foundation (NRF) and the Health Professions Council of South Africa (HPCSA); and the law being broken, consequently violating the protection of the participants in the research. Ethical standards are developed to ensure that not only social-, legal- and statutory requirements are met, but also to provide guidelines on the type of behaviour to be expected from the researcher and inform the researcher about potential consequences of any deviant, unprofessional, or negligent behaviour (APA, 2003; Cummings & Worley, 2005).

Ethics are centred on two main ideas, namely the protection and fair treatment of the research participants. According to the Denzin and Lincon (2000), these two ideas manifest in five core ethical dimensions, which culminate in the (a) obligations to society; (b) obligations to the funders; (c) obligations to colleagues; (d) obligations to the participants; and (e) obligations to ethic committees; legislation and institutional review boards.

With the above in mind, an application to the North-West University's ethics committee was submitted to request permission to use their students/personnel for the interventions. An application for ethical clearance was also submitted to the research committee of the department to obtain ethical clearance for the study.

To uphold the aforementioned ethical obligations, the researcher put the participants' safety and security first. In order to establish trust, the entire project was discussed with potential participants prior to the onset of the study. The outline of the project was discussed and

potential participants were allowed to ask questions, make statements and discuss the project before considering participation. The roles and responsibilities of all the parties involved were outlined and the participants were made aware that the researcher would be actively involved in the entire process. The participants were informed that their participation in the project was voluntary and that they could remove themselves from the proceedings at any time. The researcher provided the participants with a consent form, which states that the information obtained via the research would only be used for educational purposes and that they would in no way be negatively influenced by the information obtained during the process of the proceedings. Further, the results would be made available to the participants at the completion of the study upon request. The researcher was available for the participants, should they want to discuss issues during the course of the project.

1.6 CHAPTER DIVISION

The chapters in this thesis are presented as follows:

- Chapter 1 Introduction
- Chapter 2 Flourishing of students in a tertiary educational institution within South Africa
- Chapter 3 Towards happiness-interventions: A meta-analysis
- Chapter 4 Beyond smiling: The evaluation of a positive psychological intervention aimed at student happiness
- Chapter 5 Conclusions, limitations and recommendations.

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CHAPTER 2

RESEARCH ARTICLE 1

FLOURISHING OF STUDENTS IN A TERTIARY EDUCATION INSTITUTION IN SOUTH AFRICA

ABSTRACT

The aims of this study were to examine the psychometric properties of positive psychological assessment measures and to determine the relationship between flourishing and academic performance. A quantitative cross-sectional survey design was used on a convenience sample of university students ($n = 845$). The Mental Health Continuum Long Form (MHC-LF), Positive and Negative Affect Scale (PANAS) and Satisfaction with Life Scales (SWLS) were administered on the sample. All these instruments were found to have acceptable levels of internal consistency. Some of the items on the MHC-LF may be construed as possibly being too difficult to understand, and it would need to be adapted for this tertiary educational environment. Through correlations, no significant relationship was found between flourishing and academic performance. However, cross-tabulation indicated that individuals with moderate levels of flourishing typically performed in the 'above average' to 'excelling academically' range. Further, the data revealed that a large number of those individuals who are underperforming are also languishing. Flourishing students experienced higher levels of positive affect and life satisfaction, as well as lower levels of negative affect than their languishing and moderately flourishing counterparts.

Keywords: Flourishing, academic performance, psychometric properties, affect balance, satisfaction with life.

Since Aristotle, people have been fascinated with the subjective judgements of individual well-being and happiness (Howell, 2009). However, research interest on this topic only emerged in the early 1950s (Diener, 1984). Previously, research had rather been directed towards conceptualising, understanding, predicting and alleviating deviance and pathology (Seligman, 2011). However, since then research has been suggesting that the absence of pathology alone is not sufficient to fuel personal growth and achieve optimal well-being (Brackney & Karabenick, 1995; Lyubomirsky, 2012; Seligman, 2011). Resultantly, research needed to be directed towards understanding the underlying drivers behind personal well-being and facilitating the development of such drivers, rather than merely focusing on the deterrents of well-being (Seligman, 2011).

One approach towards understanding individual well-being is by focusing on human flourishing (Keyes, 2002; Seligman, 2011). Human flourishing was defined as a syndrome of subjective well-being characterised by elevated levels of emotional, psychological, and social well-being (Keyes, 2005). Flourishing individuals reported higher levels of life satisfaction, more effective learning, healthier relationships, greater job satisfaction and longevity in health (Keyes, 2004, 2011; Seligman, 2011). These positive outcomes are prominent within educational environments and stretch beyond subjective self-report experiences, which manifest in positive performance-related outcomes (Seligman, 2011).

Howell (2009) found that flourishing students were less likely to procrastinate, had higher levels of self-control, adopted a mastery-approach towards their goals and reported higher levels of academic performance. Ouwenel, Le Blanc, and Schaufeli (2011) argued that flourishing students experienced more positive emotions, anticipated more future personal resources and showed higher levels of study engagement. Seligman (2011) indicated that flourishing students in educational environments typically performed well academically. Flourishing individuals also tended to perceive failures as personal growth opportunities (Seligman, 2011), where effort is exerted to master the environment (Keyes, 2011).

Letseka (2007) and Letseka and Maile (2008) reported that South African universities have one of the lowest graduation rates in the world, totalling approximately 15%. Furthermore, the graduation rate of white students is almost double that of previously disadvantaged groups (Letseka, 2007; Letseka & Maile, 2008). Although socio-economic factors influenced these findings, it is important to determine how the levels of flourishing differ amongst

students, in order to determine the specific role flourishing plays in academic environments, as well as the graduation rate. An abundance of international and national research exists regarding the association between psychopathology, student drop-out and graduation rates, as well as low-academic performance (Fainstein, 2012; Maddux & Winstead, 2011; Peltzer, Malaka, & Phaswana, 2002), yet there is limited research on the relationship between good mental health/flourishing and performance-related variables (Howell, 2009). Scientific information is therefore needed regarding the flourishing of students in multicultural tertiary educational environments (Howell, 2009; Hughes & Dexter, 2011). Additionally, limited research exists regarding the measurement of flourishing within multicultural environments (Seligman, 2011). Therefore, research is needed regarding the impact of flourishing on students in a multicultural tertiary educational environment.

The aim of this study was to examine the psychometric properties of positive psychological assessment measures and to determine the relationship between flourishing and academic performance within a tertiary educational environment. This study contributes to existing literature regarding the measurement of flourishing within a multicultural tertiary educational environment. It presents the psychometric properties of various positive psychological measures within the tertiary educational environment. The study provides information regarding the psychometric properties of the Mental Health Continuum Long Form (MHC-LF), Positive and Negative Affect Scale (PANAS) and Satisfaction with Life Scale (SWLS) to identify their validity and reliability within a tertiary educational environment. This study expands on the literature through examining the flourishing of students within a multicultural educational environment.

Flourishing

Keyes (2002) developed a model of mental health in which mental health and psychopathology are distinguishable, yet related, dimensions of human functioning, namely languishing and flourishing. Languishing aims to understand the presence or absence of mental disorders, whereas flourishing aims to understand the extent to which well-being is present or absent (Keyes, 2007). Keyes (2007) labelled 'mental health' as human 'flourishing'. From this perspective, mental health is considered to be a state, and can, therefore, be developed (Keyes, 2005). Keyes's (2007) model has shown to be one of the most comprehensive models relating to the well-being and flourishing of individuals. It

integrates the research concerning mental health into a comprehensive multidimensional theory of human flourishing. In the following sections, a brief overview of the dimensions of flourishing will be presented.

Emotional well-being

Keyes (2002) argued that emotional well-being is a dimension of Diener's (1993) subjective well-being. Subjective well-being is measured by positive affect, negative affect and life satisfaction (Diener, 1984). Keyes (2011) argued that in order for flourishing to manifest, high levels of positive affect, low levels of negative affect and high levels of life satisfaction need to be present. Keyes (2007) indicated that positive affect refers to emotions categorised by a sense of joy, pleasure and excitement, while negative affect is categorised by a sense of sadness, anxiety, depression and an inner sense of loss. Emotional well-being is indicative of a balance between these two emotional states, where a manifested 'break-even' point is required (Keyes, 2011). However, these subjective experiences are moment-based and are dependent on an individual's genetic make-up, environment and one's intentional activities (Keyes, Myers, & Kendler, 2010; Lyubomirsky, 2011). Therefore, a more continuous measure for emotional well-being needed to be introduced to substantiate the longitudinal effect of these positive emotions (Keyes, Dhingra, & Simoes, 2010).

Therefore, the concept of 'satisfaction with life' (SWL) was introduced (Keyes, 2010). Life satisfaction is defined as the overall assessment of one's feelings and attitudes towards life at a temporal interval, ranging from positive to negative (Diener, Suh, Lucas, & Smith, 1999); and is necessary as, coupled with affect balance, it results in emotional well-being (Keyes, 2002). Furthermore, when individuals experience more positive than negative affect, their SWL tends to be higher, and *vice versa* (Diener, Emmons, Larsen, & Griffin, 1985; Diener et al., 1999).

Psychological well-being

Ryff and Keyes (1995) argued that psychological well-being (PWB) consists of six dimensions, namely positive relations with others, personal growth, environmental mastery, autonomy, purpose in life and self-acceptance (Ryff, 1989; Ryff & Keyes, 1995). *Positive relations with others* refers to developing and maintaining warm, trusting relationships with others, coupled with a sense of empathy, affection and intimacy. *Personal growth* is referred to as the experience that one is on a never-ending journey of continued development, where

one is open to new experiences and changes in ways that reflect more self-knowledge and personal effectiveness. *Environmental mastery* is defined as exercising the ability to select, manage and adapt personal environments to suit one's current needs. *Autonomy* is referred to as the feeling that one is guided by one's unique set of internal standards and values (Keyes, 2007). Individuals with a high level of autonomy showed high levels of self-determination and the ability to resist social pressures (Keyes, 2005). *Purpose in life* refers to the inherent belief that one's life has direction and meaning (Keyes, 2005). Research suggested that most individuals who have goals in life and a sense of directedness, have clearly defined and articulated individualised aims and objectives for living (Keyes, 2011). *Self-acceptance* refers to a state where individuals accept that they have both clear strengths and areas of development. Furthermore, individuals hold positive attitudes towards themselves, where they like most parts of themselves and their pertaining personality (Keyes et al., 2010).

Social well-being

The final dimension of Keyes's (2002) model of human flourishing is social well-being (SWB). Building upon the original conceptualisations of Antonovsky (1994) and Seeman (1991), Keyes (1998) developed a measure which reflected the extent to which an individual feels he/she fits and functions in society. He defined social well-being as the extent to which individuals perceive themselves as thriving in their social lives and communities. Social well-being is considered to be a more objective measure than psychological well-being, as it is characterised by a series of both public and social criteria through which individuals evaluate their functioning in their public and social life (Keyes, 1998). He operationalized social well-being as a measure that explicitly assesses an individual's perception of his/her perceived 'social-fit' within society. From this perspective, Keyes (2002) argued that social well-being comprises five sub-dimensions: (a) social coherence, (b) social actualisation, (c) social integration, (d) social acceptance, and (e) social contribution.

Social coherence refers to an individual's perception of the organisation, operation and overall quality of the world in which the individual functions (Keyes, 1998). *Social actualisation* refers to the belief that individuals, groups, societies and organisations have the potential to grow and evolve in a positive direction (Keyes, 2007). *Social integration* refers to an individual's evaluation of the quality of his/her relationship with the community and society at large (Keyes, 1998). *Social acceptance* refers to the extent to which an individual holds positive attitudes towards, acknowledges and accepts human differences in society

(Keyes, 2007). *Social contribution* refers to an individual's perceived evaluation of his value to society (Keyes, 1998).

Affect balance: Positive and negative affect

Research on emotions has long been an area of keen interest in psychology (Seligman, 2011). Cross-cultural research suggests that emotions can be broadly structured into two related, yet distinguishable, categories, namely positive affect (PA) and negative affect (NA) (Thompson, 2007). Fredrickson (2008) defined PA as a continuum of positive mood states that are categorised by joy, excitement, cheerfulness and contentment. NA was referred to as a negative mood dimension, which is categorised by nervousness, stress, anxiety, sadness or depression (Seligman, 2011). Research argued that a large contributing factor to sustainable flourishing is instituted in the balance between these two factors (Fredrickson, 2008; Keyes, 2011; Lyubomirsky, 2011), which results in self-regulation (Ahmed, 2010), increased study engagement (Ouweneel et al., 2011), as well higher levels of both satisfaction with life (SWL) and academic performance (Fredrickson, 2008; Howell, 2009).

Satisfaction with life

Satisfaction with life (SWL) is the oldest scientific measure of happiness (Seligman, 2011). SWL has been shown to be the result of this balance between PA and NA (Ahmed, 2010; Fredrickson, 2008; Lyubomirsky, 2011), and is defined as an individual's cognitive and emotional judgements of their life at a given time (Diener, 1984). The cognitive component consists of an evaluation of the discrepancy that may exist between an individual's current life and the ideal life that they envisage, in terms of both global and domain-specific assessments (Lyubomirsky, 2011). The affective component comprises of the emotional judgements associated with the aforementioned discrepancy (Diener, 1984), and may be deemed as being either a positive judgement (e.g. joy) or a negative one (e.g. shame) (Diener, 1984). SWL has also been associated with various positive outcomes, such as emotional buoyancy, academic performance, marital satisfaction, healthy/positive relationship and mental vitality (Diener, Gohm, Suh, & Oishi, 1998; Lyubomirsky, 2011; Seligman, 2011).

Assessing flourishing in a multicultural environment

A major concern and critique within the literature is the reliability and validity of instruments used to measure positive psychological constructs (Miller, 2008), especially within the educational environment (Noddings, 2003; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). Measuring these concepts within a multicultural environment is an even more challenging issue, since cultural variations impacts on the validity and reliability of both these concepts and the instruments used to measure them (Lopez & Snyder, 2003; Ong & Dulmen, 2007). Most psychometric instruments validated in Western contexts seem to yield mixed results in African cultures (Van de Vijver & Rothmann, 2004). Van de Vijver and Rothmann (2004) argued that differences in validity and reliability exist between cultures, yet causality cannot be explained. Since the field of positive psychology is relatively young and often criticized from all academic angles (Delle Fave, Brdar, Freire, Vella-Drodrick, & Wissing, 2011), it is imperative to ensure that the measurement of these concepts are scientific and shown to be valid and reliable in multiple contexts and cultures, in order to ensure scientific expansion or growth of this new field (Lopez & Snyder, 2003; Miller, 2008; Ong & Dulmen, 2007).

Keyes (2002, 2006) developed two measures for assessing flourishing of individuals, namely the Mental Health Continuum Long Form (MHC-LF) and the Mental Health Continuum Short Form (MHC-SF). The MHC-LF was developed and validated by Keyes (2002) on a large sample of participants in the United States. It consists of 40 items, which measures 13 constructs culminating in three dimensions (Keyes, 2002). The factor structure in this sample was presented by three factors on the emotional well-being scale (PA, NA, and SWL), six factors on the psychological well-being scale (Self-Acceptance, Purpose in Life, Environmental Mastery, Positive Relations with Others, Personal Growth and Autonomy) and five factors on the social well-being scale (Social Coherence, Social Integration, Social Acceptance, Social Contribution, and Social Actualization). This measure is considered to be a comprehensive measure for assessing individual flourishing (Keyes, 2002). In this study, the internal consistency and reliability was represented by Cronbach alpha values ranging from 0.71 to 0.93 on the various subscales (Keyes, 2002). Various studies have replicated similar results in different samples (Keyes et al., 2010). However, some studies have found different results and factor structures (Keyes, 2006; Keyes, Wissing, Potgieter, Temane,

Kruger, & van Rooy, 2008; Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011), which led to the development of the MHC-SF (Keyes, 2005).

The MHC-SF is derived from the MHC-LF and consists of 14 items (Keyes, 2005). Three items of emotional well-being, six items of psychological well-being and five items of social well-being from the MHC-LF were selected to measure flourishing in the MHC-SF (Keyes, 2005). The short form showed acceptable internal consistency (> 0.80) during the original study (Keyes, 2005). However, a four week test-retest reliability analyses indicated that the internal consistency of the various constructs ranged from 0.57 to 0.71 (Robitschek & Keyes, 2009). Both the samples of the MHC-SF and MHC-LF were nationally representative within the United States of America (Keyes, 2011).

Flourishing and academic performance

Research conducted in the past on academic performance illuminated the relationship between psychopathology and poor academic performance, yet limited research exists regarding the so-called ‘positive aspects’ on the same construct (Brackney & Karabenick, 2011; Howell, 2009; Salamonson, Andrew, & Everett, 2009). Past studies on these ‘positive aspects’ related to self-regulation, goal achievement, motivation and environmental demands (Seligman, 2011; Zimmerman & Schunk, 2001). Research suggests that these aspects impact on performance-inhibiting factors, such as procrastination, and the lack of self-regulation and self-control (Howell, 2009; Seligman, 2011). Flourishing has been shown to impact on various academically-related constructs (Howell, 2009; Ouweneel et al., 2011, Seligman, 2011).

Firstly, the concept of PWB has been shown to impact on performance-related variables such as academic performance and study engagement (Howell, 2009; Keyes, 2011; Ouweneel et al., 2011). Howell (2009) found that in a sample of undergraduate college students, PWB predicted academic performance. Furthermore, it would seem that PWB serves as a buffer against the onset of performance inhibitors such as mastery avoidance, procrastination and lack of self-control (Howell, 2009; Slavin, 2006). Slavin (2006) indicates that PWB in students impacts on aspects of studying behaviour, such as diligence, perseverance and levels of participation/interaction within their current educational environment. It is, therefore,

appropriate to presume that nurturing students' PWB may have a positive impact on their academic performance.

Secondly, low levels of EWB negatively impact students' academic and personal performance as a result of higher levels of energy being focused on the individual himself/herself, leaving less energy to perform (Howell, 2009; Lyubomirsky, 2011; Seligman, 2011). Similar to PWB, EWB correlates with academic performance and study engagement (Howell, 2009; Ouwenel et al., 2011). Individuals, who are psychologically well, can distinguish between their priorities, can prioritise and plan, as well as see the short-term and long-term consequences of their actions (Noddings, 2003). Howell (2009) found that EWB correlates negatively with performance-enhancing variables, such as developing a mastery approach to the environment, exhibiting self-control and increased academic performance. Furthermore, EWB correlates with performance-inhibitors, such as procrastination, mastery-avoidance and negative beliefs regarding one's own abilities (Howell, 2009). This implies that individuals with higher levels of emotional well-being are more inclined to achieve academically (Howell, 2009; Noddings, 2003; Seligman, 2011).

Finally, the concept of SWB is imperative to academic performance (Keyes, 2011; Seligman, 2011), and is necessary for the development of aspects such as social support networks, which aid individuals in managing their external stressors (Howell, 2009). SWB correlates with aspects such as academic performance and environmental mastery (Howell, 2009). For example, Keyes (2011) argued that social well-being serves as a buffer against the onset of social pathology, which impacts on aspects such as social ostracization. Social ostracization leads to higher levels of depression and anxiety, which causes individuals to present a decrease in academic performance (Seligman, 2011; Slavin, 2006).

Howell (2009) found that high levels of psychological, emotional, and social well-being served as a buffer against performance-inhibiting factors, but also acted as a vehicle for academic performance. Seligman (2011) argued that flourishing students tend to build their own environments that are conducive to performing, both, on an academic and personal level. Keyes (2006) found that higher levels of flourishing in a secondary educational environment are associated with higher levels of satisfaction with the school environment, the attainment of higher grades and the adoption of goals that are internally-motivated, rather than externally-directed. Furthermore, flourishing students typically present with higher levels of

commitment to achieving their personal goals and show higher levels of goal achievement (Lyubomirsky, 2011, 2012; Seligman, 2011). Barron and Harackiewicz (2003) argued that commitment to personal goals is integral to performing academically.

STUDY HYPOTHESES

Based on the problem statement and literature review, the following hypotheses were formulated:

- H₁: The MHC-LF, PANAS and SWLS have acceptable levels of internal consistency.
- H₂: Flourishing (emotional, psychological, and social well-being) and positive affect are positively and significantly related.
- H₃: Flourishing (emotional, psychological, and social well-being) and negative affect are negatively and significantly related.
- H₄: Flourishing (emotional, psychological, and social well-being) and satisfaction with life are positively and significantly related.
- H₅: Flourishing (emotional, psychological, and social well-being) and academic performance are positively and significantly related.

METHOD

Research design

A cross-sectional survey design was used in order to obtain empirical data amongst students in a tertiary education institution. A survey was used in order to obtain information about the respondents' levels of flourishing (psychological, emotional, and social well-being), affect balance (PA and NA), SWL, as well as their academic performance. A major disadvantage of this design is that causal factors cannot be isolated or inferred (Salkind, 2012). Measurement only takes place at a specific timestamp. The results may have been different if measurement had taken place during a different period of time (Salkind, 2012). Furthermore, the results may be subjected to Neyman bias (or 'Prevalence-incidence bias'), where flourishing might be over- or underrepresented within the sample (Bland, 2001).

Participants

A convenience sample ($n = 845$) from the entire population of students within a tertiary education institution in South Africa was taken, where participants were selected from each academic year (students registered for the first year through to post-doctoral students). The researcher went to the first class of every module during the first week of classes during the first semester in 2011. The researcher described the project to each class and invited students to participate in the project. Willing students were asked to sign a consent form. The surveys were distributed through two channels, namely a pen-and-paper survey and an electronic web-based survey, and the students could select the medium in which they would prefer to participate. This was done to ensure that we adhere to the preferences of the students in order to ensure a larger response rate. The pen-and-paper distribution method obtained the highest response rate (76.2%), compared to the electronic distribution method (23.8%). Table 2.1 provides a detailed overview of the demographics of the participants.

Table 2.1

Characteristics of Participants ($n = 845$)

Item	Category	Frequency	Percentage (%)
Gender	Male	252	29.8
	Female	591	69.9
	Missing values	2	0.3
Age	17 to 20 years	449	53.1
	21 to 30 years	361	42.7
	30+ years	25	3
	Missing values	10	1.2
Race	White	242	28.6
	African	559	66.1
	Indian	13	1.5
	Coloured	24	2.8
	Other	5	0.6
	Missing values	2	0.4
Language group	Afrikaans	198	23.4
	English	86	10.2
	Sepedi	36	4.3
	isiZulu	75	8.9
	Sesotho	244	28.9
	Setswana	82	9.7
	isiSwati	9	1.1
	isiTsonga	12	1.4
	Tshivenda	5	0.6
	isiNdebele	5	0.6
	isiXhosa	52	6.2
	Other	13	1.5
	Missing values	28	3.3
Educational level	1 st year	232	27.5
	2 nd year	274	32.4
	3 rd year	227	26.8
	Honours	84	9.9
	Masters	18	2.1
	Doctoral	5	0.6
	Post-Doctoral	1	0.1
	Missing values	4	0.5

Table 2.1 indicates that the majority of the participants were Sesotho speaking (28.9%), African (66.1%), females (69.9%), and between the ages of 17 and 20 (53.1%). The majority of the participants were second year students (32.4%).

Measuring battery

The following questionnaires were used in the empirical study:

A biographical questionnaire was used to gather information relating to the age, gender, ethnicity, language, and level of education of participants. Participants were also asked to provide their student numbers in order to calculate their academic performance for the first semester. Furthermore, as a result of the dual distribution channel, a unique code was presented by each participant, which was created through responses that the participants provided to questions such as “the second letter of your surname”.

The *Mental Health Continuum – Long Form* (MHC-LF; Keyes, 2002) was used to measure the emotional, psychological, and social well-being of students. On the Emotional Well-being measure, participants indicated how much of the time during a 30 day period they felt each type of positive emotion. It consisted of six items and was rated on a 5-point Likert scale, ranging from 1 (*all of the time*) to 5 (*none of the time*). Examples of these items are ‘Cheerful’ and ‘In good spirits’. Furthermore, participants also evaluated their life satisfaction on a 10 point scale, where 1 meant ‘The worst possible life overall’ and 10 ‘The best possible life overall’. Keyes, Shmotkin, and Ryff (2002) obtained a relatively high Cronbach alpha (α) value of 0.90 in a sample of college students. Psychological Well-being consisted of 18 items and was rated on a 7-point Likert scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Examples of these items include: ‘The world is too complex for me’ and ‘People do not care about other people’s problems’. Robitschek and Keyes (2009) obtained relatively high Cronbach alpha (α) values ranging from of 0.71 to 0.89 on the various sub scales. Social Well-being consisted of 15 items, rated on a 7-point Likert scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Examples of these items includes: ‘I have something valuable to give the world’ and ‘The world is becoming a better place for everyone’. Keyes and Shapiro (2004) obtained a relatively high Cronbach alpha (α) values ranging from of 0.70 to 0.91 on the various subscales.

The *Positive and Negative Affect Schedule Short Form* (PANAS-SF; Thompson (2007) was used in order to measure participants’ level of positive affect (PA) and negative affect (NA).

The PANAS-SF requires participants to rate the frequency at which they experience ten broad clusters of PA (PA; alert, inspired, attentive, determined and active) and NA (NA; hostile, ashamed, nervous, afraid, and upset) on a Likert scale ranging from 1 (*never*) to 5 (*always*). Thompson (2007) found the internal consistency of the I-PANAS-SF is represented by Cronbach alpha coefficients ranging from 0.78 on PA and 0.76 on NA.

The *Satisfaction with Life Scale* (SWLS; Diener et al., 1985) was used to measure the cognitive component of subjective well-being. The SWLS consists of five items which measure the individual's evaluation of satisfaction with life in general (e.g. 'I am satisfied with my life' and 'if I could live my life over, I would change almost nothing'). Responses range from 1 (*strongly disagree*) to 7 (*strongly agree*) for each question. Responses are then averaged to provide a total life satisfaction score. Research has established acceptable psychometric properties for the SWLS (Diener et al., 1985). Reliability by means of consistency was satisfactory within a population of 167 participants, 67 of whom were re-tested after one month where a correlation coefficient of 0.82 and coefficient alpha of 0.87 were found (Diener et al., 1985).

Academic performance was calculated through averaging participants' final module marks for the first semester across all registered modules. Academic performance was then categorised into five categories based on the marks attained, namely 'Underperforming' (0%-49%), 'Average' (50%-59%), 'Slightly above average' (60%-68%), 'Above average' (69%-74%) and 'Excelling' (75%-100%).

Procedure

The researcher approached the various deans, department heads and directors in order to discuss the project in depth. During these discussions, a strategy was developed in order to obtain the buy-in of the participants. The researcher presented his research topic and explained the potential impact of the study to each participating student group, in order to explain the purpose of the study and also to emphasize the confidentiality of their responses provided in the questionnaire. Participation in the project was voluntary, whereby respondents had the option to withdraw at any time. The researcher also loaded the assessment battery on a website and distributed the survey electronically to the remaining students. A link to the survey was sent out to all the students via e-mail, which invited them to participate in the research. On the first page of the survey the entire process was outlined in

detail. The participant was informed of his/her rights and responsibilities. Furthermore, ethical aspects such as confidentiality were discussed. Finally, a participant had to click on the “I accept the terms and conditions of this project, and hereby acknowledge that I have read and understood these conditions” tab in order to proceed to the electronic survey. As a result of the dual distribution channel, each participant was asked to provide “What is the second letter of your surname” and “What is the first letter of the high school you matriculated in?” to ensure that a student didn’t complete the survey more than once. Similar “unique codes” with identical demographic variables were removed from the electronically distributed surveys.

Statistical analysis

The statistical analysis was carried out with SPSS 20 (SPSS Inc., 2012) as well as Winsteps 3.72 (Linacre, 2010). Descriptive statistics were used in order to describe the data. Exploratory factor analysis and Cronbach alphas were used to determine the construct validity and reliability of the measuring instruments. Rasch item calibrations and fit statistics for the various scales were produced in order to identify items that produced inconsistent responses on the various items. Correlations were used to test the relationships between the different variables. Cohen’s (1988) effect size cut-offs (0.1= small; 0.3= medium; 0.5= large) will be used to interpret the correlations. Cross-tabulations were used to investigate the relationship between flourishing and academic performance. Finally, to determine whether there are significant differences between flourishing, positive and negative affect and life satisfactions exists, one-way analysis of variance (ANOVA) and multivariate analysis of variance (MANOVA) were used.

RESULTS

Psychometric properties of the MHC-LF, PANAS and SWLS

Principal component analyses were conducted to assess the factorability of the items on the EWB, PWB, SWB, and SWLS instruments. Principal axis factor analysis with a direct oblimin rotation was used on the PANAS which confirmed two factors. The number of factors was determined through the use of a scree plot and eigenvalues (> 1) (*see* Table 2.2 & Table 2.3). Finally, the items of the various surveys were fitted to the Rasch rating scale model in order to identify items which produced inconsistent responses. The results indicated that all the communalities are acceptable with communalities greater than 0.30 (Field, 2009; Salkind, 2012) except for items on the SWB scale.

Table 2.2

Component Loadings for the EWB, PWB, and SWB Scales

Item	Component 1	h^2
Emotional Well-being		
During the past 30 days, how much of the time did you feel cheerful?	0.75	0.55
During the past 30 days, how much of the time did you feel in good spirits?	0.80	0.65
During the past 30 days, how much of the time did you feel extremely happy?	0.78	0.61
During the past 30 days, how much of the time did you feel calm and peaceful?	0.65	0.42
During the past 30 days, how much of the time did you feel satisfied?	0.69	0.47
During the past 30 days, how much of the time did you feel full of life?	0.76	0.58
Psychological Well-being		
I like most parts of my personality	0.87	0.76
When I look at the story of my life, I am pleased with how things have turned out so far.	0.78	0.62
Some people wander aimlessly through life, but I am not one of them	0.72	0.52
The demands of everyday life often get me down	0.31	0.10
In many ways I feel disappointed about my achievements in life	0.72	0.52
Maintaining close relationships has been difficult and frustrating for me	0.57	0.32
I live life one day at a time and don't really think about the future	0.74	0.55
In general, I feel I am in charge of the situation in which I live	0.62	0.38
I am good at managing the responsibilities of daily life	0.72	0.51
I sometimes feel as if I've done all there is to do in life	0.56	0.32
For me, life has been a continuous process of learning, changing, and growth	0.90	0.81
I think it is important to have new experiences that challenge how I think about myself and the world	0.90	0.80
People would describe me as a giving person, willing to share my time with others	0.71	0.51
I gave up trying to make big improvements or changes in my life a long time ago	0.81	0.66
I tend to be influenced by people with strong opinions	0.31	0.10
I have not experienced many warm and trusting relationships with others	0.67	0.45
I have confidence in my own opinions, even if they are different from the way most other people think	0.79	0.62
I judge myself by what I think is important, not by the values of what others think is important	0.76	0.58
Social Well-being		
The world is too complex for me	0.33	0.20
I don't feel I belong to anything I'd call a community	0.61	0.43
People who do a favour expect nothing in return	0.13	0.13
I have something valuable to give the world	0.39	0.37
The world is becoming a better place for everyone	0.44	0.22
I feel close to other people in my community	0.65	0.62
My daily activities do not create anything worthwhile for my community	0.51	0.24
I cannot make sense of what's going on in the world	0.52	0.61
Society has stopped making progress	0.58	0.47
People do not care about other people's problems	0.50	0.35
My community is a source of comfort	0.55	0.44
I try to think about and understand what could happen next in our country	0.27	0.14
Society isn't improving for people like me	0.51	0.31
I believe that people are kind	0.49	0.31
I have nothing important to contribute to society	0.47	0.35

Principal component analysis was conducted on the six items of the EWB scale, resulting in one component (eigenvalue = 3.28; variance = 54.71%). Component loadings ranged from 0.65 to 0.80, which is higher than the recommended 0.30 suggested by Salkind (2012). Principal component analysis was conducted on the 18 items of the PWB scale, resulting in one component (eigenvalue = 9.11; variance = 50.66%). Component loadings ranged from 0.31 to 0.90, which again is higher than the recommended 0.30. Principal component analysis

was conducted on the 15 items of the SWB scale, which resulted in four components (cumulative variance = 49.17%). Component loadings ranged from 0.13 to 0.65, which is not in line with the recommendation set forth by Salkind (2012).

Table 2.3

Component Loadings for the PANAS and the SWL

Positive and Negative Affect	Component 1	Component 2	h^2
Interested	0.54	-0.02	0.30
Distressed	0.05	0.37	0.31
Excited	0.58	-0.12	0.37
Upset	-0.15	0.57	0.37
Strong	0.57	-0.10	0.35
Guilty	-0.04	0.52	0.28
Scared	0.03	0.75	0.56
Hostile	0.03	0.50	0.30
Enthusiastic	0.71	-0.08	0.52
Proud	0.66	-0.12	0.47
Irritable	-0.14	0.48	0.27
Alert	0.54	0.18	0.30
Ashamed	-0.13	0.56	0.35
Inspired	0.73	-0.05	0.54
Nervous	0.00	0.60	0.36
Determined	0.74	0.07	0.54
Attentive	0.64	0.10	0.40
Jittery	0.20	0.58	0.34
Active	0.58	0.00	0.34
Afraid	-0.01	0.77	0.60
Satisfaction With Life			
In most ways my life is close to my ideal.	0.72	-	0.52
The conditions of my life are excellent.	0.80	-	0.64
I am satisfied with my life.	0.84	-	0.70
So far I have gotten the important things I want in life.	0.67	-	0.45
If I could live my life over, I would change almost nothing.	0.67	-	0.45

Principal axis factoring with a direct oblman rotation was conducted on the 20 items of the PANAS scale, resulting in two factors (cumulative variance = 49.23%) with communalities greater than 0.30 (Salkind, 2012). Factor one was labelled Positive Affect (PA: eigenvalue = 5.22; variance explained = 26.10%), with factor loadings ranging from 0.54 to 0.74. Factor two was labelled Negative Affect (NA: eigenvalue = 3.57; variance explained = 23.12%), with factor loadings ranging from 0.37 to 0.77.

Principal component analysis was conducted on the five items of the SWLS, and resulted in one component (eigenvalue = 2.76; variance = 55.28%), with communalities greater than 0.30 (Field, 2009; Salkind, 2012). Component loadings ranged from 0.67 to 0.84, which is higher than the recommended 0.30 suggested by Salkind (2012). Therefore, a single factor

variable (eigenvalue = 3.22; variance = 23.20%) was extracted based on the scree plot. Rasch rating scale analysis was used to determine item polarity.

Table 2.4 indicates the results of the Rasch rating scale analysis of the EWB, PWB, SWB, PANAS and SWL scales. The results indicated high person separation reliabilities on each of the scales (EWB = 0.81; PWB = 0.88; SWB = 0.72; PA = 0.80; NA = 0.73; SWLS = 0.75). These person separation reliabilities indicate how efficiently items are able to differentiate between persons measured, which is expressed in reliabilities (Wu & Adams, 2007). The higher the value, the greater the separation and the more precise the measure (Wright & Linacre, 1994; Wu & Adams, 2007). The corresponding Cronbach alpha values indicated that the measures were reliable (*see* Table 2.5). These values ranged from 0.71 to 0.94. The corresponding item reliabilities were all high (ranging from 0.96 to 0.99).

The average outfit mean squares were 1.00 (EWB), 1.06 (PWB), 1.06 (SWB), 1.03 (PA), 1.00 (NA) and 0.99 (SWLS), which indicates that there exists little distortion in the measuring instruments (Wu & Adams, 2007). The outfit mean-square is sensitive to asymmetrical responses to outlier items (Wright & Linacre, 1994). Wright and Linacre (1994) recommend fit values above 1.50 (underfit) and 0.60 (overfit) to be excluded in further analysis. The results indicate that the measures did not appear to be difficult to understand for the participants (Wu & Adams, 2007).

However, three items on PWB indicated extremes outfit mean squares. The items “I tend to be influenced by people with strong opinions”, “The demands of everyday life often get me down”, and “I sometimes feel as if I’ve done all there is to do in life” showed mean squares of 2.10, 1.76 and 1.67 respectively. Two items (“People who do a favour expect nothing in return” and “I have something valuable to give the world”) on SWB showed extreme mean scores of 1.61 and 1.52. This implies that participants may have misinterpreted/misunderstood or found these items too difficult. Hypothesis 1 is partially accepted.

Table 2.4

Rasch Item Calibrations and Fit Statistics for Emotional Well-being, Psychological Well-being, Social Well-being, Positive Affect, Negative Affect and Satisfaction with Life Scales

Item	Location	SE	Outfit		Point Measure Correlation		Person reliability	Item reliability	Log-Likelihood Chi-Squared	df	p	Global Root-Mean-Square Residual
			MNSQ	T	Observed	Expected						
Emotional Well-being (EWB)							0.81	0.98	9757.91	4172	0.00	0.65
During the past 30 days, how much of the time did you feel extremely happy ?	0.65	0.05	0.83	-3.7	0.76	0.73						
During the past 30 days, how much of the time did you feel satisfied ?	0.48	0.05	1.12	2.4	0.71	0.73						
During the past 30 days, how much of the time did you feel full of life ?	-0.18	0.05	1.11	2.3	0.76	0.72						
During the past 30 days, how much of the time did you feel cheerful ?	-0.28	0.05	0.87	-2.8	0.72	0.72						
During the past 30 days, how much of the time did you feel calm and peaceful ?	-0.30	0.05	1.33	6.2	0.67	0.72						
During the past 30 days, how much of the time did you feel in good spirits ?	-0.36	0.05	0.72	-6.4	0.77	0.72						
Psychological Well-being (PWB)							0.88	0.99	45186.62	14343	0.00	1.45
The demands of everyday life often get me down.	0.58	0.02	1.76	9.9	0.39	0.64						
I tend to be influenced by people with strong opinions.	0.44	0.02	2.10	9.9	0.40	0.66						
Maintaining close relationships has been difficult and frustrating for me.	0.33	0.02	1.33	5.6	0.62	0.67						
I have not experienced many warm and trusting relationships with others.	0.31	0.02	1.13	2.3	0.70	0.68						
In many ways I feel disappointed about my achievements in life.	0.24	0.02	1.04	0.7	0.74	0.68						
I sometimes feel as if I've done all there is to do in life.	0.22	0.02	1.67	9.9	0.57	0.69						
I live life one day at a time and don't really think about the future.	0.11	0.02	1.18	3.0	0.72	0.69						
I gave up trying to make big improvements or changes in my life a long time ago.	0.07	0.02	0.98	-0.3	0.79	0.69						
In general, I feel I am in charge of the situation in which I live.	-0.11	0.02	1.09	1.4	0.60	0.69						
People would describe me as a giving person, willing to share my time with others.	-0.17	0.02	1.04	0.7	0.67	0.69						
I am good at managing the responsibilities of daily life.	-0.17	0.02	0.79	-3.4	0.68	0.69						

Item	Location	SE	Outfit	Point Measure	Correlation	Person reliability	Item reliability	Log-Likelihood Chi-Squared	df	p	Global Root-Mean-Square Residual
Some people wander aimlessly through life, but I am not one of them.	-0.19	0.03	0.87	-2.1	0.70	0.69					
When I look at the story of my life, I am pleased with how things have turned out so far.	-0.22	0.03	0.73	-4.3	0.75	0.69					
I judge myself by what I think is important, not by the values of what others think is important.	-0.22	0.03	0.94	-0.9	0.72	0.69					
I have confidence in my own opinions, even if they are different from the way most other people think.	-0.23	0.03	0.85	-2.2	0.74	0.69					
I like most parts of my personality.	-0.31	0.03	0.49	-8.8	0.82	0.68					
For me, life has been a continuous process of learning, changing, and growth.	-0.34	0.03	0.57	-6.9	0.83	0.67					
I think it is important to have new experiences that challenge how I think about myself and the world.	-0.35	0.03	0.57	-6.9	0.83	0.67					
Social Well-being (SWB)						0.73	0.99	42266.64	11797	0.00	1.6378
People who do a favour expect nothing in return.	0.38	0.02	1.61	9.9	0.27	0.48					
People do not care about other people's problems.	0.37	0.02	1.01	0.2	0.48	0.48					
My community is a source of comfort.	0.26	0.02	0.92	-2.0	0.51	0.47					
The world is becoming a better place for everyone.	0.20	0.02	1.03	0.8	0.45	0.46					
My daily activities do not create anything worthwhile for my community.	0.13	0.02	0.89	-1.5	0.47	0.45					
I believe that people are kind.	0.09	0.02	0.75	-5.1	0.46	0.45					
Society isn't improving for people like me.	0.08	0.02	0.95	-0.7	0.45	0.44					
Society has stopped making progress.	0.07	0.02	0.82	-4.0	0.51	0.44					
I feel close to other people in my community.	0.06	0.02	0.76	-6.2	0.55	0.44					
The world is too complex for me.	0.00	0.02	1.10	4.7	0.34	0.43					
I try to think about and understand what could happen next in our country.	-0.03	0.02	1.15	3.9	0.30	0.43					
I cannot make sense of what's going on in the world.	-0.09	0.02	0.91	-1.4	0.46	0.42					
I don't feel I belong to anything I'd call a community.	-0.31	0.02	1.14	1.1	0.49	0.37					
I have nothing important to contribute to society.	-0.55	0.03	1.39	4.0	0.38	0.33					
I have something valuable to give the world.	-0.65	0.03	1.52	5.1	0.34	0.31					

Item	Location	SE	Outfit	Point Measure Correlation	Person reliability	Item reliability	Log-Likelihood Chi-Squared	df	p	Global Root-Mean-Square Residual
Positive Affect (PANAS)					0.80	0.96	17742.72	6691	0.00	0.8830
Alert	0.31	0.04	1.29	5.1	0.57	0.65				
Active	0.15	0.04	1.14	2.4	0.62	0.65				
Interested	-0.12	0.04	1.09	1.6	0.59	0.63				
Proud	-0.11	0.04	1.06	1.0	0.66	0.63				
Excited	0.25	0.04	1.07	1.3	0.62	0.65				
Strong	0.04	0.04	1.04	0.7	0.61	0.64				
Attentive	0.05	0.04	1.01	0.2	0.63	0.64				
Inspired	-0.20	0.04	0.91	-1.6	0.69	0.62				
Determined	-0.49	0.05	0.83	-2.8	0.66	0.60				
Enthusiastic	0.13	0.04	0.83	-3.3	0.69	0.64				
Negative Affect (PANAS)					0.72	0.99	17604.10	6671	0.00	0.9792
Ashamed	0.55	0.04	1.04	0.6	0.54	0.52				
Guilty	0.40	0.04	1.13	1.7	0.52	0.53				
Hostile	0.27	0.04	1.07	1.0	0.53	0.55				
Afraid	0.16	0.04	0.77	-3.6	0.66	0.56				
Scared	0.05	0.04	0.81	-3.2	0.66	0.57				
Jittery	-0.06	0.04	1.01	0.2	0.55	0.58				
Upset	-0.07	0.04	0.99	-0.1	0.59	0.58				
Nervous	-0.37	0.04	0.93	-1.3	0.62	0.61				
Irritable	-0.41	0.04	1.05	1.0	0.57	0.61				
Distressed	-0.51	0.03	1.38	6.3	0.48	0.62				
Satisfaction With Life Scales (SWLS)					0.75	0.98	10763.41	2966	0.00	1.1795
If I could live my life over, I would change almost nothing.	0.39	0.03	1.25	4.2	0.69	0.71				
The conditions of my life are excellent.	0.01	0.03	0.77	-4.5	0.70	0.67				
So far I have gotten the important things I want in life.	0.01	0.03	1.24	4.0	0.65	0.67				
I am satisfied with my life.	-0.17	0.03	0.71	-5.6	0.72	0.66				
In most ways my life is close to my ideal.	-0.25	0.03	0.97	-0.5	0.63	0.65				

Descriptive statistics

Table 2.5 reports both descriptive statistics and Pearson's correlation coefficients of the various measuring instruments. Furthermore, Table 2.5 suggests that all the scales are suitably reliable ($\alpha > 0.60$), with Cronbach alphas ranging from 0.71 to 0.94 (Revelle & Zinbarg, 2009). Furthermore, the low skewness and kurtosis indicates that the data was normally distributed, except for academic performance. The results indicated that individuals experienced average levels of EWB, PWB and SWB. Participants experienced average levels of positive affect and lower levels of NA. The mean scores on SWLS indicate that participants experienced average levels of SWL. Finally, the participants experienced slightly above average levels of academic performance. The majority of the participants were moderately flourishing ($n = 528$), while 188 were flourishing and 129 were languishing (*see* Figure 2.1).

The following statistically and practically significant correlations were found: Emotional Well-being and Social Well-being ($r = 0.37$; $p < 0.05$; medium effect); Emotional Well-being and Life Satisfaction ($r = 0.43$; $p < 0.05$; medium effect); Emotional Well-being and Positive Affect ($r = 0.44$; $p < 0.05$; medium effect); Emotional Well-being and Negative Affect ($r = -0.32$; $p < 0.05$; medium effect); Social Well-being and Life Satisfaction ($r = 0.40$; $p < 0.05$; medium effect); Social Well-being and Positive Affect ($r = 0.40$; $p < 0.05$; medium effect); as well as Satisfaction with Life and Positive affect ($r = 0.35$; $p < 0.05$). The relationship between flourishing and academic performance was not statistically significant. Hypothesis 2 is partially accepted, and hypotheses 3 and 4 are accepted.

Flourishing and academic performance

A univariate analysis of variance (ANOVA) was used to investigate the relationship between languishing, moderately flourishing, flourishing and academic performance. There was no significant relation between flourishing and academic performance, $F_{(2, 692)} = 2.825$; $p > 0.60$. The results indicated that languishing- (Mean = 62.29), moderately flourishing- (Mean = 60.27) and flourishing students (Mean = 62.56) produces similar academic results.

Table 2.5

Descriptive Statistics, Reliabilities and Correlations between EWB, PWB, SWB, SWL, PA, NA and Academic Performance

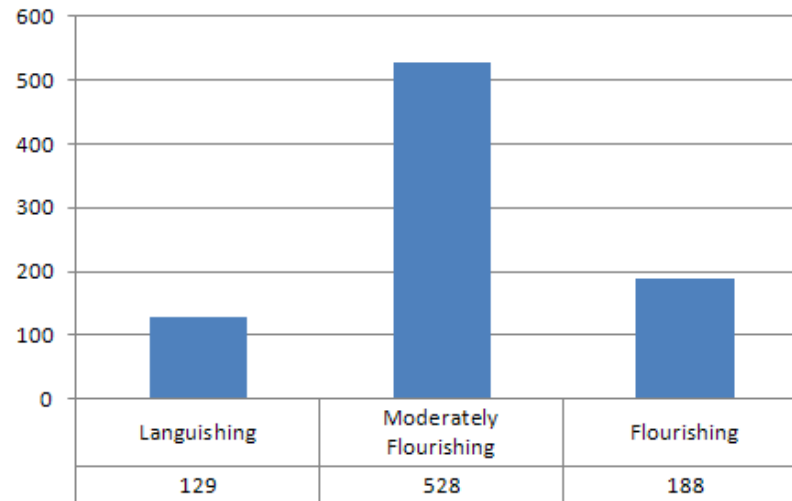
Item	N	Mean	SD	Skewness	Kurtosis	α	1	2	3	4	5	6
Emotional Well-being	845	3.44	0.70	-0.38	0.20	0.83	-	-	-			-
Psychological Well-being	845	4.77	1.39	-0.63	-0.94	0.94	0.13*	-	-	-	-	-
Social Well-being	845	4.77	0.86	-0.18	0.10	0.71	0.37* ⁺	0.19*		-		-
Satisfaction With Life	753	3.77	1.27	-0.51	-0.33	0.78	0.43* ⁺	0.20*	0.40* ⁺	-	-	-
Positive Affect	719	3.65	0.79	-0.57	-0.11	0.86	0.44* ⁺	0.07	0.40* ⁺	0.35* ⁺	-	-
Negative Affect	712	2.17	0.76	0.84	0.34	0.83	-0.32* ⁺	-0.07*	-0.28*	-0.25* ⁺	-0.18* ⁺	-
Academic Performance	692	61.08	11.75	-0.79	1.73	-	0.00	0.03	-0.02	0.04	0.04	-0.07

* $p < 0.05$ – statistically significant

⁺ $r > 0.30$ – practically significant (medium effect)

⁺⁺ $r > 0.50$ – practically significant (large effect)

Figure 2.1. Distribution of languishing and flourishing participants



Cross-tabulations were used to further the investigation on flourishing and academic performance. Academic performance was categorised into five categories based on the marks attained, namely ‘Underperforming’ (0%-49%), ‘Average’ (50%-59%), ‘Slightly above average’ (60%-68%), ‘Above average’ (69%-74%) and ‘Excelling’ (75%-100%). The minimum expected cell frequency tenet for chi-square was met at 14.1%, indicating validity for the chi-square assumption (Field, 2009; Salkind, 2012). Pearson Chi-square test for independence indicated that there are significant association between languishing, moderately flourishing, as well as flourishing with the five categories of academic performance, with a small effect, $\chi^2(8) = 17.35$; $p = 0.02$; $\Phi = 0.16$. Cross-tabulation indicated the following: First, the majority of the underperforming individuals displayed moderate mental health or moderate flourishing (68.5%), whilst 18.5% were languishing and 13% were flourishing. Second, the majority of individuals displaying average academic performance presented with moderate mental health (63.4%), whilst 22% were flourishing and 14.7% were languishing. Third, the majority of individuals excelling academically presented with moderate mental health (46.3%), whilst 29.3% were languishing and 24.4% were flourishing. Finally, the majority of individuals displaying above average academic performance presented with moderate mental health (64.3%), whilst 18.4% were languishing and 17.3% were flourishing. Hypothesis 5 is partially accepted.

Flourishing, positive and negative affect and satisfaction with life

Multivariate analysis of variance (MANOVA) was used to determine the relationship between flourishing, positive- and negative affect, and satisfaction with life. Wilks’ Lambda was used to determine statistical significance. The results of the analysis are represented in Table 2.6.

Table 2.6

Differences in Positive and Negative Affect and Satisfaction with Life on Flourishing

Variable	Value	<i>F</i>	<i>df</i>	<i>p</i>	Partial Eta Squared
Flourishing	0.80	26.26	6	0.00*	0.11

* $p \leq 0.05$ = statistically significant

A statistically significant difference in Positive and Negative Affect and Satisfaction With Life on the combined dependent variable Flourishing was found, $F(6.1344) = 26.26, p < 0.05; \eta^2 = 0.11$).

Table 2.7

Differences in Positive and Negative Affect and Satisfaction with Life Levels on Flourishing

Item	Languishing	Moderate	Flourishing	<i>p</i>	Partial Eta Squared
Positive Affect	3.35 ^a	3.58 ^{bc}	4.04 ^{bd}	0.00*	0.16
Negative Affect	2.39 ^a	2.25 ^c	1.88 ^{bd}	0.00*	0.09
Satisfaction With Life	2.90 ^a	3.64 ^{bc}	4.55 ^{bc}	0.00*	0.05

* Statistically significant difference: $p \leq 0.05$

a Group differs statistically significantly from type (in row) where b is indicated

c Group differs statistically significantly from type (in row) where d is indicated

The results in Table 2.7 show that students who flourish obtained statistically significant higher scores ($p \leq 0.01$) on SWL and PA compared to those who languish or flourish moderately. Flourishing students also obtained statistically significantly lower scores ($p \leq 0.01$) on NA compared to languishing or moderately flourishing students. Students who flourish moderately obtained statistically significant higher scores ($p \leq 0.01$) on satisfaction with life and PA compared to those who languish.

DISCUSSION

The aim of this study was to examine the psychometric properties of positive psychological assessment measures and to determine the relationship between flourishing and academic performance within a tertiary educational environment. The results confirmed a three component model for MHC-LF (namely EWB, PWB and SWB), two factors for PANAS (PA and NA) and a single component model for SWLS. Correlation statistics confirmed that no relationship exists between academic performance and flourishing within this tertiary educational environment. However, cross-tabulation indicated that individuals with moderate levels of flourishing, or above, achieved sets of academic results that ranged between ‘Above average’ to ‘Excelling academically’. Finally, the results showed that flourishing students experienced higher levels of PA and SWL as well as lower levels of NA than both their languishing and moderately flourishing counterparts. Students, who flourished moderately, experienced higher levels of PA and SWL than their languishing counterparts.

In order to obtain the component structure of the surveys, an exploratory factor analysis was conducted on the MHC-LF, PANAS and SWLS. The results showed acceptable component loadings for all the measures. This is similar to Strümpfer, Hardy, De Villiers and Rigby (2009) findings, which confirmed a three factor structure for the MHC-LF of the working-class within Gauteng and Western Cape.

In line with Keyes's (2002) conceptualisation a single component model for EWB could be confirmed within this sample. The component was labelled "Emotional well-being" which is in line with Keyes's (2002) conceptualisation. Strümpfer et al. (2009) confirmed a single component structure for EWB in their study. The single component structure indicated a high person-separation, item reliability and factor reliability coefficients within this sample. The Rasch modelling results indicated items measuring EWB were not difficult to understand, nor was there random selection in responses. This implies that the results are less likely to be distorted on this scale (Rasch, 1960; Wu & Adams, 2007).

Second, the PWB subscale acceptably fitted a single component structure. This is in contrast with Keyes's (2002) presented six factor structure. Confirming this study's findings, Strümpfer et al.'s (2009) study could also only confirm a single factor structure for psychological well-being. The single component model was labelled "Psychological well-being". The single component structure of PWB showed high person-separation, item reliability and factor reliability coefficients. This indicates that the instrument shows high levels of internal consistency (Salkind, 2012). The Rasch modelling results indicated items measuring PWB were not difficult to understand, nor was there random selection in responses. However, three items indicated extreme outfit mean scores: "I tend to be influenced by people with strong opinions", "The demands of everyday life often get me down", and "I sometimes feel as if I've done all there is to do in life". This implies that individuals may have misinterpreted or misunderstood these items. These items may also have been too complex for the participants (Wu & Adams, 2007). Wu and Adams (2007) argued that items measuring affective components (unlike fluid cognitive judgements) may be influenced by culture, or the current emotional state of the individual at any given time stamp. As the majority of the individuals participating in this study were African, it could be presumed that culture impacted on the distortion in these items (Van de Vijver & Rothmann, 2004). Furthermore, two of these items have mood-related components (e.g. "The demands of everyday life often get me down" and "I sometimes feel as if I've done all there is to do in

life”), which are open to environmental influences and current mood states and may produce measurement errors and skew the data (Antonakis & Dietz, 2011).

Third, exploratory factor analysis on the SWB subscale confirmed a four component structure that could not be meaningfully interpreted. The four factor structure showed low reliability coefficients and communalities which indicated low levels of internal consistency. A confirmatory factor analysis indicated that factor loadings were not in line with the suggested factor structure of Keyes (2002). Furthermore, the item loadings on the variables were not in line with the recommendations from literature. Resultantly, the reliability of the measure was below the suggested cut-off point of 0.70 (Salkind, 2012). As a result, a single component model was fitted for the current study. This is similar to the findings of Strümpfer et al.’s (2009) that could also just fit a single component model for social well-being. This single component structure fitted the data better than the original four factor structure. Moreover, this model indicated higher (and acceptable) reliability coefficients. This single component model was labelled “Social well-being”. Rasch modelling indicated acceptable person separation and item reliabilities on most items. Two items (“People who do a favour expect nothing in return” and “I have something valuable to give the world”) showed extreme mean scores. As with the items measuring PWB, this implies that participants may have misinterpreted/misunderstood, or found these items too difficult (Wu & Adams, 2007).

These results are not unfounded in literature. Research indicated that measuring psychological constructs within multicultural environments produce different results when compared to unicultural environments (Van de Vijver & Rothmann, 2004). Various factors may contribute to these component structures. Antonakis and Dietz (2011) argued that the amount of items intended to measure a specific construct, may affect its factor structure, internal consistency and validity. Javali and Gudaganavar (2011) argued that both the factor structure and the internal consistency of a measure is the result of the interaction between the sample size, the number of items per measure and the grouping of responses (true and observed) around a specific item, whilst holding the aggregate correlation amongst items constant. Carmines and Richard (1979) suggested the use of no less than five items per construct to ensure adequate measurement and representation within complex samples. Both the PWB (18 items/6 factors) and SWB (15 items/5 factors) scales do not conform to this suggestion. Aggregate mean items for both the PWB scale and SWB are three items per factor. There may not have been sufficient items to represent the factor structure adequately

within this complex sample. This may be one of the causes for inadequate factor representation of the MHC-LF within this study. Furthermore, some of the items may have been too complex for the current sample. Van de Vijver and Rothmann (2004) argued that both language and cultural factors may have contributed to the deviation in the factor structure. The majority of the individuals were not first language English speakers, and the items were not translated into their mother tongue, which may imply that participants found the questionnaire difficult to understand if they did not have a good command of the English language. Furthermore, this may have also produced bias when completing the questionnaire (Van de Vijver & Rothmann, 2004). Salkind (2012) argued that various social and psychological factors may have also attributed to participants misinterpreting or 'overthinking' items.

On the other hand, both the PANAS and SWLS confirmed factor/component structures which are acceptable. The PANAS confirmed a two factor model which was in line with previous research (Crawford & Hendry, 2004; Thompson, 2007). The PANAS confirmed a two-factor structure with high person separation-, item- and construct reliability. These factors were labelled "Positive affect" and "Negative affect". Various studies have confirmed the two factor structure and labels of the PANAS (Crawford & Hendry, 2004; Joiner, Sandín, Chorot, Lostao, & Marquina, 1997; Thompson, 2007). Rasch analysis indicated that all the items were not difficult for the participants to understand. This implies that the results are less likely to be distorted, and may thus be a true representation of the individual's current emotional states on this scale (Rasch, 1960; Wu & Adams, 2007).

Similarly, the SWLS confirmed a single component model which was labelled "Satisfaction with life". This is in line with Diener et al.'s (1985) original conceptualisation and findings. Furthermore, the SWLS showed high person separation-, item-, and construct reliability coefficients. Rasch item polarisation indicated that the results were less likely to be distorted and may be a true representation of the individual's current emotional states on this scale (Rasch, 1960; Wu & Adams, 2007).

The main aim of this study was to investigate flourishing of students and its relationship with positive psychological constructs and academic performance within a tertiary educational environment. The results indicated that the majority of the participants were moderately flourishing, and of the remaining participants, more individuals were flourishing than

languishing. This is in contrast with findings of Keyes, Eisenberg, Perry, Dube, Kroenke, and Dhingra (2012), who indicated that 49.3% of students in an American university were flourishing and presented with no psychopathology. The results showed that the majority of the participants in this study experienced slightly below average levels of EWB, PWB, and SWB. The combination of these factors attributes to the majority of the participants experiencing moderate levels of flourishing (Keyes, 2002). In the current sample, only 22.2% of the participants were flourishing. This implies that these individuals show moderate levels of mental health (Keyes, 2011; Keyes et al., 2012).

Furthermore, participants in this study experienced average levels of PA and lower levels of NA. This denotes a healthy affect balance within individuals (Keyes, 2011). Lyubomirsky (2012) argued that a balance needs to exist between positive and negative emotions in order for individuals to be psychologically healthy. The participants also experienced average levels of SWL and academic performance. This implies that individuals are moderately happy with their lives at the time of measurement. This is in line with Seligman's (2011) findings that approximately half the world's population is moderately happy.

Correlations indicated that there was a moderately positive relationship between EWB and SWB. This implies that individuals experiencing higher levels of EWB are likely to experience higher levels of SWB. These findings are in line with Keyes's (2002) theoretical conceptualisation that these concepts are related, but different. Furthermore, correlation statistics indicated that the prevalence of EWB related positively to the experience of SWL, which suggests that the presence of EWB would impact on an individual's overall level of perceived happiness (Keyes, 2010). In this study, EWB was also moderately positively related to the experience of positive emotions, which implies that individuals who experience emotional well-being are likely to present with more positive emotions. However, this relationship may also be attributable to EWB's conceptualisation in the literature. The overlap between Keyes's (2002) and Thompson's (2007) conceptualisation of PA may also be the reason for this relationship.

The results indicated that there exists a moderately negative relationship between EWB and NA. Individuals showing higher levels of EWB are likely to use this as an emotional buffer against the onset and sustainability of negative emotions (Keyes et al., 2012; Larsen, 2009), as EWB is comprised of specific behaviours and strategies which contributes to the effective

management of negative emotions and prevents the onset of mood disorders (Larsen, 2009). This relationship may imply that individuals, who present with high levels of EWB, may have the internal resources needed to manage negative emotions (Keyes et al., 2012; Larsen, 2009).

SWB has shown to moderately positively relate to the experience of SWL within this study. Keyes (1998) argued that SWB correlates and predicts SWL in both adolescents and adults. SWB may provide individuals with various coping mechanisms to enhance life satisfaction and buffer against the onset of pathology (Keyes et al., 2012). SWB provides individuals with tools to establish social support networks, and to build positive relationships (Keyes et al., 2012). Furthermore, SWB relates to PA. This is similar to the findings of Greenglass and Fiksenbaum (2009) who found that there is a relationship between these variables. Similarly, these researchers found that that SWB may predict positive affect in some circumstances. Moreover, the results indicate a moderate relationship between SWL and PA within this sample. This is in line with what is already known through research (Diener et al., 1985; Larsen, 2009). Both SWL and PA are components of Diener's (1984) subjective well-being. Research has suggested that both PA and SWL declare large amounts of variance in overall subjective well-being or happiness (Larsen, 2009).

Finally, the results showed no practical or statistically significant relationship between EWB, PWB, and SWB, PA and NA or SWL, on the one hand, and academic performance on the other hand. This is in contrast to the various research studies and conclusions drawn by Keyes et al. (2012), Lyubomirsky (2011) and Seligman (2011) and Howell (2009). An ANOVA analysis indicated no differences in flourishing and academic performance. Cross-tabulation was used to break flourishing down into its three primary components (languishing, moderately flourishing and flourishing), and compared it to five groups of academic performance ('underperforming', 'average', 'slightly above average', 'above average' and 'academically excelling'). Here some significant results were shown. Cross-tabulation indicated that across the five groups of academic performance, individuals displayed moderate mental health. Howell (2009) argued that moderate levels of flourishing may impact on academic performance in various forms. Finally, cross-tabulations indicated that a large majority of individuals who were underperforming and performing at an average level were languishing. This is in line with Seligman's (2011) findings, which indicated that

underperformance within an academic environment, may be attributable to lower levels of flourishing/languishing.

Based on these results, it is evident that further investigation is required to establish the validity and reliability of the MHC-LF within the tertiary educational environment. The relationship between flourishing and academic performance is more complex than initially anticipated; however, it would seem that flourishing/languishing plays a role in academic performance. Finally, flourishing relates to both PA and SWL, which supports the construct validity of flourishing's conceptualisation.

This study has clear limitations. A major limitation to this study was in the cross-sectional research design. As a result, causal factors relating to the results could not be established. A longitudinal study could have provided further insight into the established relationship between flourishing and academic performance, as well as highlighted probable causal factors. Future studies may utilise more accurate measures for academic performance in order to determine a relationship between flourishing and academic performance. The current study utilised the mean academic performance score for a single semester as an indicator of academic performance. Future studies may utilise the academic scores for all the presented modules that the participants are registered for, instead of using their average mark. Another major limitation relates to the sampling method. A convenience sample was drawn from the entire population, which may open the results up to various biases.

RECOMMENDATIONS

It is recommended that future research on this subject utilise a random sampling technique in order to combat possible measuring bias. Moreover, the current study only involved a single university, and therefore the results cannot be generalised to the entire population. Future studies should aim to include other universities in order to ensure generalizability. Further investigation is also needed regarding the psychometric properties of the MHC-LF within the South African tertiary educational environment.

The results of this study indicated that MHC-LF may be used as a measure for flourishing within this context; however, contextual, cultural, psycho-social and environmental elements need to be considered. It is recommended that future replication studies remove the items

which students in this sample found to be difficult, in order to determine if it would enhance the effect sizes of the correlations. Efforts should be directed towards improving the factorability of the questionnaire for the tertiary educational environment. Since there is some evidence that suggests levels of flourishing/languishing impact on an individual's academic performance, interventions need to be designed in order to develop flourishing students.

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CHAPTER 3

RESEARCH ARTICLE 2

TOWARDS HAPPINESS-INTERVENTIONS: A META-ANALYSIS

ABSTRACT

The aim of this study was to investigate the main streams of research on happiness, the approaches/models flowing from these philosophies and the methodology of happiness interventions. A meta-analysis of scientific literature between 1950 and 2012 was conducted. Articles included were those published between 1950 and 2012, written in English/Afrikaans, and examined the concepts of happiness and flourishing, while those that were excluded were those articles not directly relating to the field of psychology, and chapters in books, dissertations and theses, except those that directly addressed the concept of happiness and appropriate interventions. An systematic review was performed outlining the authors, the purpose of the research, the nature of the sample/setting, the method utilised and the key findings. The results showed three causes for failing interventions: (a) unidimensional models/approaches towards happiness; (b) targeting the concept of happiness instead of mediating factors; and (c) fragmented methodological interventions. The study suggests a multidimensional model for happiness and happiness interventions, and proposes a multi-faced, methodology for happiness interventions, comprising of self-administered intentional activities, group-administered interventions and individual coaching.

Keywords: Happiness, flourishing, positive psychological interventions, intervention methodology.

One of the great challenges for *positive psychology* is that scholars are yet to find agreement on the terminology, constructs and methodology of various positive psychological concepts and interventions (Delle Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011). For the most part, even the word '*positive*' in positive psychology is vague, since it may refer to a host of different concepts (Delle Fave et al., 2011; Wong, 2011). Various concepts within the field of positive psychology are under much scrutiny as a result of the incongruities in terminology and conceptualisation (Delle Fave et al., 2011). One such concept that has been ambiguously and often inconsistently conceptualised is *happiness* (Delle Fave et al., 2011; Sheldon, Kashdan, & Steger, 2011), with various empirically-validated conceptualisations regarding the concept existing (Diener, 1984; Keyes, 2002; Lyubomirsky, 2011; Seligman, 2011; Veenhoven, 1988, 2003).

Researchers approach the concept of happiness from three philosophical angles, namely a hedonic (Kahneman, Diener, & Schwarz, 1999), eudaimonic (Waterman, 1993) and integrated perspective (Keyes, 2007; Seligman, 2011). Happiness researchers embedded in hedonism argued that happiness is achieved through focusing on pleasures of the mind/body and avoiding pain (Ryan & Deci, 2001). Researchers rooted in eudaimonia argued that happiness manifests when one is living in accordance with one's daimon, or *true self* (Deci & Ryan, 2008). These approaches resulted in six different streams of research, namely hedonic well-being (HWB; Kahneman et al., 1999), subjective well-being (SWB; Diener, Emmons, Larsen & Griffin, 1985), eudaimonic well-being (Ryan & Deci, 2008; Waterman, 2008), psychological well-being (PWB; Ryff & Singer, 2006), flourishing (Keyes, 2002; Seligman, 2011) and authentic happiness (AH; Seligman, 2002, 2004).

It is apparent that the conceptualisations of happiness are quite varied (Lyubomirsky, 2007; Seligman, 2002). Even though there is much consensus amongst researchers regarding the outcomes of happiness, there is still much debate on how these outcomes should be approached, as well as the content of happiness interventions (Biswas-Diener, Kashdan, & King, 2009; Kashdan, Biswas-Diener, & King, 2008). There seems to be little consensus amongst researchers regarding the methodology of interventions aimed at promoting the happiness of clients (Delle Fave et al., 2011; Seligman, 2011). Moreover, positive psychological interventions aimed at happiness have produced mixed results (Lyubomirsky, 2011; Sheldon et al., 2011). Further, these types of interventions have enjoyed little empirical validation within the multicultural Southern African context.

Furthermore, the dissemination methods of the abovementioned approaches are restricted to scientific journals and not aimed at the mass market (Seligman, 2011). This results in interventions being developed that are not rooted in scientific evidence, but are rather based on what is considered to be 'fun' and 'relevant' at the time (Lyubomirsky, 2011; Seligman, 2011). Resultantly, interventions are developed based on pop-culture rather than scientific evidence (Seligman, 2011). These non-scientific interventions are grounded in speculation and assumption, with no empirical evidence to support their effectiveness (Lyubomirsky, 2011). Furthermore, there exist fissures in knowledge on happiness interventions. Various interventions exist which aim to address components of happiness and causes of unhappiness within unicultural environments (Seligman, 2011; Sin & Lyubomirsky, 2009). Limited research exists regarding the development and evaluation of interventions aimed at happiness within multicultural environments (Delle Fave et al., 2011). In order to expand on the current understanding of happiness interventions, a critical review of the literature is needed to develop an integrative, scientific approach and methodology for happiness interventions. Furthermore, a theoretical framework is needed for interventions aimed at increasing happiness of students in a tertiary educational institution.

One approach to obtaining this information is through a qualitative meta-analysis of the literature (Salkind, 2012). A meta-analysis refers to a qualitative technique that combines the outcomes of various studies on a given topic which use the same dependent variables (Salkind, 2012). The meta-analysis integrates the findings of various articles in order to present the results in a new light or context (Sutton, Jones, Abrams, Sheldon, & Song, 2000). Diener (1984) was the first theorist to conduct a meta-analysis of the literature on happiness and subjective well-being. The results of the meta-analysis indicated the need for further empirical research on the topic of subjective well-being (Diener, 1984). Diener's (1984) study inaugurated the field of subjective well-being as a scientific science.

Resultantly, this study aimed to conduct a meta-analysis on the happiness and happiness intervention literature. The aim was to evaluate the main streams of research on happiness, the approaches/models flowing from these philosophies and the content and methodology of intervention programmes to promote happiness of individuals. The aim was to develop a multidimensional definition and theoretical model for happiness interventions. Finally, this study aimed to develop a theoretically sound methodology for happiness interventions.

This study contributes to positive psychological intervention literature by furthering theoretical and empirical knowledge regarding the effectiveness of three methodological approaches for positive psychological interventions. The study contributes to the existing happiness and flourishing literature through developing a theoretically sound methodology for positive psychological interventions aimed at cultivating these psychological states. The study systematically evaluates the happiness literature to identify gaps in theoretical approaches and models relating of happiness and flourishing. A theoretical model to approach happiness and flourishing is proposed to address the presented fissures in literature.

METHOD

A meta-analysis of the literature was used to achieve the aim of this study. The sample consisted of peer-reviewed publications that were published between 1950 and 2012. Articles was identified using article databases such as *EBSCOHOST*, *Emerald*, *Science Direct*, *Google Scholar*, *WEBfet*, *SAePublications*, *Proquest*, *PsychInfo*, *ISI Web of Knowledge*, *SAB Inet Online*, *JSTOR*, *Springlink* and *Metacrawler*. The following terms were used (individually and in combination) as search terms: pleasure, meaning, engagement, flow, happiness, subjective well-being, psychological well-being, hedonism, eudaimonia, flourishing. These terms were based on the different conceptualisations of happiness which was presented during the initial literature review. These were accompanied by the following search keywords or terms: positive psychology, antecedents, models and interventions.

Cross-referencing was done to identify other important sources of information whilst studying a specific article mentioning a reliable source. A reliable source in this context refers to primary sources of information relating to peer-reviewed articles in accredited journals (Salkind, 2012). Furthermore, reference lists of articles were reviewed for additional publications that may not have been indexed through electronic searches. Inclusion and exclusion criteria were selected in order to ensure the retrieval of valid scientific records. The selection criteria for inclusion in the sample include: (a) articles published between 1950 and 2012, (b) articles written in English or Afrikaans, and (c) articles that examined happiness (in terms of its constructs, models, and antecedents) within any field of occupation. The criteria for exclusion were related to: articles from areas remote to the field of psychology, unless they were strictly related to the concept of happiness, studies in the form of dissertations,

theses, and chapters in books were excluded, except those that directly addressed the concept of happiness.

After gathering the relevant publications, the abstracts were read and analysed based on the inclusion/exclusion criteria. Publications that met the inclusion criteria were requested and analysed further. Articles were analysed on an individual basis based on their scientific merit. Thereafter, these articles were read and categorised in terms of their position relating to the concept of happiness and happiness interventions. Finally, a systematic review was undertaken, outlining the names of the authors, the aim of the article, the nature of the sample/setting, the research method utilised and the key findings.

RESULTS

Through the utilisation of the inclusion/exclusion criteria, 244 relevant peer-reviewed articles, eight books, four theses and four dissertations were located. Higher numbers of search results were found using Google Scholar. Furthermore, the primary themes or individual labels for the concept were: happiness, authentic happiness, flourishing, hedonic well-being, eudaimonic well-being, objective well-being/happiness, subjective well-being, quality of life, well-being and mental health. The bulk of the articles dated between 2004 and 2012, and had been published in international journals. The majority of these articles were presented in English (99.7%), with only a slight minority presented in other languages (0.3%). The majority of the articles were found in the areas of psychology (more specifically journals dedicated to positive psychology) (79.2%), with only a few related to other fields, such as economics (11.7%), education (8.6%) and miscellaneous (0.5%). The results of this systematic evaluation are presented in Table 3.1.

Conceptualising happiness

From the earliest writings of Aristotle to the latest issue of the *American Journal of Psychology*, it is evident that the concept and experience of *happiness* is a primary drive in human nature. Over time, philosophers have considered happiness to be the ultimate goal of human existence (Diener, 1984) and, thus, happiness has been a source of great debate for centuries. Yet, it enjoyed little attention in the form of empirical research until 1973 (Seligman, 2002). Prior to this, many philosophers and scientists focussed on the concept of *unhappiness* (e.g. depression) in depth, giving little acknowledgement to good mental health, well-being and happiness (Peterson & Seligman, 2004).

Table 3.1
Summary of Approaches Towards Happiness

AUTHOR(S)	AIM OF STUDY	SAMPLE/SETTING	METHOD	KEY FINDINGS
Hedonism: Subjective well-being				
Diener (1984)	Conceptualizing subjective well-being.	A sample of 68 articles on subjective well-being	Literature review & Meta-analysis	There are three definitions of well-being: <ul style="list-style-type: none"> i. Happiness is experienced as a result of externally generated criteria of virtue and wholeness. ii. Happiness is experienced as a result of cognitive assessments of one's life. iii. Happiness is experienced as a result of the sum total of affective feelings.
Diener & Lucas (1999)	Understanding the relationship between personality characteristics and subjective well-being.	Various samples and settings	Literature reviews; Longitudinal studies; Questionnaires; Meta-analysis	Subjective well-being is comprised of life satisfaction, the presence of positive affect, and the absence of negative affect.
Diener & Ryan (2008)	Providing a comprehensive review of the field of subjective well-being in terms of its societal and individual benefits, demographic correlates, theories of origin, and relationship to culture.	Various samples and settings	Literature review	Benefits of subjective well-being manifest in social relationships, work and income, general health, and economic indicators. The researchers distinguish between five main theoretical frameworks explaining subjective well-being. (a) Telic - Happiness is achieved when a goal is reached; (b) cognitive theories - focused on the power of cognitive energy in the experience of happiness; (c) Evolutionary theories - Feelings of well-being and pleasure manifest as a result of aspects which aids in humankind's survival; (d) Temperament and personality - These factors impact on the experience of live events which results in happiness; and (e) Relative Standards - Happiness is experienced because of a comparison between some standard that has been set, such as one's past, others, goals, or ideals, and the actual situation. Demographic variables that affect happiness are age, level of education, relationship status, unemployment and income.
Hedonism: Hedonic well-being				
Kahneman, et al. (1999)	Developing a foundation for hedonic psychology and objective happiness.	Various samples and settings	Literature reviews; Longitudinal studies; Questionnaires; Meta-analysis	Objective happiness is based on subjective data. Happiness is achieved through striving towards pleasures of the body and mind and avoiding pain. The experience of happiness is attributable to the actual experience from the past and the remembered experience. Individuals may judge that objective happiness is the appropriate way to evaluate the unpleasantness of a medical procedure, but more complex criteria should be used to evaluate how meaningful a given interpersonal relationship is.
Kashdan et al. (2008)	Outlining the problems and costs of distinguishing between hedonic and eudemonic happiness, and provided detailed recommendations for a research program on well-being with greater scientific precision.	A study of 106 articles relating to the concepts of hedonic and eudemonic happiness	Literature review	Eudemonic well-being is rooted in philosophy and doesn't translate well into science. Eudemonia is not well defined and lacks consistent measurement. Hedonic and Eudemonic well-being overlap both conceptually and empirically.
Eudaimonia: Eudemonic well-being				
Waterman (1993)	Investigating the convergent and divergent aspects of hedonic and eudemonic conceptions of happiness.	Two samples of North American undergraduate and graduate students (Study 1 - $n = 209$); (Study 2 - $n = 249$)	Questionnaire: Cross-sectional design	Strong positive correlations between eudemonia and hedonism were found. Significant differences between these two conceptions of happiness was found in conjunction with the activities for the variables of (a) opportunities for satisfaction, (b) strength of cognitive-affective components, (c) perceived challenges in life, (d) skill levels, and (e) importance. Eudemonia and Hedonism was found to be distinguishable yet related.
Waterman, Schwartz & Conti (2008)	Investigating the implications of the two conceptualisations of happiness (hedonism and eudemonia) for the understanding of intrinsic motivation.	3 samples of college students with a sample size of $n > 200$	Questionnaire: Cross-sectional design	Furthermore, eudemonia (but not hedonism) was found to be a signifier of a process of self-actualization. Hedonism and Eudemonia were strongly and reliably related across the three samples. Eudemonia correlated stronger with measures associated with intrinsic motivation (of balance of challenges, values, self-realisation, importance and change).

Table 3.1
Summary of Approaches Towards Happiness (Continue)

AUTHOR(S)	PURPOSE	SAMPLE/SETTING	METHOD	KEY FINDINGS
<i>Eudaimonia: Psychological-Well-being</i>				
Ryff & Keyes (1995)	Testing a six factor model or psychological well-being.	1108 participants	Questionnaire: Cross-sectional design	A valid and empirically tested 6 factor model for psychological well-being was developed. These 6 factors includes: Self-acceptance; Personal growth; Autonomy; Positive relationships; Environmental mastery; and Purpose in life
Deci & Ryan (2002)	Developing a self-determination theory for well-being.	Various samples and settings	Literature reviews; Longitudinal studies; Questionnaires; Meta-analysis	Three psychological needs motivates individuals to initiate behaviour and are necessities in order to achieve psychological well-being, namely competence, autonomy and relatedness.
<i>Flourishing</i>				
Keyes (2002)	Conducting a continuous assessment and categorical diagnosis of the manifestation of mental health (i.e. flourishing) in the United States.	3032 participants from the USA between the ages of 25 - 27	Questionnaire: Longitudinal design via telephone interviews and two mailed self-administration questionnaires	Measures of mental health and psychopathology constitute separate unipolar dimensions. Mentally healthy individuals reported fewer general health issues, missed fewer days of work, fewer half-day work cut-backs and higher psychological functioning than their mentally ill/languishing counterparts.
Seligman (2011)	Developing a conceptual framework for a new approach towards happiness and well-being labelled "Flourishing".	Various samples and settings	Literature reviews; Longitudinal studies; Meta-analysis; Cross-sectional studies; Questionnaires; Action research and Applied research	Presenting a new model for flourishing comprised out of 5 domains named PERMA. PERMA stands for: i. Positive emotion ii. Engagement iii. Positive Relationships iv. Meaning and v. Accomplishment .
<i>Authentic happiness</i>				
Seligman (2002)	Developing a foundation for Authentic Happiness.	Various samples and settings	Literature reviews; Longitudinal studies; Questionnaires; Meta-analysis	Happiness is comprised of three constructs: Pleasure, Meaning, and Engagement/Flow. Happiness predicts various positive life outcomes (such as life satisfaction, more positive affect etc.). People are prepositioned with a genetic set-point for the experience of pleasure.
Peterson, Park & Seligman (2005)	Investigating the different orientations to happiness in different contexts	845 participants	Internet survey: Cross-sectional design	The three orientations to happiness (namely pleasure, meaning and engagement) predict satisfaction with life for individuals. Low scores on all three orientations manifested in low scores for satisfaction with life. A distinction between the full life and the empty life was established.
Peterson et al. (2007)	Investigating the relationship between character strengths, happiness and satisfaction with life.	12,439 United States National participants	Internet survey: Cross-sectional design	Character strengths associated with a sense of satisfaction with life were associated with all three orientations to happiness.
Vella-Brodrick, Park & Peterson (2009)	Examine the contributions of orientations to happiness to subjective well-being in US and Australian samples	12,622 United States National participants; 322 Australian National participants	Internet survey: Cross-sectional design	The three orientations to happiness predict life satisfaction beyond demographic variables and personality traits in both samples. Findings support a more eudemonic than hedonic approach for achieving happiness.
Schueller & Seligman (2010)	Investigating the relationship between objective and subjective happiness.	13,565 participants from 112 countries	Internet survey: Cross-sectional design	Pleasure, meaning and engagement correlated higher with subjective well-being. Meaning and engagement correlated higher to subjective well-being than pleasure. Pleasure correlated with a small effect on positive affect.

According to Diener (1984), this changed when some scientific journals started listing happiness as an index term in 1973. Empirical studies on this concept gained momentum with the suggestion of the positive psychology paradigm in 2000 (Peterson & Seligman, 2004). Most researchers would agree on the various positive psychological end-results of this concept (Della Porta, Sin, & Lyubomirsky, 2009; Seligman, 2011), yet there exists broad differences in its definition, conceptualisation and application (Biswas-Diener et al., 2009; Kashdan et al., 2008).

Tatarkiewicz (1976) defined happiness as a comprehensive, enduring and justified feeling of satisfaction with one's life as a whole. Hedonically, Kraut's (1979) definition includes a belief that one's attained significantly imperative things associated with positive affect associated with this belief. Other definitions portray happiness as a positive intrinsic experience that acts as a crucial motivator for individual performance (Lu, Gilmour & Kao, 2001).

Contradictory, Diener (1984, p. 545) defined happiness as "the preponderance of positive affect over negative affect with a distinct focus on the affective evaluation of one's life situation". Two main philosophies in the happiness literature, namely hedonism and eudaimonia formed the basis for six main streams of research, namely (a) Subjective well-being (SWB) (Diener, 1984); (b) Hedonic well-being (HWB) (Kahneman et al., 1999); (c) Eudaimonic well-being (EWB) (Waterman, 1993); (d) Psychological well-being (PWB) (Deci & Ryan, 2002; Ryff, 1989a), (e) Flourishing (Keyes, 2002; Seligman, 2011) and (f) Authentic happiness (AH; Seligman, 2002). It is vital to separate these streams of research in order to understand the significance, thereof, for happiness interventions Table 3.1 summarises the key findings and research for each approach.

Hedonism

The foundations of hedonism lies in one fundamental principle: individuals attribute happiness to seeking pleasure and avoiding pain (Barnes, 1987; Seligman, 2011). The term is derived from the Greek word '*hēdonismos*' which means 'delight' (Barnes, 1987). The Greek philosopher, Epicurus, argued that the greatest good was achieved through seeking pleasures of the flesh (e.g. materialism) in order to attain a state of tranquillity and '*ataraxia*' ('freedom from fear') as well as '*aponia*' ('absence of physical pain') through understanding the limits of one's desires (Barnes, 1987). The amalgamation of these two states constitute the highest level of happiness one can attain (Rand, 1964).

Hedonism's roots in psychology are not so far removed from this idea (Kahneman et al., 1999). From this perspective, happiness is defined as positive affect, which occurs when one experiences high levels of pleasure while avoiding pain (Diener, 1984). Happiness is comprised of an affective component (high levels of positive affect and low levels of negative affect) and a cognitive component (perceptions that one is satisfied with one's life) (Diener, 1984; Kahneman et al., 1999). Hedonism is concerned with the emotional reactions of living a happy life (Waterman, 2008). This definition fathered two key models of happiness: (a) Subjective well-being (Diener, 1984); and (b) Hedonic well-being/Objective happiness (Kahneman et al., 1999); (which will be discussed in the next section).

Eudaimonia

Aristotle argued that true happiness comes from virtuous behaviour, but acknowledged that materialistic goods and pleasures of the flesh impact on the experience (Ackrill, 1981). Virtuousness is seen as being a result of living in accordance with one's *daimon* (or 'true self') and when one strives towards actualising one's true potential (Broadie, 1991). Human happiness and living in accordance to one's daimon is not solely attributable to living a life of pleasure and a life derived from pain (Kopperud & Vittersø, 2008). However, pleasure is a necessary component for living an engaging and meaningful life (Kopperud & Vittersø, 2008; Seligman, 2004; Waterman, 2008).

From the eudaimonic perspective, happiness is defined as living in accordance with one's true self, living a life of purpose, virtue and excellence (Seligman, 2011; Waterman, 2008). Eudaimonic happiness is more sustainable than hedonic happiness in the sense that it has the potential for growth, unlike the static hedonic happiness (Waterman, Schwartz, Zamboanga, Ravert, Williams, Agocha, & Donnellan, 2010). According to Waterman (2008), in hedonism one adapts to the current level of pleasure/joy/happiness, which signifies one constantly has to 'push the envelope' in order to stay happy (a phenomenon known as the hedonic treadmill). Drawing from these early philosophical teachings of Aristotle, the Eudaimonic approach towards happiness aims to understand the virtuousness and what it means to 'live life well' (Ryan & Deci, 2001). Eudaimonia fathered two main streams of research relating to happiness: (a) Eudaimonic well-being/Personal Expressiveness (Ryan & Deci, 2001; Waterman, 1993); and (b) Psychological well-being (Ryff & Singer, 1998).

Models for promoting happiness

Despite the significant progression in theoretical understanding of the term happiness and its outcomes one crucial question still remains: Which models could be used in order to understand and predict happiness? The following section aimed to address this question through highlighting the various theoretical approaches and models for happiness.

Subjective well-being

Subjective well-being (SWB) was the first unidimensional model of happiness that received both extensive conceptual and empirical attention (Waterman et al., 2010). SWB is defined as an individual's subjective evaluation of his/her own life (Diener, Gohm, Suh, & Oishi, 2000). These evaluations manifest in both cognitive and affective judgments about one's life in general (Diener et al., 2000). SWB can be seen as a broadened category of phenomena, which includes individuals' affective responses, global judgements about one's satisfaction with life and current domain satisfactions (Diener, 1984; Diener et al., 2000). Subjective experiences are divided into two distinctive components: (a) affective component (which includes both the presence of positive affect (PA) and the absence of negative affect (NA)); as well as (b) a cognitive component (Diener, 1984; Diener et al., 2000). These components relate to a personal evaluation of whether or not one's life is measuring up to one's envisioned 'ideal' life (Biswas-Diener et al., 2009). It is, therefore, apparent that SWB propagates happiness as both an *experience* and an *attitude* (Alexandrova, 2005).

Building on the original conceptualisation of Diener (1984), Lyubomirsky, Sheldon, and Schkade (2005) developed an integrated model for happiness labelled the "happiness pie". They argued that happiness (which they defined as life satisfaction) is determined by a biological set point, the conditions of a person's current life position (environment), and intentional activities. Research has found that the biological set point declares 50% of the variance in happiness, while current life position declares 10% and intentional activities 40% (Lyubomirsky et al., 2005, Lyubomirsky, 2007). This means that intentional activities have a larger effect than one's current environment on the experience of happiness.

Firstly, Lyubomirsky (2007) argued that the major contributing factor to happiness is programmed into one's *genes*. This set point for happiness is assumed to be relatively stable over time and immune to influence or management (Lykken & Tellen, 1996). Studies aimed

at the effects of life events on well-being and long-term panel studies further highlight the genetic component of happiness (Lyubomirsky et al., 2005, Tellegen, Lykken, Bouchard, Wilcox, Segal & Rich, 1988). Secondly, Lyubomirsky et al. (2005) argued that *life circumstances* impact on one's level of happiness. Life circumstances are relatively stable facts about one's life, which does not necessarily change overnight (Lyubomirsky et al., 2005; Peterson & Seligman, 2004). These stable facts include various environmental factors, such as culture, geographic location, social economic status, demographic variables, personal history (e.g. childhood trauma) and life status variables (e.g. job security). Finally, Lyubomirsky et al. (2005) argued that happiness is largely attainable through the use of *intentional activities*. These activities refer to discrete actions or practices that individuals may engage in, which increase their level of positive affect and happiness (Seligman, 2011), and require some degree of effort and commitment to perform (Lyubomirsky, 2007).

Various interventions have been developed to facilitate a sense of SWB in participants (Sin & Lyubomirsky, 2009). Lyubomirsky (2007) argued that these interventions need to be structured around intentional activities. Intentional activities are structured around the individual's preferences that impact on the continuity of the intended effort exerted by the individual (Lyubomirsky, 2007). SWB interventions aimed at decreasing depression produced positive results (Sin & Lyubomirsky, 2009). These interventions aim to increase the experience of positive emotions that may not be sustainable over time (Seligman, 2011). Consequently, the validity of these interventions aimed at attaining SWB has come into question (Alexandrova, 2005; Kahneman et al., 1999).

Numerous interventions aimed at increasing SWB have failed as a result of not permanently changing the internal psychological processes of an individual (Sin & Lyubomirsky, 2009). McNulty and Fincham (2011) argued that interventions that focus solely on developing positive psychological traits and processes might in fact be detrimental to the development of well-being. There thus needs to be a balance between the development of positive psychological traits and the addressing of the contextual needs of the individual (McNulty & Fincham, 2011). As a result, any intervention aimed at enhancing the experience of positive emotions and reducing the experience of negative emotions is short-lived as a result of the hedonic treadmill (Seligman, 2011). Individuals adapt to both the experience as well as the methodologies used to instil happiness (Sin & Lyubomirsky, 2009). Lyubomirsky (2011) argued that engaging in the same self-administered activities aimed at enhancing positive

emotions becomes monotonous and ineffective. The aim should, thus, be to address the underlying psychological processes of the participant, in order to facilitate a change in behaviour that may result in the sustainable experience of happiness (Lyubomirsky, 2011).

Hedonic well-being/Objective happiness

In recent years, the validity of subjective happiness (or subjective well-being) has been questioned (Alexandrova, 2005; Kahneman et al., 1999). Kahneman et al. (1999) stated that subjective measures of happiness are memory-based, which require an individual to respond to an inclusive assessment of the emotion in the recent past. Kahneman (2000) argued that happiness should rather be conceptualised as a moment-based concept, where the affective state of an individual should be measured at particular moments in time. Kahneman (2000) further criticises ‘subjective happiness’ arguing that it is two-dimensional in its conceptualisation and measurement. Subjective well-being does not capture the nature of primary emotions (e.g. anger and surprise) (Kahneman et al., 1999), since positive and negative emotions are processed through different neural systems which could be activated simultaneously (Cacioppo, Gardner, & Berntson, 1999). From a neuropsychological perspective, positive and negative emotions don’t function independently and there is evidence that these domains inhibit one another (Cacioppo et al., 1999). Therefore, defining happiness through only a sequential distribution of experienced emotions is flawed (Kahneman et al., 1999). Kahneman (2000) argued that as a result of this, happiness should be approached from an objective vantage point.

The term ‘objective happiness’ is used, as the judgment of the experience is made in accordance with certain objective rules, whereby the ultimate data for the judgments is obtained from subjective experiences (Kahneman, 2000; Kahneman et al., 1999). Similarly to SWB, objective happiness is also unidimensional in nature (Alexandrova, 2005). Kahneman et al. (1999) defined objective happiness as an assessment of the quality of experiences an individual attributes to his current life over various time stamps (or ‘point-instant utility’). Unlike subjective well-being, objective happiness goes beyond the global assessment of briefly-felt positive affect (Kahneman et al., 1999). The focus is on understanding the continuity of the emotion across time (Kahneman et al., 1999). However, objective happiness doesn’t shun the importance of subjective well-being as a construct (Alexandrova, 2005). Kahneman et al. (2004) maintains that aspects of satisfaction with one’s life and current

affect are important ingredients of objective happiness, but cannot be used in isolation as a measure for happiness (Alexandrova, 2005).

There seems to be a lot of criticism in the literature regarding the validity of objective happiness (*see* Alexandrova, 2005; Seligman, 2004; Waterman, 2008). According to Alexandrova (2005), even Kahneman (2000) contradicts himself in his conceptualisation. This is highlighted through the limited empirical research on the topic since its original conceptualisation. Furthermore, hedonic measures of happiness have been criticised for assessing the overall level of satisfaction with one's life ('happiness'), and not distinguishing between hedonic or eudaimonic forms of happiness (Waterman et al., 2010), even though it is apparent from the literature that a majority of researchers aimed their research at more eudaimonic approaches towards happiness.

No empirical evidence could be found in the literature regarding interventions aimed at increasing objective happiness. Since objective happiness is rooted in hedonism, one would assume that the same limitations regarding interventions to increase the concept apply here (Seligman, 2011). Interventions aimed at only addressing pleasure will not produce sustainable happiness over a period of time (Seligman, 2011). Due to the lack of scientific evidence for this approach, utilising objective happiness as a theoretical framework for happiness interventions may not be effective (Alexandrova, 2005).

Eudaimonic well-being

Eudaimonic well-being has emerged as both a complementing and contrasting approach to hedonism in terms of understanding happiness (Waterman et al., 2010). Waterman (1993) conceptualised eudaimonic well-being as the quality of life one derives from the development of one's paramount potential and its application in an attempt to fulfil personal expressive and concordant goals. In contrast to hedonism, eudaimonia is defined in terms of the subjective experiences associated with engaging in activities that are worth doing and possessing what is worth possessing (Waterman et al., 2008; Waterman, 2008). Furthermore, eudaimonia is seen as a necessary, but not sufficient condition for hedonic happiness (Telfer, 1980).

From Waterman et al.'s (2010) conceptualisation, eudaimonic well-being is an objective approach towards understanding happiness as including a wide array of set psychological

criteria. Waterman (1993) argued that eudaimonic well-being is the result of an individual's personal expressiveness that is relatively objective. This objective approach is comprised of both subjective and objective experiences (Waterman et al., 2010). The subjective experiences relate to an individual's interpretation of his/her own feelings of eudaimonia, whereas the objective experiences relate to behaviours involved in the pursuit of eudaimonic goals (Waterman et al., 2010). These objective experiences relate to behaviours associated with the identification, development and utilisation of personal potential in ways which attribute to meaning in work/life (Waterman et al., 2010). It is, therefore, apparent that the eudaimonic well-being approach is still rooted in the philosophical conceptualisation of the concept and doesn't take into consideration the lay-person's understanding it (Delle Fave et al., 2011).

Self-determination theory

According to Delle Fave et al. (2011), Self-determination theory (SDT) is the closest theory relating to the lay-person's understanding of happiness. SDT, as an approach towards happiness, was developed by Ryan and Deci (2001), who argued that hedonic approaches towards understanding happiness focus on specific life outcomes, whereas eudaimonia concerns itself with the content and processes of one's life, which leads to 'living well'. Similar to EWB, SDT's foundation lies in eudaimonic thinking. The theory stems from the original Aristotelian conceptualisation of eudaimonia (Ryan & Deci, 2008; Seligman, 2002). SDT aims to highlight aspects of living well that facilitate human excellence through mindful reflection and desire (Ryan & Deci, 2008; Waterman, 2008). Ryan and Deci (2008) argued that SDT predicts the basic psychological needs necessary for personal growth and development. This embodies the Aristotelian idea that eudaimonia is not an emotional state (outcome), but rather a way of living that is intrinsically worthwhile for individuals (process) (Delle Fave et al., 2011).

According to Ryan, Huta, and Deci (2008), this natural inclination towards personal growth is facilitated by three inherent psychological needs that motivate behaviour, namely autonomy, competence and relatedness (Ryan et al., 2008). Autonomy refers to a feeling where one is in control of one's own behaviour and can live in accordance with one's *true self* (Deci & Ryan, 2000). Competence refers to the ability to master the challenges in the environment skilfully (Hofer & Busch, 2011; Ryan et al., 2008). Relatedness represents the need for interpersonal acceptance and closeness (Ryan & Deci, 2008). Underpinning these needs is not the strength

of the need, but rather the extent to which the need is satisfied (Hofer & Busch, 2011). These needs are seen as inherent, universal and psychological in nature, as opposed to learned and saturated with physiological need satisfaction (Hofer & Busch, 2011; Ryan & Deci, 2008). The repeated satisfaction of these needs has been shown to have a significant impact on various desirable life outcomes, such as attaining work-related well-being (Ménard & Burnet, 2011). Furthermore, SDT suggests that these needs can be developed within social contexts, but individual differences impacts on this process (Hofer & Busch, 2011; Ménard & Burnet, 2011).

Although SDT's theoretical framework has enjoyed much empirical validation and support, there exists a lot of criticism regarding the practical application of the research in terms of interventions. Little research of SDT's application in either clinical psychology or people development exists (Vansteenkiste & Sheldon, 2006). SDT's basic concepts have yet to receive empirical validation regarding their effectiveness in terms of motivating individuals towards psychological change and promoting happiness (Kashdan et al., 2008; Vansteenkiste & Sheldon 2006). Furthermore, there are concerns that SDT added an unnecessary layer of obscurity to the theory of happiness (Kashdan et al., 2008; Ryan & Huta, 2009; Wong, 2011). Kashdan et al. (2008) argued that the work on eudaimonia thus far has been superficial and scattered. Furthermore, Kashdan et al. (2008) argued that even though SDT captures a host of concepts in the proverbial eudaimonic river, it is not exclusively about eudaimonic happiness. Ryff and Singer's (2008) response to this criticism was the development of a new eudaimonic approach towards understanding happiness, namely psychological well-being.

Psychological well-being

The next route towards understanding happiness, founded in eudaimonia, is psychological well-being (Ryff & Singer, 2008). Unlike SDT, PWB has enjoyed much empirical and practical validation as an approach towards sustainable happiness in recent years (Ryff, in press). Ryff and Singer (2003) emphasize the need to understand the undertow of positive human emotions. Their argument emphasises what is already understood from the research on psychopathology (Peterson & Seligman, 2004). The primary aim of positive psychology should be to understand the deep underlying concepts, emotions and behaviours associated with '*surface emotions*' such as happiness (Ryff, in press). Ryff and Singer (2008) argued that the hedonic approaches towards understanding happiness are flawed, as it is based on an inaccurate translation of the ancient essays of Aristotle. Diener (1984) drew a parallel

comparison between hedonism and eudaimonia indicating that it meant the same. Furthermore, Ryff and Singer (2008) observed that Diener (1984) left a key element out of his conceptualisation of happiness: *the strive towards achieving one's true potential*.

From this, Ryff (1989b) developed a widely used conceptual classification of PWB, incorporating key concepts from Aristotelian ethics as well as ideas about positive human functioning from analytical, clinical, developmental, and humanistic psychology. This conceptual model comprised of six factors, namely: (a) self-acceptance; (b) positive relationships; (c) environmental mastery; (d) purpose in life; (e) personal growth; and (f) autonomy (*see* Table 3.2).

Table 3.2

Summary of Ryff and Singer's (2008) Components of Psychological Well-being

COMPONENT	DEFINITION	IMPACT
Self-acceptance	Ryff (1989a) defined self-acceptance as a central component to mental health and is a largely contributing factor to mental health concepts such as maturity, self-actualization and optimal functioning. Self-acceptance as an aspect of self-awareness, along with a mature view of the self despite weaknesses or developmental areas (Seligman, 2011).	Positive psychologists and researchers believe self-acceptance is a prerequisite for change to manifest and for an individual to develop (Peterson & Seligman, 2004).
Positive Relationships	Positive relationships refer to warm, trusting and fruitful interpersonal relationships with peers or family (Ryff & Singer, 1998). The ability to empathize, show affection and to identify with others is central to psychological health (Peterson & Seligman, 2004; Seligman, 2011)	The ability to establish and maintain these warm positive relationships is a key element for aspects such as emotional maturity, satisfaction with life, coping with life stressors and trauma (Lyubomirsky, 2007; Ryff, 1989a; Seligman, 2004). Positive relationships also serve as a buffer for the onset of psychopathology (Lyubomirsky, 2007). Therefore it is an integral part of sustainable happiness (Seligman, 2002).
Environmental Mastery	Environmental mastery refers to the ability to accept, influence and change the environment in order to be more conducive to one's current needs and wants (Ryff, 1989a; Ryff & Singer, 2008). It also refers to the level of competence one portrays in managing the complexities of external activities which are conducive to one's personal needs and values (Manderscheid, Ryff, Freeman, McKnightly-Eily, Dhirga, Strine & Williams, 2010).	Individuals who show high levels of environmental mastery are less likely to show signs of depression and anxiety, and are more inclined to show higher levels of positive mental health (Manderscheid et al., 2010; Ryff & Singer, 2003).
Purpose/Meaning in Life	Meaning is a collective term, encompassing an understanding of one's position in the broader spectrum as well as receiving a return on investment in the energy one invests in certain activities (Ryff, in press).	Understanding the purpose and meaning in one's life is central to the understanding and achievement of happiness (Ryff & Singer, 1998). Furthermore, meaning relates to various positive psychological end-results such as engagement, satisfaction with life, as well as individual and group performance (Seligman, 2011)
Personal Growth	Personal growth refers to the inherent human need of understanding and actualising one's potential (Ryff, 1989a). Ryff and Singer (2003) argued that well-being and happiness is facilitated by a desire to grow and to develop as an individual.	Personal growth is associated with a feeling of continued personal development, openness to new experiences, as well as a sense of realising one's potential. Personal growth is also associated with a feeling that one could always improve and that one's life position isn't stagnant (Ryff & Keyes, 1995; Wood & Joseph, 2010).
Autonomy	Autonomy refers to the ability to be self-determined and independent, to resist social pressures to conform and to evaluate oneself by one's own personal standards (Ryff, 1989; Ryff & Keyes, 1995; Wood & Joseph, 2010).	Individuals with high levels of autonomy are also perceived to have an internal locus of control, and do not seek the approval of others (Ryff, 1989b).

Empirical validation of this six-factor model was done in 1996 (Ryff & Keyes, 1995). A sample of 1108 participants across the USA was taken and the statistical factor structure of PWB correlated congruently with the conceptual model developed by Ryff (1989a). The model proved to be a superior fit in relation to other empirical hedonic models and conceptual models of the time (Ryff & Keyes, 1995; Ryff & Singer, 2008). Furthermore, various interventions have been developed and empirically validated based on PWB (Coscarelli, Recklitis, & Ahmed, 2011; Duckworth, Steen, & Seligman, 2005; Fava, 1999). However, from this perspective, eudaimonic happiness is still seen as a subjective experience. In contrast, scholars and philosophers who view eudaimonia as an objective condition prefer to define this as *human flourishing*, rather than happiness (Seligman, 2011; Waterman et al., 2010).

Flourishing

Drawing elements from both the hedonic and eudaimonic approaches towards happiness, flourishing is an integrative theory that combines these two theorems into a single multidimensional approach towards happiness (Dunn & Dougherty, 2008; Fredrickson & Losada, 2005). They defined human flourishing as living in an optimal range of human functioning, a life that is filled with goodness, generativity, personal growth and resilience. Keyes (2005) added that human flourishing can be seen as a syndrome relating to an individual's subjective well-being with elevated levels of psychological, emotional, and social well-being. Keyes (2005, p. 7) summarised flourishing as “a syndrome of subjective well-being which combines feeling good (emotional well-being) with positive functioning (psychological and social well-being)”.

Keyes (2005, 2006, 2007) operationalized flourishing as a theory of happiness combining three approaches. Firstly, drawing from the work of Diener, Suh, Lucas, and Smith (1999), emotional well-being accentuates the presence of positive emotions and a feeling that one is satisfied with life. Building on the framework developed by Ryff and Keyes (1995), PWB further relates to a positive evaluation of the self that includes a sense of satisfaction with one's achievements, having a purpose in life and developing/growing as an individual. Finally, building on his own work, Keyes (2005) emphasised the importance of social well-being (Keyes, 1998). This refers to the quality of the relationships one has with others, including positive appraisals of others and believing that one is making a constructive

contribution to the larger system (Keyes, 1998, 2005). From these dimensions, Keyes (2010) developed diagnostic criteria for living a flourishing life (*see* Table 3.3).

Various studies regarding the diagnostic criteria of flourishing have been conducted since its development (Howell, 2009). Higher levels of flourishing have shown to have positive life and work outcomes, such as lower levels of absenteeism, higher levels of self-determination, internal motivation to perform (Keyes, 2006), increased levels of academic performance, lower levels of procrastination (Howell, 2009), increased energy and self-control (Keyes & Westerhof, 2011). Furthermore, patients with higher levels of flourishing tend to recover faster from illness and are less likely to fall into a relapse (Keyes, 2010). Although this model integrates the hedonic and eudaimonic perspectives, there is limited research regarding the physical application of the model in applied science. Although Keyes' model on human flourishing is widely accepted as an acceptable model for predicting happiness or human flourishing little applied research exists regarding its utilisation in intervention studies (Boyes, Girgis, D'Este, & Zucca, 2011). Therefore, the effectiveness of the model as a practical approach towards developing positive emotions through interventions, is questionable (Giannopoulos & Vella-Brodrick, 2011a, 2011b).

Table 3.3
Diagnostic Criteria and Symptom Descriptions

No	Symptom	Description
<i>Hedonia: Requires high level on at least one symptom scale.</i>		
1	Positive affect	Regularly cheerful, in good spirits, happy, calm and peaceful, satisfied, and full of life
2	Satisfaction with life	A general feeling that one is satisfied with all aspects of one's life.
<i>Positive Functioning: Requires high level on six or more symptom scales.</i>		
3	Self-acceptance	Holds positive attitudes towards oneself and one's past life, and concedes and accepts varied aspects of oneself
4	Personal growth	Shows insight into own potential, sense of development, and open to new and challenging experiences
5	Purpose in life	Holds goals and beliefs that affirm a sense of direction in life, and feel as though life has purpose and meaning
6	Environmental mastery	Exhibits capability to manage complex environment around one's self, and can select, manage and shape environmental elements to suit needs
7	Autonomy	Exhibits self-direction that is often guided by own standards, as well as socially accepted or conventional internal standards, while resisting unpleasant social pressures
8	Positive relationships	Has warm, satisfying, trusting personal relationships, and is capable of empathy and intimacy

9	Social contribution	Feels that one's life is useful to society and as though the output of one's own activities are valued by or valuable to others
10	Social coherence	Interested in society or social life, feels as though society and culture are intelligible, somewhat logical, predictable, and meaningful
11	Social acceptance	Exhibits a positive attitude toward others, while acknowledging and accepting people's differences and complexity
12	Social integration	Has a sense of belonging to a community, and derives comfort and support from that community
13	Social actualization	Believes that people, social groups, and society have potential and can evolve or grow positively

Taken and adapted from source: *Keyes (2010). Complete mental health: An agenda for the 21st century*

Similarly, Seligman (2011) developed a new model for human flourishing. Seligman (2011) argued that individuals are at their happiest when they have PERMA. PERMA is an acronym that stands for **P**ositive emotion, **E**ngagement, positive **R**elationships, **M**eaning and **A**ccomplishments (Seligman, 2011).

Positive emotions refer to emotions relating to the enjoyment of the here and now (Seligman, 2011). Seligman (2011) argued that the experience of positive emotion is vital to flourishing, as long as the other elements of PERMA are in place. Secondly, engagement entails being highly involved in the activities of one's life, which are coupled with a feeling that time stands still as one loses one's self in the current activity (Seligman, 2011). Thirdly, positive relationships are the most influential component in human happiness and well-being (Foregeard, Jayawickreme, Kern & Seligman, 2011). Fourthly, meaning is concerned with a feeling that one is connected to something larger than one's self, serving a cause bigger than one's self (Seligman, 2011).

The final component is accomplishment/achievement (Seligman, 2011). Accomplishments can be defined in terms of the achievement or mastery of a particular domain at the highest level possible (Seligman, 2011). At an individual level, this can be defined in terms of achieving a desired state and realising pre-identified goals (Foregeard et al., 2011; Seligman, 2011). Achievement has also been shown to correlate highly with aspects of perceived competence (Seligman, 2011). Seligman argued that human flourishing and well-being relates to the experience of these five elements (PERMA). However, as of August 2012, no empirical evidence is available to substantiate this argument.

Authentic happiness (Orientations to happiness)

Seligman (2002) proposed an integrated model for happiness based on hedonic and eudaimonic principles. He stated that happiness is routed in three dimensions, namely in pleasure ('the pleasant life'), engagement ('the good life') and meaning ('the meaningful life'). The pleasant life entails the pursuit of activities that provide the participant with temporary feeling of joy (Park, Peterson, & Ruch, 2009; Peterson et al., 2005; Seligman, 2002). The good life entails being highly engaged in the activities of one's life (Park et al., 2009; Peterson et al., 2005; Seligman, 2002). The final route towards happiness is through experiencing life as being inherently meaningful (Seligman, 2002). The meaningful life is concerned with a feeling that one is connected to something larger than one's self (Park et al., 2009; Peterson et al., 2005). The experience of pleasure and engagement are subjective (Peterson et al., 2005) whereas meaningfulness is partly objective and rooted in a sense of purpose that goes beyond life's pleasures and desires (Peterson et al., 2005; Seligman, 2002; Wrzesniewski, McCauley, Rozin & Schwartz, 1997). Research conducted by Peterson et al. (2005) has reflected that the three orientations to happiness are empirically distinguishable, yet interrelated.

Methodology for positive psychological interventions aimed at happiness

Approaches to promote happiness

Limited research exists regarding the most appropriate methodology to facilitate the development of happiness within individuals. There seems to be a theoretical debate regarding the effectiveness of current approaches towards positive psychological interventions (PPIs) since most applied researchers do not agree upon the methodology to be used (Delle Fave et al., 2011; Sin & Lyubomirsky, 2009). Recent studies have found mixed results regarding the implementation of PPIs (Delle Fave et al., 2011; Sin & Lyubomirsky, 2009). However, it seems that recent arguments in the literature suggest that happiness should be introduced as an outcome in therapy, counselling and people-development (Provencher & Keyes, 2011). Happiness is associated with optimal individual functioning (Peterson & Seligman, 2004; Seligman, 2011), which implies that the methodology to be used in the development of this emotion is vital for both practitioners and researchers. This section aims to highlight the approaches towards the development PPIs aimed at promoting happiness.

Provencher and Keyes (2011) argued that happiness and enhanced optimal well-being should be introduced as an outcome in any form of psychological development. Since more than half the world's population report being unhappy (Seligman, 2002), and even less than 20% seem to be flourishing (Keyes, 2007; Seligman, 2011; Sin, Della Porta, & Lyubomirsky, 2011), it is imperative to utilise a theoretically sound methodology to help facilitate the development of happiness in individuals. In order to select a methodology, it is imperative to understand what PPIs are and how they differ from clinical interventions.

In recent years many practitioners and researchers have utilised the principles of positive psychology to treat psychopathology and to facilitate the development of psychological well-being (Della Porta et al., 2009; Seligman, Steen, Park, & Peterson, 2005). In therapy, focusing on 'what is right' with a person, rather than 'what is wrong', showed better end-results in a shorter period of time than the traditional approaches (Peterson & Seligman, 2004; Smith, 2006). Similarly, Smith (2006) states that a positive approach towards counselling enhances resilience, builds on self-esteem and promotes happiness. The focus of PPIs is cementing 'what is right' within the individual and increasing positive emotions (Della Porta et al., 2009). PPIs refer to methods, intentional activities or treatments aimed at developing positive emotions, positive cognitions and positive behaviours in order to enhance the well-being of an individual (Della Porta et al., 2009; Seligman et al., 2005). These interventions target activities relating to individual strengths (Peterson & Seligman, 2004), and cultivating positive emotions (Della Porta et al., 2009) to enhance optimal development.

In contrast, many interventions aimed at alleviating, remedying, treating or healing psychopathology exist today (Della Porta et al., 2009; Seligman et al., 2005). Yet, these interventions do not fit the definition of a PPI (Sin & Lyubomirsky, 2009). These interventions are rather built on alleviating the pathology through facilitating progress from 'negative' to 'normal' functioning (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011). Although many of these interventions have been scientifically validated to improve a pathological state (Della Porta et al., 2009; Lyubomirsky et al., 2011; Sin & Lyubomirsky, 2009; Seligman, 2011), these interventions do not build on the existing strengths of the client and empower him/her to utilise the internal and external resources available (Seligman, 2011). Rather, they are focussed on the development of skills associated with self-exploration, which culminates in the development of coping mechanisms rather than cure (Ross & Devereil, 2005; Seligman, 2004).

However, PPIs are not without their criticisms. Previous research has indicated that PPIs produce mixed results (Della Porta et al., 2009; Sin & Lyubomirsky, 2009). PPIs structured around individual strengths, personal meaning, engagement and happiness have been shown to be very effective in the past (Seligman et al., 2005). Interventions structured around meaning have been shown to have a tremendous impact on overall life satisfaction, hope, optimism and resilience (Seligman, Rashid, & Parks, 2006). Research suggests that when one is experiencing meaning in one's life/work, it would lead to higher levels of engagement (Van Zyl, Deacon, & Rothmann, 2010) and life satisfaction (Peterson et al., 2005). Nevertheless, some interventions have shown to have no effect on participants, in either the control or placebo groups (Della Porta et al., 2009; Froh, Sefick, & Emmons, 2008). In other studies PPIs have been shown to be useful in inducing positive emotions, engagement, and meaning in life (Seligman et al., 2005). Therefore, it is unclear whether the current methodology utilised in PPIs is effective (Della Porta et al., 2009). It is, therefore, vital that the effectiveness of the methodology used by PPIs should be more thoroughly investigated.

Methodology of PPIs

PPIs are being increasingly used in clinical therapy and people-development today (Layous, Chancellor, Lyubomirsky, Wang, & Doraiswamy, 2011). These interventions assist the client in developing positive thoughts, behaviours and emotions to help develop past the point of simply 'not feeling well' to a point of flourishing (Layous et al., 2011; Seligman, 2011). Most of these PPIs are aimed at 'self-help' remedies that do not require much professional assistance (Sin & Lyubomirsky, 2009; Seligman, 2011) and are relatively easy to incorporate into the daily lives of an individual (Della Porta et al., 2009). However, since the introduction of positive psychology as a new paradigm in the social sciences, thousands of 'self-help books' have appeared on the bookshelves claiming to have the 'magic potion' for personal development and growth (Seligman, 2011). In the initial years, this greatly discredited PPIs as mechanisms through which development could take place (Lyubomirsky, 2011; Seligman, 2011). Recently, applied research in the field of positive psychology has shifted from theory testing to intervention validation (Boehm, Lyubomirsky, & Sheldon, 2011; Lyubomirsky et al., 2011; Lyubomirsky, 2011). In a meta-analysis on 51 intervention studies, Sin and Lyubomirsky (2009) found that PPIs are generally broken down into three approaches: (a) Self-administered intentional activities; (b) Group-administered interventions; and (c) Individual coaching, counselling or therapy (*see* Table 3.4).

Table 3.4

Summary of the Types of PPIs

NO	METHOD	DESCRIPTION	EXAMPLES OF INTERVENTIONS	POSITIVE ASPECTS	NEGATIVE ASPECTS
1	Self-administered intentional activities	Refers to intentional individual activities crafted to increase positive affect (Lyubomirsky, 2011; Seligman, 2011). These necessitate that the participant practices various intentional activities without the assistance of a professional (Lyubomirsky, 2011)	Writing letters of gratitude, practicing optimism, investing in social relationships, performing acts of kindness and using one's signature strengths (Lyubomirsky, 2011; Magyar-Moe, 2009; Peterson & Seligman, 2004; Seligman, 2004, 2011; Sin & Lyubomirsky, 2009).	These activities are cost-effective and do not require the assistance of a professional in order to enhance positive mood (Sin & Lyubomirsky, 2009). Interventions aren't strenuous and they are not time-consuming (Lyubomirsky, 2011; Seligman, 2011).	Activities require high levels of self-regulation, commitment and persistence (Lyubomirsky, 2007). Participants might become bored with a given activity, and disengage before the benefits begin to show (Seligman, 2011). If these activities are over practiced, then it might lose its potency (Lyubomirsky, 2007). Not as effective as group interventions and individual therapy (Lyubomirsky, 2007, 2011; Seligman, 2011).
2	Group-administered interventions	These interventions are aimed at improving an entire system's behaviours, cognitions and emotions (Magyar-Moe, 2009). This involves group-work, group-planning and group implementation of all the elements of a selected intervention (Magyar-Moe, 2009).	Training workshops aimed at teaching skills, appreciative inquiry, family counselling, dialogue forums, group therapy, group decision support systems (Lyubomirsky, 2011; Sin & Lyubomirsky, 2009).	Changes that are implemented are system-wide. There is greater commitment to changes in the system. These interventions develop social support which facilitates commitment to the intervention (Sin & Lyubomirsky, 2009).	Can be very costly and time-consuming (Sin & Lyubomirsky, 2009). These interventions are tailored to 'overall needs' and might undermine individual needs.
3	Individual coaching, counselling or therapy	Refers to a process where a professional (e.g. psychologist, social worker, coach) engages with an individual in order to facilitate change in behaviour, cognitions and affect (Seligman, 2011). This process is tailored to the specific needs, interests, environment and strengths of individuals (Sin & Lyubomirsky, 2009).	Cognitive behaviour therapy (Sin & Lyubomirsky, 2009), an analytical strengths-based systems approach towards development (Van Zyl & Stander, 2011), forgiveness and mindfulness (Lyubomirsky, 2007), Logotherapy (Wong, 2011).	Interventions are tailored to the needs of the individual and can be adapted (Seligman, 2011). Highest success rate in changing behaviours and developing positive emotions (Wong, 2011).	Can be very costly and time-consuming (Sin & Lyubomirsky, 2009). Success is based on the individual's desire to change (Seligman, 2011). Requires a professional in order to help facilitate the change (Seligman, 2011).

Self-administered intentional activities teach clients ways to increase positive behaviours, cognitions and emotions through the use of various validated intentional activities such as writing letters of gratitude, practicing optimism, investing in social relationships, performing acts of kindness and using one's signature strengths (Lyubomirsky, 2011; Peterson & Seligman, 2004; Sin & Lyubomirsky, 2009). Burton and King (2004) found that writing about intense positive experiences significantly increased positive affect over a four week period. Similarly, Froh et al. (2008) found that in a group of 114 adolescents, expressing gratitude had a tremendous impact on overall life satisfaction and the experience of positive

affect during a four-week period. In the same way, Seligman et al. (2005) found, in a sample of 411 individuals, that through expressing gratitude, engaging in personal strength activities and investing in relationships, overall happiness significantly increased over a period of 12 weeks. These intentional activities can, thus, be utilised by the individual as tools to prevent relapses in response to negative emotional triggers, but can also be used to enhance personal well-being and happiness (Sin & Lyubomirsky, 2009). When utilising these intentional activities without any professional help, the individual might feel empowered to develop and feel more in control of his/her current situation (Lyubomirsky, 2011). This has a significant impact on aspects relating to self-esteem building resilience, and developing a sense of hope within the individual (Magyar-Moe, 2009; Seligman, 2011).

However, one major drawback to this approach is that it involves high levels of self-regulation, dedication and discipline (Magyar-Moe, 2009). Some individuals, especially those suffering from psychopathology, might find it difficult to commit to the utilisation of these intentional activities, as it lacks some form of social support and requires high levels of self-discipline (Magyar-Moe, 2009). Individuals suffering from negative emotional states (such as depression and anxiety) might find it difficult to commit to these activities in the long run, since they may perceive no short-term positive end-results (Magyar-Moe, 2009; Peterson & Seligman, 2004). Conversely, the experience of ‘quick-wins’ are vital for individuals suffering from mood disorders such as depression and anxiety (Magyar-Moe, 2009; Ross & Deverell, 2005). Individuals expect a ‘miracle cure’ for their problems, and since these intentional activities do not provide immediate results, most individuals would abandon them in the pursuit of something new (Magyar-Moe, 2009; Ross & Deverell, 2005). Self-administered activities are not as effective as group interventions and individual therapy (Sin & Lyubomirsky, 2009; Sin et al., 2011). Nonetheless, engaging in these self-administered activities significantly enhance well-being and happiness of individuals in comparison to those engaging in neutral activities, or those who engage in no activity (Sin & Lyubomirsky, 2009).

Group interventions are aimed at system-wide improvements (Magyar-Moe, 2009). Here the focus is not on changing the behaviour, emotions and cognitions of a single individual, but rather that of the group (Magyar-Moe, 2009). The focus lies on group-work, group-planning and group implementation of all the elements of a selected intervention (Magyar-Moe, 2009; Sin & Lyubomirsky, 2009). These interventions aim to improve the system which, in return,

improves the individual's well-being (Magyar-Moe, 2009; Sin & Lyubomirsky, 2009). Group-based interventions not only address their aims, but also foster the development of social support (Sin & Lyubomirsky, 2009). Furthermore, although little research exists regarding positive psychological group interventions, the results of these interventions have been shown to have greater effect sizes (r ranging from 0.30 to 0.60) than neutral group-based interventions (Sin & Lyubomirsky, 2009). This indicates that, while research regarding positive psychological group interventions is limited, these interventions show immense promise for improving the well-being and lives of individuals and groups (Sin & Lyubomirsky, 2009).

Finally, positive *individual coaching, counselling or therapy* aims to improve positive affect, positive behaviour and positive cognitions of individuals through an individualised process tailored to the needs, environments and signature strengths of the client (Magyar-Moe, 2009; Peterson & Seligman, 2004; Seligman et al., 2005; Sin & Lyubomirsky, 2009; Smith, 2006). Positive individual therapy draws from various other branches of psychology (such as the humanistic or psychodynamic paradigms) with a positive twist (Seligman et al., 2006). Positive psychotherapy encourages individuals to focus on positive emotions and build strengths in order to address current challenges and developmental areas (Seligman et al., 2006; Smith, 2006). While approaches towards positive individual therapy vary greatly, there is consensus on preferred models (Wong, 2011). Some positive psychotherapies, which draw from cognitive behaviour therapy, aim to change the client's view of their current challenges by shifting their perception of themselves from a victim- to a survivor mentality (Smith, 2006). Here, the client needs to speak about his/her challenges from a survivor perspective, rather than from a victim perspective (Smith, 2006).

Since clients have a natural tendency to narrate their life stories from a victim perspective; clients need to be facilitated in the skill of telling their story as survivors (Della Porta et al., 2009). Retelling one's story from such an approach manipulates the personal unconscious to redefine the event in a strength-based manner (Smith, 2006). Smith argued that when an individual is forced to retell the story whereby the client's courage is highlighted, the individual is more inclined to distance him/herself from the situation. Through utilising teleology in the probing process (for example, by asking probing questions such as 'What do you think this situation prepared you for?' or 'How do you think this affected that?'), the client attaches a sense of meaning to the event, which results in the client feeling more

empowered. The focus is on reinforcing the strengths the client utilised in a situation in order to facilitate self-awareness and personal development. New proven positive approaches towards individual therapy are founded in competency-based development (Van Zyl & Stander, 2011). From this perspective, individuals are assessed and developed in terms of various life/work competencies required for positive living. Developmental areas are identified through the use of various assessment and observation methods where developmental strategies are implemented based on the individual's natural strengths (Peterson et al., 2005).

It would seem that there exists a whole host of approaches towards developing happiness, however none of them in isolation seems to be the ideal (Lyubomirsky, 2011). An integrative methodology for happiness interventions needs to be developed through incorporating the key elements of each approach. To facilitate happiness, there needs to be a combination of self-administered intentional activities, group interventions and individual coaching, counselling or therapy.

DISCUSSION

The aim of this study was to investigate the main streams of research on happiness, the approaches/models flowing from these philosophies and the methodology of happiness interventions. The results showed that there is still little consensus amongst researchers regarding the conceptualisation of the concept happiness, as well as the methodological components for interventions. There also seems to be confusion in the literature between the concepts of 'well-being' and 'happiness'. The results showed three causes for failing interventions: (a) unidimensional models/approaches towards happiness; (b) targeting the concept of happiness and not the mediating factors; and (c) fragmented methodological interventions. The study suggests a multidimensional model for happiness and happiness interventions based on the work of Keyes (2002), Seligman (2002) and Deci and Ryan (2002). Furthermore, the article proposed that a multi-faceted methodology be implemented for happiness interventions, comprising: (a) self-administered intentional activities; (b) group administered interventions; and (c) individual coaching.

Lyubomirsky (2011) argued that positive psychological interventions should be structured around sound theoretical models. These models need to be multidimensional in order to

ensure that development takes place on various levels, to the end that happiness is sustainable (Keyes, 2010; Seligman, 2011; Lyubomirsky & Della Porta, in press). Multidimensional approaches towards developing happiness in the literature are lacking. SWB, HWB, and EWB are considered unidimensional in nature (Yew-Kwang, in press), and thus interventions structured around unidimensional approaches tend to be short-lived and produce mixed results (Seligman, 2011; Sin & Lyubomirsky, 2009). These interventions aim to address either the psychological, cognitive, emotional or behavioural components of an individual's psyche. This fragmented approach results in two or more of the aforementioned components not being developed or addressed (Giannopoulou & Vella-Brodricka, 2011a, 2011b). This opens up the possibility for relapse and regression back to the original mental state (Seligman, 2011), which negates the possibility of using, either of these approaches in isolation for developing sustainable happiness.

Happiness interventions should, therefore, be targeting multiple facets of the psyche in order to ensure that lasting happiness develops (Lyubomirsky, 2011). Three such approaches were addressed in this article, namely psychological well-being, authentic happiness and flourishing. Both Ryff and Keyes's (1995) six factor model for psychological well-being and Deci and Ryan's (2002) self-determination theory address various key psychological components necessary for developing happiness. However, both lack the emotive and behavioural component necessary for ensuring sustainable happiness.

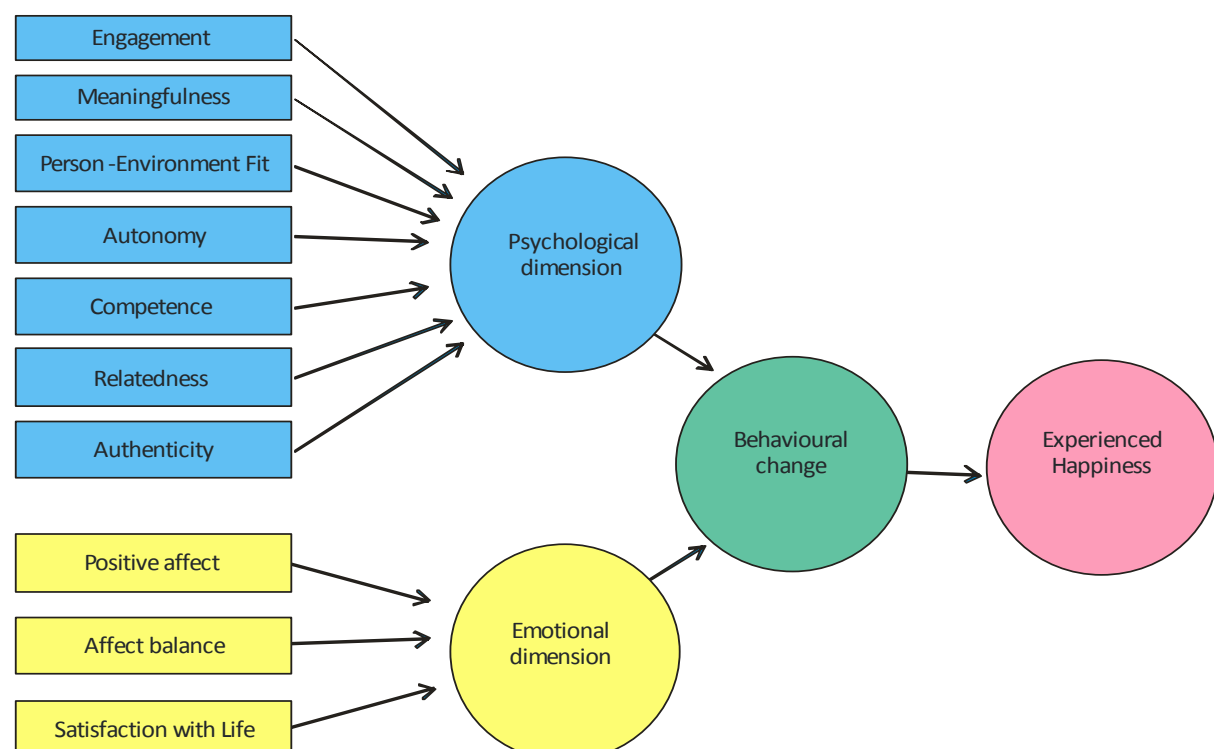
Seligman's (2002) conceptualisation of authentic happiness has enjoyed much empirical attention since its inception. It incorporates both the psychological and emotive components in its conceptualisation (Seligman, 2002). However, Seligman (2011) argued that the model is not comprehensive in predicting and sustaining lasting happiness. This approach lacks both a social component and a sense of objective accomplishment, which are integral to lasting happiness (Keyes, 2010; Seligman, 2011). To compensate, Seligman (2011) proposes PERMA as an alternate approach for developing flourishing in clients.

PERMA is a multidimensional model aimed at understanding and predicting well-being and flourishing (Seligman, 2011). Yet, no empirical evidence for the model exists in the literature. Although it addresses the psychological, emotional, behavioural and social components required for lasting happiness, it is yet to be scientifically proven. Another approach towards flourishing is that suggested by Keyes (2002).

Keyes' (2002) argued that flourishing has an emotional, psychological and social component. These components are core to understanding happiness (Keyes, 2010; Lyubomirsky, 2011; Seligman, 2011). This approach is widely adopted by researchers and practitioners as a multi-faceted approach for understanding happiness and flourishing (Keyes, 2010). Keyes (2007) integrates the eudaimonic and hedonic approaches with social well-being, to form the most comprehensive approach towards happiness currently available. This model assumes that happiness and well-being are not merely the result of internal psychological processes, but also one's relationships and social contributions. However, it lacks the behavioural component necessary for lasting happiness, as suggested by Lyubomirsky (2011).

Albeit all these models are thorough in their conceptualisation, from research it is apparent that most of these models lack various key components in order to instil lasting happiness. It is the opinion of this researcher that none of these models in isolation are comprehensive enough to develop lasting and self-sustaining happiness. However, the combination of Keyes's (2002, 2005, 2007) mental health continuum or flourishing model, combined with Seligman's (2002) authentic happiness approach, Deci and Ryan's (2002) self-determination theory, and Authenticity and Person-Environment Fit would provide a theoretically sound, all-encompassing foundation from which to approach happiness (*see* Figure 3.1).

Figure 3.1. Conceptual model for happiness



From these perspectives, numerous definitions and conceptualisations of happiness have been defined. Resulting from these insights, a new definition of happiness was developed: A positive affective state of contentment characterised by a sense of joy derived from living a meaningful life, establishing and maintaining positive relationships, and being well (psychologically, socially and emotionally) through living a life of virtue.

With this definition, one will need to establish the appropriate methodology to promote happiness through happiness interventions. From the literature it is apparent that there is little consensus on a preferred methodology to develop happiness. Three main approaches were highlighted, namely (a) Self-administered intentional activities; (b) Group interventions; and (c) Individual Positive Therapy (Lyubomirsky, 2011). Although these approaches have shown some promise, the results of several PPI studies have shown mixed results. It is the opinion of this researcher that an integrative methodology should be used that incorporates the elements of all three approaches. The first step would be to develop a group-based intervention, focused on the development of self-awareness and teaching the skills associated with the onset of happiness. During this process, various individual intentional activities could be introduced as possible routes towards developing happiness. These intentional activities would need to be adapted to be in line with the individual's unique personal strengths and preferences, in order to ensure successful continuity in their application (Lyubomirsky, 2011; Seligman, 2011). The final step would be to facilitate the implementation of these intentional activities through individual positive therapy. In this phase the skills acquired during the group session(s) will be transferred to the individual's current life position, and will facilitate the development of a 'survivor' mentality.

There are various limitations to this research. Firstly, the keywords selected to describe happiness and positive psychological interventions in the database searches might have resulted in important published research being overlooked. Research was also limited to peer-reviewed scientific journals and books, as well as those dissertations and theses that conceptualise happiness and the PPI methodology. Furthermore, only psychological theories were discussed. Finally, only articles were limited to those written in English and Afrikaans as a result of the researcher's competence in these languages, which means that possible relevant articles that may have been published in different languages would also have been excluded from the literature review. Although, the highest rated journals publish in English.

RECOMMENDATIONS

Recommendations for future research would be to validate both the conceptualised definition of happiness as well as the proposed methodology on an empirical level. A qualitative interview-based approach is suggested to validate the definition. Furthermore, both cross-sectional and longitudinal studies can be conducted to test the model through the use of structural equation modelling. In addition, future research should aim to address the cross-cultural impact of happiness and to develop a valid measuring instrument within a South African context of the construct.

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CHAPTER 4

RESEARCH ARTICLE 3

BEYOND SMILING: THE EVALUATION OF A POSITIVE PSYCHOLOGICAL INTERVENTION AIMED AT STUDENT HAPPINESS

ABSTRACT

The aim of this study was to develop and evaluate a positive psychological intervention (PPI) aimed at increasing happiness of students in a tertiary educational institution. An eight-month-long, pre-experimental longitudinal study examined the immediate and longer-term effects of a PPI aimed at increasing happiness of students ($n = 20$) in a tertiary educational environment. The PPI was presented in two phases: (a) a three day self-development workshop and (b) six sessions of individual coaching. The intervention focused on facilitating development on two levels, namely a psychological (engagement, meaning, person-environment fit, autonomy, competence, relatedness and authenticity), and emotional (pleasure, affect balance and life satisfaction) level. The Satisfaction with Life Scale, Positive and Negative Affect Scale, Orientations to Happiness Questionnaire, Basic Psychological Needs Scale, the Authentic Self Inventory and Person-Environment Fit scale were used as diagnostic instruments. The pre-test was administered 90 days before the first phase of the intervention. The post-test was conducted one month after the second phase of the intervention (group based development) had ended, and the post-post test was conducted four months after the individual coaching sessions. Non-parametric statistical techniques were used in order to analyse the data, as a result of the small sample size ($n < 30$) (Salkind, 2012). The results indicated that the overall happiness of a student increased through developing individuals on both an emotional and psychological level. The results showed some scientific merit to a multi-faceted approach towards PPIs. The PPI affected all the aspects conceptualised in this study, except for two components of authenticity: Authentic behaviour and relational orientations.

Keywords: Positive psychological intervention, coaching, happiness, tertiary education, positive psychology.

Achieving greater happiness is an important life goal for many individuals (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011; Seligman, 2011), although almost half the world's population report that they are unhappy (Seligman, 2004). Keyes (2002) argued that less than 20% of adults are flourishing. Most individuals would argue that achieving sustainable happiness and avoiding depression/sadness/pain is at the top of their 'bucket lists' (Lyubomirsky, 2011). Yet very few individuals achieve lasting happiness (Keyes, 2011; Lyubomirsky, 2011; Seligman, 2011). A great deal is known about the antecedents and positive consequences of happiness, but few studies have focused on developing positive psychological interventions (PPIs) that are aimed at increasing happiness (Sin & Lyubomirsky, 2009).

Attempts to enhance happiness have produced mixed results (Della Porta, Sin, & Lyubomirsky, 2009; Sin & Lyubomirsky, 2009). Research conducted that examined the effects of PPIs on depressed patients have shown significant positive results (Forbes & Dahl, 2005; Seligman, 2011), and studies have indicated that developing positive affect through the application of individual strengths diminishes individuals' negative mood (Seligman, 2011; Sin, Della Porta, & Lyubomirsky, 2011). PPIs implemented on both an individual and a group level have been shown to increase these individuals sense of well-being and overall satisfaction with life dramatically (Lyubomirsky, 2011; Seligman, 2011; Sin & Lyubomirsky, 2009). Furthermore, PPIs aimed at developing mindfulness and savouring have been found to increase internal psychological processes, such as self-regulation and quality of life (Sin & Lyubomirsky, 2009). Individual intentional activities aimed at increasing happiness (such as a gratitude visit) have been shown to have a positive impact on an individual's overall happiness, psychological well-being and social well-being (Lyubomirsky, 2011; Seligman, 2011; Sin et al., 2011). In other studies, PPIs have been shown to be useful in inducing positive affect, engagement, and meaning in life (Lyubomirsky et al., 2011; Seligman, Steen, Park, & Peterson, 2005).

On the other hand, not all studies confirmed the same effectiveness of PPIs (Della Porta et al., 2009; Froh, Sefick, & Emmons, 2008). PPIs aimed at alleviating anxiety have shown no significant results (Sin & Lyubomirsky, 2009). Similarly, interventions aimed at increasing engagement and decreasing burnout in the South African Police Service have also been shown to have no significant results (Jorgensen, 2006). Spangenberg and Orpen-Lyall (2008) attempted to decrease stress and promote coping with PPIs in a sample of South African

managers, which also produced no significant results. Furthermore, interventions are structured around different theoretical conceptualisations of happiness which have not been used in applied research. With such mixed results, evidence that is more empirical is needed in order to determine the effectiveness of PPIs.

The primary argument in the literature determining the success or failure of an intervention is centred on the moderating factors to be addressed and the methodology to be used in order to attain lasting and sustainable changes in positive affect (Della Porta et al., 2009; Seligman, 2011; Sin & Lyubomirsky, 2009). Researchers argue that using PPIs as a strategy to enhance the well-being of individuals should be aimed at addressing the internal psychological processes leading to happiness, rather than focusing on the overarching concept itself (Lyubomirsky, 2011). This means that one cannot develop aspects such as happiness in itself, but rather aspects associated with and contributing to happiness (Seligman, 2002, 2004).

From the literature it is apparent that interventions aimed at developing an individual on both a psychological and emotional level in order to facilitate a change in behaviour have been shown to produce the greatest results in terms of creating lasting and sustainable happiness and a state of flourishing (Keyes, 2002; Lyubomirsky et al., 2011; Sin & Lyubomirsky, 2009). Furthermore, Lyubomirsky (2011) argued that changing the behavioural patterns of the individual is vital for facilitating the development of lasting happiness so that the aspects leading to that sense of happiness can be maintained. A literature review revealed that a few factors are imperative to increasing and sustaining happiness (*see* Table 4.1).

Table 4.1

Summary of Moderating Factors Aimed at Increasing Happiness

Psychological dimension	Emotional dimension
Engagement	Pleasure
Meaningfulness	Balance between positive and negative affect
Person-Environment Fit	Satisfaction with Life
Autonomy	
Competence	
Relatedness	
Authenticity	

The tertiary educational environment in South Africa presents an interesting case for developing and validating PPIs. Adendorff (2009) argued that South Africa has adopted a strategy of shifting the country away from its current production-based economy towards a knowledge-based economy by 2020. Noddings (2003) argued that a knowledge-based economy refers to an economy where economic growth is stimulated through the production, distribution and application of knowledge in the larger social system. Therefore, education is central to economic prosperity and growth within South Africa. However, South Africa faces challenges with its aim to develop the country into a knowledge-based economy. Letseka and Maile (2008) argued that tertiary educational institutions are under pressure to increase student throughput, enhance academic performance and reduce dropout rates; however, South African graduation rates at a tertiary level are just below 15% (Letseka, 2007). With these increased pressures, coupled with the current grim reality, students within the tertiary educational environment are experiencing diminished levels of overall happiness and an increase in mood disorders (Noddings, 2003; WHO, 2011). This decrease in perceived happiness may result in lower academic performance, higher dropout rates and decreased study engagement (Howell, 2009; Ouweneel, Le Blanc, & Schaufeli, 2011).

It is, therefore, important to develop interventions aimed at promoting student happiness, so as to create a buffer against the onset of these pathologies and to increase academic performance (Howell, 2009). Research suggests that happy and optimistic students are more motivated to perform, show higher levels of general health and lower levels of depression, and have been shown to perform better academically (Howell, 2009; Seligman, 2011). In the past, interventions were reactive in nature and were based on addressing psychopathology (Lyubomirsky, 2011; Noddings, 2003; Seligman, 2011). No studies were found regarding the effectiveness of PPIs within a South African tertiary educational institution. It is important to test the effectiveness of PPIs in South African tertiary educational environments, and this could contribute to the development of a knowledge-based economy.

First, this study contributes to the existing literature on PPIs, through presenting an evidence-based approach towards happiness interventions. Specifically, the study contributes an empirically validated PPI aimed at increasing happiness. Second, the study contributes to the intervention literature through presenting a new integrated approach towards developing happiness interventions, by providing evidence of the effectiveness of self-administered intentional activities, group-based development and individual coaching. This study

highlights the effectiveness of individual coaching as a means through which sustainable happiness of individuals within a tertiary educational environment can be attained. Third, this study contributes to the happiness literature regarding the effectiveness of an approach directed towards addressing the moderators of happiness in order to develop sustainable happiness. Finally, scientific information and evidence regarding students' levels of engagement, meaningfulness, person-environment fit, autonomy, competence, relatedness, authenticity, affect-balance and life satisfaction will be available within a multicultural tertiary educational environment.

Achieving happiness

Happiness is defined as a positive affective state of well-being and contentment, characterised by a sense of joy that is derived from living a meaningful life, establishing and maintaining positive relationships, and being well (both psychologically and emotionally) through living a life of virtue.

Lyubomirsky (2011) argued that sustainable happiness is achieved through changing behaviour rooted in two core dimensions: (a) the psychological dimension; and (b) the emotional dimension. In order to ensure lasting happiness, a change needs to take place in terms of the internal psychological processes of the individuals, and on an emotional level in order to facilitate a change in one's behaviour (Lyubomirsky, 2011; Seligman, 2011).

Happiness rooted in the *psychological dimension* is characterised by an internally generated state of well-being feeding on its own produce (Ahmed, 2010). This implies that a psychologically healthy individual lacks pathology and can capitalise on the benefits generated by being in such a state. The psychological dimension is not associated with the experience of positive affect, but can be seen as a 'way of being' (Ahmed, 2010; Seligman, 2011). This 'way of being' is founded in eudaimonia (Waterman, 1993), which stems from the philosophical and empirical conceptualisations of engagement (Kahn, 1990), meaning (Frankl, 1988), person-environment fit (Erikson, 1968; May, Gilson, & Harter, 2004; Warr, 2007), self-determination theory (Deci & Ryan, 2002) and authenticity (Kernis & Goldman, 2006). These manifold theoretical frameworks will serve as the foundation for this study's conceptualisation of the psychological dimension of happiness.

The conceptualisation of engagement is rooted in the work of Kahn (1990). Engagement is a subjective experience that is the result of a balance between personal challenges and personal competence, which results in physical, cognitive and emotional immersion in activities (Kahn, 1990; Olivier & Rothmann, 2007). This implies that engagement refers to individuals being psychologically present when performing a given task (Kahn, 1992). The key to achieving higher levels of engagement is to identify and utilise one's unique strengths in order to re-craft one's life/work (Seligman, 2011). Engagement has various positive outcomes for individuals and institutions, such as higher levels of positive affect and academic performance, as well as increased self-regulation and personal commitment (Ouweneel et al., 2011; Peterson, Park, & Seligman, 2005).

The concept of meaning stems from the work of Frankl (1955, 1976). Frankl (1976) defined meaning as an inherent need to make sense of life through serving some worthy purpose in order to combat the existential vacuum which produces psychopathology. Frankl (1988) argued that meaning is comprised of three components: the search for meaning, the experience of meaning, and the meaning that individuals attach to circumstances or entities. These philosophical conceptualisations have been empirically confirmed through research (Steger, in press). Higher levels of meaning have been shown to produce higher levels of commitment to attaining goals (Bundick, 2011), higher levels of academic achievement (Cooper, 2011), stronger and healthier relationships with peers and enhanced levels of overall well-being and happiness (Noddings, 2003; Seligman, 2011). Given that meaning reflects a personal connection or a sense of purpose to activities (Spreitzer, 1995), it is expected that individuals with higher levels of meaning may produce higher levels of academic performance and happiness. Individuals should, therefore, be guided through a process of meaning-making, where the individual is provided with the opportunity for deepening spiritual connections, self-examination and creating personal meaning.

The perceived fit between one's current work/life role and one's environment is referred to in the literature as person-environment fit (Noddings, 2003). Person-environment fit is a multi-dimensional concept that is concerned with the match or goodness of fit that exists between one's values, attitudes, goals and personality traits with the environment in which they function (Greguras & Diefendorff, 2009). Greater 'fit' between the demands from the environment and the individual's abilities/values/attitudes/goals/personalities has been shown to reduce psychological strain (McMichael, 1978; Meyers, 2007; Werbel & Gilliland, 1999)

and increase happiness in that domain (Lyubomirsky, 2007; Seligman, 2011). Within the tertiary educational environment, there needs to be a fit between the students' studies and their abilities/values/attitudes/goals/personalities in order to ensure higher levels of perceived meaning (May et al., 20004) and improved study engagement (Noddings, 2003).

Self-determination theory (SDT) is a needs-based motivational theory, which assumes that individuals have an inherent desire to actualize/optimize their potential which is based on their ability to satisfy inherent psychological needs (Ryan & Deci, 2000). Deci and Ryan (2002) argued that these inherent psychological needs are autonomy (i.e. the need to exert control over the environment and behaviour), competence (i.e. the need to feel functional, useful and effective when interacting with others and the environment) and relatedness (i.e. the need to be accepted by a group, and to be loved and cared for). Van den Broeck, Vansteenkiste, and De Witte (2008) indicated that satisfying these inherent psychological needs produced higher levels of internal motivation, which results in various positive outcomes such as increased levels of happiness. Higher levels of autonomy have been shown to increase overall feelings of perceived happiness and life satisfaction (Dwyer, Hornsey, Smith, Oei, & Dingle, 2011; Howell, Chenot, Hill, & Howell, 2011). The satisfaction of one's need for competence results in increased motivation to achieve higher level outcomes such as increased academic performance (Chirkov et al., 2011; Deci & Ryan, 2002; Noddings, 2003). Cultivating relatedness manifests in building lasting and nurturing relationships, which in turn manifests in various positive end-results, such as resilience, positive affect and satisfaction with life (Deci & Ryan, 2002; Seligman, 2011).

The final component of the psychological dimension is authenticity. Kernis and Goldman (2005, 2006) defined authenticity as the "unobstructed operation of one's true- or core-self in one's daily activities" (p. 294). Kernis and Goldman (2006) argued that authenticity is built on four inter-related concepts: (a) self-awareness, (b) unbiased processing of self-relevant information, (c) behaviour in accordance with one's values, preferences and needs, and (d) relational orientation (*see* Table 4.2 for definitions). Authenticity is the end-result of having a positive self-esteem, showing the willingness to live in accordance with one's internal set of values and to ensure genuineness in one's interactions with others (Noddings, 2003). Research suggests that higher levels of authenticity is associated with lower levels of social stress, higher levels of social support, quality friendships and higher levels of perceived happiness (Noddings, 2003; Peterson & Seligman, 2004; Seligman, 2002).

Table 4.2

Definitions of the Components of Authenticity

Concept	Definition
Self-awareness	Refers to possessing trust in and knowledge of one's motives, emotions, desires and cognitions.
Unbiased processing of self-relevant information	Refers to the level of objectivity one shows regarding the positive and negative aspects of oneself relating to emotions, experiences, private knowledge and information.
Behaviour in accordance with one's values, preferences and needs	Refers to the strength of character to present the true self even if confronted with opposition or peer pressure.
Relational orientation	Refers to valuing and striving for openness, honesty and genuineness in one's relationship with others.

Adapted from: *Kernis and Goldman (2006)*

On the *emotional dimension*, happiness is rooted in the experience of a balance between positive and negative affect (Lyubomirsky, 2011), as well as the experience of life satisfaction (Diener, 1984). Flowing from hedonism, happiness is also characterised by higher levels of positive affect (Kahneman, Diener, & Schwarz, 1999; Seligman, 2011). The emotional dimension encompasses the ability to identify and manage pressures from the external environment, which might cause emotional responses (Ahmed, 2010). Fredrickson (2008) argued that a balance needs to exist between positive and negative affect in order for individuals to flourish. Fredrickson (2008) suggested emotional well-being is categorised by a ratio of three positive emotions to each negative emotion. The balance between positive and negative affect also impacts on aspects, such as emotional maturity (Lyubomirsky, 2011; Noddings, 2003; Pekrun, Elliot, & Maier, 2009), and self-regulation (Ahmed, 2010), which have in turn been shown to have an impact on academic performance (Howell, 2009; Ouweneel et al., 2011). However, focusing solely on this dimension will not result in lasting and sustainable happiness (Peterson et al., 2005).

Seligman (2011) and Lyubomirsky (2011) argued that the focus on positive emotion (pleasure) alone will only produce short-term increases in perceived happiness and is not sustainable. This argument is substantiated by the research on the hedonic treadmill (Lyubomirsky, 2011; Noddings, 2003). The hedonic treadmill refers to the inherent, genetically predisposed set-point for the experience of positive emotion (Lyubomirsky, 2007; Seligman, 2002). Lyubomirsky (2007) argued that research conducted with lottery

winners indicated that there was a dramatic increase in the experienced positive emotion the winners felt over the period of three weeks following the win; however, after a period of six months, their perceived level of positive emotion had returned back to its original mark. This is because human beings are built to adapt to both positive and negative circumstances in order to increase the chances for the survival of the species (Lyubomirsky, 2007). It is, therefore, important to develop the skills necessary to enhance and prolong the experience of positive emotion in order to increase, strengthen and sustain feelings of overall life satisfaction (Lyubomirsky, 2011; Noddings, 2003; Seligman, 2011). One way to facilitate the development of these positive emotional outcomes is through the use of PPIs (Sin & Lyubomirsky, 2009).

Positive psychological interventions

PPIs are being increasingly used in clinical therapy and people development today (Layous, Chancellor, Lyubomirsky, Wang, & Doraiswamy, 2011; Rashid & Anjum, 2008). PPIs refer to intentional activities and/or methods of treatment that aim to nurture the development of positive emotions, cognitions and behaviours (Sin & Lyubomirsky, 2009). These interventions aid the client in developing positive thoughts, behaviours and emotions, and help the client progress beyond the point of 'not feeling well' to a point of flourishing (Layous et al., 2011; Seligman, 2011). PPIs have been shown to produce positive results on clients who present with various forms of psychopathology, such as depression, post-traumatic stress disorder, and anxiety (Sin et al., 2011; Seligman, 2011). PPIs can be used to develop positive emotions in individuals in order to help increase the recovery time from a severe illness, help prevent the common cold, improve coping skills and develop resilience (Rashid & Anjum, 2008; Seligman, 2011; Sin & Lyubomirsky, 2009). PPIs are most effective when used to address the absence of positive affect, meaning, engagement and positive relationships (Seligman, 2011; Seligman, Rashid, & Parks, 2006; Sin & Lyubomirsky, 2009). PPIs have been shown to increase well-being and happiness through targeting development on a psychological and emotional level (Lyubomirsky, 2011).

These interventions should aim to develop an individual on both a psychological and emotional domain, in order to facilitate a change in behaviour (Lyubomirsky, 2011). However, the methodology used needs to be empirically validated. Sin and Lyubomirsky (2009) argued that PPI are structured around three primary methodologies: (a) Self-

administered intentional activities; (b) Group-administered interventions; and (c) Individual therapy or coaching. Each of these methodologies has been proven to produce positive results in various settings (Sin & Lyubomirsky, 2009), however, to date no research exists regarding an integrative methodology that utilises all three of these approaches. It is, therefore, imperative to develop and evaluate a holistic approach towards PPIs through integrating all of the aforementioned methodologies.

STUDY HYPOTHESES

It was hypothesised that participation in a PPI aimed at increasing happiness would be beneficial to students within a tertiary educational institution (Hypothesis 1). More specifically, it was hypothesised that the students' level of happiness would increase through addressing aspects such as pleasure (Hypothesis 2); meaning (Hypothesis 3); engagement (Hypothesis 4); affect balance (Hypothesis 5); person-environment fit (Hypothesis 6); autonomy (Hypothesis 7); competence (Hypothesis 8); relatedness (Hypothesis 9); authenticity (Hypothesis 10 (a) awareness, (b) unbiased processing, (c) behaviour and (d) relational orientation (d)); and satisfaction with life (Hypothesis 11) during the intervention process. Furthermore, it was hypothesised that individuals participating in the PPI will present with higher levels of positive affect and lower levels of negative affect at the end of the intervention than they had presented with when they commenced with the intervention (Hypothesis 12).

METHOD

Research design

A pre-experimental research design was used to address the research objectives (Salkind, 2012). A single group (experimental group) pre-, post-, and post-post-test longitudinal design was used in conjunction with the researcher's qualitative impressions of the participants. These qualitative impressions were obtained through the researcher's extensive field notes. Surveys were utilised to obtain data about the respondents' levels of happiness at the start as it manifested in various sub domains. Three qualitative questions were posed to the participants after the completion of the programme. The pre-test was administered 90 days before the first phase of the intervention. The post-test was conducted one month after

the second phase of the intervention (group-based development) had ended, and the post-post test was conducted four months after the individual coaching sessions. Control groups could not have been used in this study as a result of students' interest levels in the programme. A total number of 60 participants were invited to partake and only 20 finally participated.

Intervention programme

A positive psychological intervention program was developed specifically to examine the feasibility of the presented hypotheses. The aim of the intervention was to encourage the participants to become aware of their signature strengths and apply it in their own lives in order to increase their experience of happiness. The intervention was divided into three phases: (a) initial orientation; (b) a three day personal and group development programme; and (c) six sessions of individual coaching. The initial orientation involved administering the pre-test as well as discussing the process of the intervention and to address any questions/concerns that the participants may have had 90 days before the intervention took place. Furthermore, during this phase the participants were also required to set personal life goals/changes over the following six months which they believed could make them happier, and indicated on a rating scale the level of intended effort they were willing to place in achieving these goals as well as their initial expectancy of achieving these goals. These questions were rated on a 5-point Likert scale ranging from 1 (*none at all*) to 5 (*very much*). The next phase of the intervention was a three day self- and group-development programme stretched across three consecutive Saturdays. After each section in the development programme, participants were assigned self-administered intentional activities that they were asked to complete during the following week and to share the results with the rest of the group. One month after this phase of the intervention the post-test was administered. This was followed six individual coaching sessions for each participant to facilitate personal development. The post-post test was administered four months after the last coaching session. A summary of the workshop programme can be found in Appendix A.

Participants

A convenience sample ($n = 20$) was drawn from the entire population of academic third year students in the field of Industrial/Organisational psychology ($N = 109$). The researcher had primary access to these students since he had presented a module to them the previous

semester. The researcher utilised this group, reasoning that rapport had already been established. As only 20 students had indicated an interest in participating in this component of the study, all of these individuals were invited to be part of the study. Table 4.3 provides an overview of the characteristics of the participants.

Table 4.3
Characteristics of the Participants (n = 20)

Item	Category	Frequency	Percentage (%)
Gender	Male	2	10
	Female	18	90
Age	19 years	1	5.0
	20 years	5	25.0
	21 years	9	45.0
	22 years	3	15.0
	23 years	0	0.0
	24 years	1	5.0
	25 years	1	5.0
Race	White	1	5.0
	African	19	95.0
	Coloured	0	0
Language group	Zulu	6	30.0
	Sesotho	9	45.0
	Tswana	1	5.0
	Venda	1	5.0
	Xhosa	2	10.0
	English	1	5.0
Marital status	Single	20	100
	Married	0	0
	Divorced	0	0
Type of employment	Employed full-time	0	0
	Employed part-time	1	5
	Unemployed	19	95

According to Table 4.3, the majority of the participants were Sesotho speaking (45%), black (95%), female (90%), and 21 years of age (45%) full time students. Furthermore, all of these individuals were single (100%) and with the exception of one who was employed on a part-time basis, all were unemployed (95%).

Measuring battery

The following questionnaires were used in the empirical study:

A *biographical questionnaire* was compiled and used in order to gather information relating to the age, gender, ethnicity, language, level of education, and level of employment of participants. Participants were also asked to provide their student numbers in order to obtain their academic performance for the first semester. Furthermore, as a result of the dual distribution channel, a unique code was developed for each participant based on responses to questions, such as “the second letter of your surname”.

The *Satisfaction with Life Scale* (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was used to measure the cognitive component of subjective well-being. The SWLS consists of five items which measure the individual’s evaluation of satisfaction with life in general (e.g. “I am satisfied with my life” and “If I could live my life over, I would change almost nothing”). Responses range from 1 (*strongly disagree*) to 7 (*strongly agree*) for each question. Responses are then averaged to provide a total life satisfaction score. Research has established acceptable psychometric properties for the SWLS (Diener et al., 1985). Reliability by means of consistency was satisfactory within a population of 167 participants, 67 of which were re-tested after one month, where a correlation coefficient of 0.82 and coefficient alpha of 0.87 were found (Diener et al., 1985).

The *Positive and Negative Affect Schedule Short Form* (PANAS-SF), adapted by Thompson (2007), was used in order to measure participants’ level of general positive and negative affect. The PANAS-SF requires participants to rate themselves on a Likert scale ranging from 1 (*never*) to 5 (*always*) the frequency with which they experience ten broad clusters of positive affect (PA; alert, inspired, attentive, determined and active) and negative affect (NA; hostile, ashamed, nervous, afraid, and upset). Thompson (2007) found the internal consistency and reliability of the I-PANAS-SF is represented by Cronbach alpha coefficients ranging from 0.78 on Positive Affect and 0.76 on Negative Affect. Affect balance is calculated by a discrepancy analysis between positive and negative affect.

The *Orientations to Happiness Questionnaire* (OHQ; Peterson et al., 2005) was used to measure the participants’ orientations to happiness. The survey measures three constructs, namely (a) pleasure, (b) meaning, and (c) engagement, through 18 items on a 5-point Likert scale, ranging from 1 (*very much unlike me*) to 5 (*very much like me*). Examples of the items include: “Life is too short to postpone the pleasures it can provide” (pleasure), “My life serves a higher purpose” (meaning) and “I seek out situations that challenge my skills and

abilities” (engagement). Peterson et al. (2005) found the internal consistency and reliability of the survey is represented by Cronbach alpha coefficients, which varied from 0.77 to 0.88.

The *Basic Psychological Need Scale* (BPNS; Ilardi, Leone, Kasser, & Ryan, 1993) was used to measure the participants’ autonomy, competence and relatedness. The survey contains 14 items which is rated on a 7-point Likert scale ranging from 1 (*not at all true*) to 7 (*very true*). Some of the items included in this measure are: “I feel like I am free to decide for myself how to live my life” (autonomy); “People I know tell me I am good at what I do” (competence); and “People in my life care about me” (relatedness). Deci and Ryan (2000) found the internal consistency and reliability of the survey is represented by Cronbach alpha coefficients ranging from 0.70 to 0.80.

The *Authentic Self Inventory* (ASI; Kernis & Goldman, 2005) was used to measure the level of authenticity of the respondents. The survey measures four components of authenticity, namely awareness, unbiased processing, behaviour, and relational orientation. The survey contains 44 items which are rated on a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Examples of some of the items included in this measure are: “For better or for worse I am aware of who I truly am (awareness)” (awareness); “I am very uncomfortable objectively considering my limitations and shortcomings” (unbiased processing); “I find that my behaviour typically expresses my personal needs and desires” (behaviour) and “I am willing to endure negative consequences by expressing my true beliefs about things” (relational orientation). Kernis and Goldman (2005) found the internal consistency and reliability of the survey is represented by Cronbach alpha coefficients ranging from 0.64 to 0.90.

An adapted version of the *Person-Environment Fit Scale* (PEF) was used to measure *person-environment fit*. It was measured by averaging four items from May et al. (2004), which directly measured individuals’ perceived fit with their jobs and self-concept. The adapted version changes the fit from “Jobs” to “Studies”. For all items, a 5-point Likert scale from 1 (*never*) to 5 (*always*) was used. Some of the items included in this measure are “My field of study ‘fits’ how I see myself”; “I like the identity my field of study gives me”; and “My field of study ‘fits’ how I see myself in the future”. According to May et al. (2004), the internal consistency of this scale in a large insurance company is represented by a Cronbach alpha coefficient of 0.92.

A *qualitative questionnaire*, based on the phenomenological paradigm, is used to explore the experiences of each individual after the intervention. Open-ended questions related to the change in the participants' happiness, as well as the components and antecedents thereof. The researcher studies the phenomenon without predetermined expectations of categories and tried to understand the data from the perspective of the participant.

Qualitative impressions of the individuals throughout the intervention were taken through the use of the researcher's extensive field notes, and were frequently used to corroborate statistical findings. These notes are attached as Appendix B.

Procedure

Before the intervention started, the process was presented to the institution's ethical committee for ethical approval. After approval had been obtained from the committee to utilise the students of the institution for the research project, the researcher made an appointment with the Departmental head of the school for Industrial/Organisational Psychology in order to obtain her approval. The researcher made arrangements to see the potential participants during the first week of classes in February 2011.

Potential participants were presented with the opportunity to join the intervention programme during their orientation classes in the beginning of the first semester. During this session, the purpose and intent of this study, along with the roles and responsibilities of all persons involved, were explained. The process of the programme was highlighted, and the potential participants were invited to attend a mandatory information session the following month. During this mandatory information session, the entire intervention was discussed in more detail and the ethical considerations were outlined and discussed. Aspects, such as the right to withdraw from the study at any time, were highlighted, and attention was drawn to the fact that the process would be facilitated by a registered industrial psychologist. The pre-test was distributed to the participants who wished to be involved in the intervention. This pre-test illuminated the purpose of the research project, and also served to emphasize the importance of confidentiality through the accompanying questionnaire where the participants provided the necessary information to be assigned a unique code, so that they could not be personally identified by the researcher. After this process, participants were presented with the first self-administered intentional activity. The conclusion of this session was used to identify the most

suitable dates for the participants on which to conduct the PPI. The three day workshop was then scheduled for three consecutive Saturdays, commencing in April 2011.

The post-test was administered one month after the self- and group development workshop. The workshop was followed by six individual coaching/development sessions for each candidate. These sessions were spread out over the course of two months. During these coaching/development sessions, the skills learned from the self- and group development workshop was made more practical and applicable to each individual's unique circumstances. The post-post-test was conducted four months after the completion of the intervention.

Statistical analysis

The statistical analysis was carried out through the use of the SPSS program (SPSS Inc., 2012). Descriptive and inferential statistics for each measurement (namely, means, minimum values, maximum values and standard deviations) were used in order to analyse the data. Exploratory factor analyses and Cronbach alphas for each measurement were used to determine the construct validity and reliability of the various surveys. Non-parametric statistical techniques were used in order to analyse the data, as a result of the small sample size ($n < 30$) (Salkind, 2012). The Wilcoxon signed-rank sum test was used to compare the three measurements on a single sample (pre-, post- and post-post-test) in order to determine if the sample populations' mean rank scores on the various constructs changed/differ across the various times. According to Salkind (2012), these results can be seen as significant if the p -values are smaller than 0.05.

RESULTS

Descriptive statistics

The descriptive statistics (means, standard deviations (SD), and Cronbach alpha coefficients (α) for the pre-, post- and post-post-test are reported in Table 4.4.

Table 4.4 indicates that the majority of the subscales, as measured on three time-stamps, are sufficiently reliable ($\alpha > 0.60$) within social science research (Nunnally, 1978; Revelle & Zinbarg, 2009). Although there are a few exemptions ($\alpha < 0.60$) in this study, these results

can still be construed as being reliable (Field, 2009; Helms, Henze, Sass, & Mifsud, 2006; Hinton, 2004; Kline, 2000; Nunnally, 1978). The low alphas in these subscales are attributable to the small sample size (lower than the recommended minimum sample size of 50 for Cronbach alpha calculations), the number of items per construct, and the clinical nature of the intervention (Field, 2009; Hinton, 2004; Ottenbacher & Tomchek, 1993).

Table 4.4

Descriptive Statistics for the Pre-test, Post-test and Post-Post Test on the OHQ, PANAS-SF, BPNS, ASI and PEF Scales

Item		Pre-test			Post-test			Post-post-test		
		Mean	SD	α	Mean	SD	α	Mean	SD	α
1	Satisfaction With Life	0.80	1.14	0.76	4.86	0.77	0.73	5.83	0.20	0.71
2	Meaning	3.17	0.48	0.59	4.40	0.61	0.87	4.82	0.16	0.40
3	Pleasure	1.50	0.81	0.82	4.32	0.51	0.79	4.81	0.22	0.42
4	Engagement	1.83	0.59	0.59	4.21	0.57	0.81	4.74	0.23	0.80
5	Positive Affect	2.10	0.80	0.87	4.18	0.51	0.77	4.50	0.42	0.74
6	Negative Affect	1.20	0.80	0.80	1.71	0.57	0.81	1.32	0.23	0.78
7	Affect Balance	-1.80	1.39	0.80	2.47	1.03	0.81	3.18	0.58	0.78
8	Awareness	2.92	0.51	0.73	4.20	0.50	0.76	3.57	0.16	0.27
9	Behaviour	2.30	0.63	0.73	3.22	0.27	0.48	3.06	0.19	0.57
10	Unbiased Processing	1.20	0.70	0.80	3.42	0.44	0.56	1.33	0.23	0.79
11	Relational Orientation	3.00	0.49	0.68	3.81	0.45	0.71	3.89	0.13	0.71
12	Person-environment fit	1.00	1.00	0.80	1.96	0.88	0.92	1.35	0.43	0.74
13	Autonomy	3.00	0.95	0.37	5.19	0.93	0.73	6.00	0.61	0.77
14	Competence	2.75	0.84	0.28	5.18	0.89	0.64	5.98	0.58	0.55
15	Relatedness	3.40	1.02	0.63	5.29	0.97	0.67	6.05	0.69	0.75

The mean scores on the various constructs measured on the pre-test indicate generally lower levels of happiness amongst the participants. The mean scores indicate that the participants were generally unsatisfied with their lives and believed their lives to have meaning. Furthermore, participants reported that they did not derive a lot of pleasure from life and showed a tendency to disengage with life and activities. The relatively low mean scores on positive negative affect indicates that the participants have a relatively low affect balance.

These individuals reported experiencing slightly more positive than negative emotions, but to a small degree. Furthermore, participants may not possess a lot of self-knowledge and self-insight into their own behaviours, cognitions and emotions (Awareness). Individuals appeared to be inclined to project a false image of themselves in an effort to please others, to attain certain rewards or to avoid punishments or negative repercussions such as rejection (Behaviour). Participants experienced interpretative distortions when processing information regarding themselves (Unbiased Processing). Participants may value and strive for honesty, openness and sincerity in their close relationships, but it appears to be situational-based (Relational Orientation). No perceptual discrepancy exists between the participants' current field of study and how they define themselves (Person-Environment Fit). The slightly below average mean scores on Autonomy, Competence and Relatedness indicates that the participants' basic psychological needs are partially satisfied.

The mean scores on the various constructs measured on the *post-test* completed a month after the self- and group development workshop indicated an increase in the overall happiness experienced by participants. All the constructs were shown to have increased from the pre-test to the post-test. However, although Person-Environment Fit increased, the application applies that participants perceived slightly less Person-Environment Fit when compared to the pre-test (*see* Table 4.5).

The mean scores on the various constructs measured on the *post post-test* after the coaching indicate a relative increase in the overall happiness experienced by participants compared to the pre-test and post-test. All the constructs increased from the post-test, with the exception of Negative Affect, Behaviour, and Unbiased Processing that decreased. Hypothesis 1 is therefore accepted. Hypothesis 12 is therefore partially accepted.

Wilcoxon signed-rank sum statistics

A Wilcoxon signed-rank sum test was used to compare the results produced through the pre-, post-, and post-post-tests on all the measuring instruments (*see* Table 4.5).

Table 4.5*Significance of Differences between the Pre-, Post- and Post-post-Tests of the Intervention*

Construct		Pre-test		Post-test		Post-post test		Wilcoxon Signed Rank	
		Mean	SD	Mean	SD	Mean	SD	z	p*
1	Satisfaction with Life: Pre- and Post-test	3.07	1.14	4.86	0.77	-	-	-3.77	0.000
2	Satisfaction with Life: Pre- and Post-post-test	3.07	1.14	-	-	5.83	0.20	-3.41	0.001
3	Satisfaction with Life: Post and Post-post-test	-	-	4.86	0.77	5.83	0.20	-3.33	0.001
4	Meaning: Pre- and Post-test	4.04	0.48	4.40	0.61	-	-	-2.63	0.009
5	Meaning: Pre- and Post-post-test	4.04	0.48	-	-	4.82	0.16	-3.25	0.001
6	Meaning: Post and Post-post-test	-	-	4.40	0.61	4.82	0.16	-1.62	0.104
7	Pleasure: Pre- and Post-test	3.62	0.81	4.32	0.51	-	-	-3.10	0.002
8	Pleasure: Pre- and Post-post-test	3.62	0.81	-	-	4.81	0.22	-3.41	0.001
9	Pleasure: Post and Post-post-test	-	-	4.32	0.51	4.81	0.22	-2.85	0.004
10	Engagement: Pre- and Post-test	3.47	0.59	4.21	0.57	-	-	-3.73	0.000
11	Engagement: Pre- and Post-post-test	3.47	0.59	-	-	4.74	0.23	-3.42	0.001
12	Engagement: Post and Post-post-test	-	-	4.21	0.57	4.74	0.23	-2.48	0.013
13	Affect Balance: Pre- and Post-test	0.76	1.39	2.47	1.03	-	-	-3.59	0.000
14	Affect Balance: Pre- and Post-post-test	0.76	1.39	-	-	3.18	0.58	-3.41	0.001
15	Affect Balance: Post and Post-post-test	-	-	2.47	1.03	3.18	0.58	-1.59	0.111
16	Awareness: Pre- and Post-test	3.79	0.51	4.20	0.50	-	-	-2.92	0.003
17	Awareness: Pre- and Post-post-test	3.79	0.51	-	-	3.57	0.16	-1.54	0.001
18	Awareness : Post and Post-post-test	-	-	4.20	0.50	3.57	0.16	-3.41	0.001
19	Behaviour: Pre- and Post-test	3.21	0.63	3.22	0.27	-	-	-0.36	0.717
20	Behaviour: Pre- and Post-post-test	3.21	0.63	-	-	3.06	0.19	-0.66	0.509
21	Behaviour: Post and Post-post-test	-	-	3.22	0.27	3.06	0.19	-1.76	0.078
22	Unbiased Processing: Pre- and Post-test	3.27	0.70	3.42	0.44	-	-	-1.25	0.213
23	Unbiased Processing: Pre- and Post-post-test	3.27	0.70	-	-	1.33	0.23	-3.35	0.001
24	Unbiased Processing: Post and Post-post-test	-	-	3.42	0.44	1.33	0.23	-3.41	0.001
25	Relational Orientation: : Pre- and Post-test	3.78	0.49	3.81	0.45	-	-	-0.26	0.798
26	Relational Orientation: Pre- and Post-post-test	3.78	0.49	-	-	3.89	0.13	-0.39	0.699
27	Relational Orientation: Post and Post-post-test	-	-	3.81	0.45	3.89	0.13	-0.63	0.527
28	Person-Environment Fit: Pre- and Post-test	2.78	1.01	1.96	0.88	-	-	-2.51	0.002
29	Person-Environment Fit: Pre- and Post-post-test	2.78	1.01	-	-	1.35	0.43	-3.02	0.003
30	Person-Environment Fit: Post and Post-post-test	-	-	1.96	0.88	1.35	0.43	-2.32	0.002
31	Autonomy: Pre- and Post-test	4.63	0.95	5.19	0.93	-	-	-2.73	0.006
32	Autonomy: Pre- and Post-post-test	4.63	0.95	-	-	6.00	0.61	-3.31	0.001
33	Autonomy: Post and Post-post-test	-	-	5.19	0.93	6.00	0.61	-2.63	0.008
34	Competence: Pre- and Post-test	4.83	0.84	5.18	0.89	-	-	-1.95	0.051
35	Competence: Pre- and Post-post-test	4.83	0.84	-	-	5.98	0.58	-3.30	0.001
36	Competence: Post and Post-post-test	-	-	5.18	0.89	5.98	0.58	-3.01	0.003
37	Relatedness: Pre- and Post-test	5.17	1.02	5.29	0.97	-	-	-2.11	0.035
38	Relatedness: Pre- and Post-post-test	5.17	1.02	-	-	6.05	0.69	-2.98	0.003
39	Relatedness: Post and Post-post-test	-	-	5.29	0.97	6.05	0.69	-2.74	0.006

* Significance is taken at $p < 0,05$

Table 4.5 shows statistically significant differences between the Satisfaction with Life pre- and post-test ($z = -3.77$; $p = 0.000$), pre- and post-post-test ($z = -3.41$; $p = 0.001$), and post- and post-post-test ($z = -3.33$; $p = 0.001$). Participants indicated higher scores for Satisfaction with life across all three measuring intervals. Therefore, the intervention programme may have resulted in a statistically significant increase in the participants' overall satisfaction with life. Hypothesis 11 is, therefore, accepted.

Statistically significant differences were found between the Meaning pre- and post-test ($z = -2.63$; $p = 0.009$) and pre- and post-post-test ($z = -3.25$; $p = 0.001$). Participants indicated higher scores for Meaning between all three measuring intervals. No significant change in Meaning was reported between the post- and post-post-test ($z = -1.62$; $p = 0.104$). Therefore, the intervention programme may have resulted in a statistically significant increase in the participants overall experience of meaning, while the coaching methodology alone may not have led to a significant increase in meaning. Hypothesis 3 is, therefore, accepted.

Statistically significant differences were found between Pleasure pre- to post-test ($z = -3.10$; $p = 0.002$), pre- to post-post-test ($z = -3.41$; $p = 0.001$) and post- to post-post-test ($z = -2.85$; $p = 0.004$). Participants indicated higher scores for Pleasure between all three measuring intervals. Therefore, the intervention programme and individual coaching may have resulted in a statistically significant increase in the participants' overall experience of pleasure. Hypothesis 2 is, therefore, accepted.

Statistically significant difference between Engagement pre- to post-test ($z = -3.73$; $p = 0.000$), pre- to post-post-test ($z = -3.42$; $p = 0.001$) and post- to post-post-test ($z = -2.48$; $p = 0.013$) were found. Participants indicated higher scores for Engagement between all three measuring intervals. Therefore, the intervention programme and individual coaching may have resulted in a statistically significant increase in the participants overall experience of engagement. Hypothesis 4 is, therefore, accepted.

Statistically significant differences between Affect Balance pre- to post-test ($z = -3.59$; $p = 0.000$) and pre- to post-post-test ($z = -3.41$; $p = 0.001$) were found. No significant change in Affect Balance was found between the post- to post-post-test ($z = -1.59$; $p = 0.111$). Participants indicated higher scores on Affect Balance between the pre- and post-test, but yielded lower scores between the post- and post-post-tests. Therefore, only the intervention

programme may have resulted in statistically significant increase in the participants' overall affect balance. Hypothesis 5 is, therefore, partially accepted.

Statistically significant differences between Awareness from the pre- to post-test ($z = -2.92$; $p = 0.003$), pre- to post-post-test ($z = -1.54$; $p = 0.001$) and post- to post-post-test ($z = -3.41$; $p = 0.001$) were found. Participants indicated higher scores on Awareness between the pre- and post-test, but lower scores between the post- and post-post-test. Therefore, the intervention programme and individual coaching may have resulted in a statistically significant increase in the participants' overall experience of awareness. Hypothesis 10a is, therefore, accepted.

No statistically significant differences between Behaviour from the pre- to post-test ($z = -0.36$; $p = 0.717$), pre- and post-post-test ($z = -0.66$; $p = 0.509$) and the post- and post-post-test ($z = -1.76$; $p = 0.078$) was found. Participants indicated higher scores for Behaviour between the pre- and post-test, but lower scores between the post- and post-post-test. Therefore, the intervention programme and/or individual coaching may have not resulted in a statistically significant increase in the participants overall experience of their behaviour matching their own values and projecting their true selves in situations. Hypothesis 10c is, therefore, not accepted.

No statistically significant differences between Unbiased Processing from the pre- to post-test ($z = -1.25$; $p = 0.213$) were found. However, a statistically significant difference between Unbiased Processing from the pre- to post-post-test ($z = -3.35$; $p = 0.001$) and post- to post-post-test ($z = -3.41$; $p = 0.001$) was found. Participants indicated higher scores for Unbiased Processing between the pre- and post-test, but lower scores between the post- and post-post-test. Therefore, the individual coaching may have resulted in a statistically significant increase in the participants overall experience of unbiased processing. Hypothesis 10b, is therefore, partially accepted.

No statistically significant differences between Relational Orientation from the pre- to post-test ($z = -0.26$; $p = 0.798$), pre- and post-post-test ($z = -0.39$; $p = 0.699$) or post- and post-post-test ($z = -0.63$; $p = 0.527$) were found. Participants indicated higher scores for Relational Orientation between all three measuring intervals. Therefore, the intervention programme and individual coaching may have not resulted in a statistically significant increase in the participants' experience of Relational Orientation. Hypothesis 10d is, therefore, not accepted.

Statistically significant differences between Person-Environment Fit from the pre- to post-test ($z = -2.51$; $p = 0.002$) pre- to post-post-test ($z = -3.02$; $p = 0.003$) and post- to post-post-test ($z = -2.37$; $p = 0.002$) were found. Participants indicated higher scores for Person-Environment fit between the pre- and post-test, but lower scores between the post- and post-post-test. Therefore, the intervention programme and individual coaching may have resulted in a statistically significant increase in the participants' experience of person-environment fit. Hypothesis 6 is, therefore, accepted.

Statistically significant differences between Autonomy from the pre- to post-test ($z = -2.73$; $p = 0.006$), pre- to post-post-test ($z = -3.31$; $p = 0.001$) and post- to post-post-test ($z = -2.63$; $p = 0.008$) were found. Participants indicated higher scores for Autonomy between all three measuring intervals. Therefore, the intervention programme and individual coaching may have resulted in a statistically significant increase in the participants' experience of autonomy. Hypothesis 7 is, therefore, accepted.

No statistically significant differences between Competence from the pre- to post-test ($z = -1.95$; $p = 0.051$) was found. However statistically significant differences were found pre- to post-post-test ($z = -3.30$; $p = 0.001$) and post- to post-post-test ($z = -3.01$; $p = 0.003$) were found. Participants indicated higher scores for Competence between all three measuring intervals. Therefore, the intervention programme and individual coaching may have resulted in a statistically significant increase in the participants' experience of competence. Hypothesis 8 is, therefore, partially accepted.

Statistically significant differences between Relatedness from the pre- to post-test ($z = -2.11$; $p = 0.035$) pre- to post-post-test ($z = -2.98$; $p = 0.003$) and post- to post-post-test ($z = -2.74$; $p = 0.006$) were found. Participants indicated higher scores for Relatedness between all three measuring intervals. Therefore, the intervention programme and individual coaching may have resulted in a statistically significant increase in the participants' experience of relatedness. Hypothesis 9 is therefore accepted.

Qualitative feedback from participants

During the course of the intervention, the researcher took field notes regarding the reaction of individuals to the given phase of the intervention (see Appendix B). Furthermore, participants

were requested to complete a qualitative questionnaire after the completion of the program to (a) summarise their experiences of the intervention, (b) discuss how the intervention affected their personal development journey, and (c) highlight what additional elements, if any, they would have liked to have had included in future similar interventions. The primary themes were extracted and are presented in Table 4.6.

Table 4.6
Qualitative Results

Theme	Number of respondents
What did you experience during this intervention?	
Gratitude for the opportunity to be part of the intervention	12
Coaching sessions were uncomfortable and unnatural at first	8
High levels of trust amongst participants	8
The personal attention during the coaching helped me apply what I have learned in real life	7
Finding it difficult to "be myself" around others	5
Self-exploration and discovery is a difficult process	4
Self-administered activities were easy and fun	3
Became irritated with others who kept coming late for the workshop	2
Found it difficult to relate to other cultures at first	2
Uncertainty about where I am going to	1
How did this intervention affect you in your developmental journey?	
Learned techniques on how to change my behaviour and reactions to events/people	6
Started to enjoy life more	6
Building and maintaining relationships became easier	4
Living in the present and not the past or future	3
Learned to forgive those who have hurt me	2
Learned how to trust others	2
What could be added to the intervention?	
Intervention should stretch across a longer period of time	8
More group interaction and activities	4
Include more case studies	3
More physical activities to "practice" the skills learned during the intervention	1

Experiences during the intervention

The participants made notable annotations about their experiences during the intervention. The majority of the participants indicated “*gratitude for the opportunity to be part of*” the intervention. These participants described the experience as being “*valuable to their lives*” and that they “*wouldn’t have known how to become this happy without this intervention programme*”. Gratitude was further established three days after the intervention had ended. Three days after the researcher saw the last participant, a group of participants arrived at his office and conducted their “gratitude visit” exercise in order to express their gratitude to the

researcher for his role in *“the help and the journey”*. This indicates that intervention had some positive impact on the lives of the participants.

Individuals described the initial coaching session as *“being weird”* and expressed levels of *“uncomfortability”* and *“uncertainty”*. Some participants reported feeling *“fearful of what may come out during these sessions”*. The participants stated that *“it was weird having someone be so interested in what I have to say and nothing else”*. It was difficult for some to *“express their true feelings during the first session”*. One participant indicated that she was uncertain about *“where this process would take her”*. These descriptors are substantiated by the researcher’s field notes. The research indicated that it was difficult to achieve a *“breakthrough”* during the first coaching session. It seemed that the participants were cautious during this session and uncertain about the process, which manifested in a slight reluctance to share openly. However, during the course of the individual coaching sessions participants reported being more *“comfortable with the process”* and *“valued the process because it helped me [them] to apply what I [they] have learned to real life”*

Participants also reported an initial difficulty relating to *“trusting the other participants in the project”*. Participants indicated that they *“find it difficult to be themselves around others in real life”*. Furthermore, some participants indicated that they found it *“difficult to relate and establish relationships with individuals from other cultures”*. However, as the intervention progressed, a sense of social cohesion developed and participants reported feeling *“high levels of trust amongst the group”*. The researcher’s field notes indicated that during the second day of the self/group development workshop, individuals started to share their experiences, fears, and emotions more freely.

Four participants indicated that they found the processes of self-exploration and discovery to be rather challenging. These participants reported that *“it is difficult to discover things about yourself which affects your life”*. Some individuals also reported that *“knowing what is ‘wrong’ is only half the journey”* and that *“changing the behaviour was the most difficult part”*.

Two of the participants indicated that they became *“irritated with individuals arriving late for the interventions”*. These participants reported that it *“disturbed the intensity and flow of*

the intervention". The researcher also noted that participants confronted those individuals who were late during the first coffee/tea break.

Finally, three participants described the self-administered intentional activities as "*being easy and fun*" to complete. However, the researcher's field notes indicated that participants found it difficult to practice these activities at first, but it appeared to become easier over time.

The intervention and the developmental journey

Participants indicated that the intervention had "*provided techniques and strategies to change their behaviour*". Some participants indicated that the "*conflict management skills and strategies provided a clear view of how conflict should be approached*". Participants indicated that they had started to apply these skills in real-life and they found them to be "*surprisingly helpful and accurate*". One participant summarised the experience as:

"The more I practiced the skills, the easier they became. It was difficult at first, but by doing the things over and over, it became very natural for me to approach situations differently. I didn't even notice until my mother pointed out how much better I managed a specific situation and that she was surprised that I managed it so well. lol. " [sic]

Some of the participants indicated that they had "*started to enjoy life a lot more*". One participant stated that she "*decided not to take life so seriously and enjoy what I have and who I am*". Some participants indicated that they "*found myself [themselves] smiling a lot more*" and started to "*appreciate the small things in life*". Participants also indicated that they are "*living a lot more in the present*", rather than "*focussing too much on the future or past*".

Participants indicated that it was "*easier to make new friends*" and to "*build on current relationships*" since the PPI. One participant indicated that she was less likely to "*be selfish in relationships*". Two participants indicated that it is easier to form relationships "*if you know how to act and react to what they are saying*".

Participants also indicated that they found it easier to "*forgive those who have hurt them in the past*". However, the researcher noted from the field notes that it took some time for some participants to disengage from the past.

Additions to the intervention programme

Participants were asked to provide suggestions on how to improve the intervention for future applications. The majority of the individuals mentioned that the “*intervention should stretch over a longer period of time*”. Some found it difficult to “*stick to all the homework that was given*” within the “*set time frame*”. Furthermore, participants reported that they would have liked “*more individual coaching sessions*” during the intervention. Some individuals reported that they would have liked more “*group interaction and activities*”, because this was perceived as being valuable in terms of “*establishing new relationships*”. Finally, some participants indicated that they would have liked “*more case studies and physical activities*” in order to “*practice the skills they have learned in a secure environment*”.

DISCUSSION

The purpose of this study was to develop and evaluate a (PPI) aimed at increasing happiness of students in a tertiary educational institution. The intervention was divided into two parts, namely a three day self- and group-development workshop (pre- and post-test), and six individual coaching sessions (post- and post-post-test). The results showed that participants had higher levels of overall life satisfaction, meaning, engagement, positive affect balance, authenticity, person-environment fit, autonomy, competence and relatedness over a period of eight months. The results indicated that all the components (except person-environment fit) increased after the PPI. After six individual coaching sessions, the majority of the aforementioned constructs increased, with the exception of authentic behaviour which decreased. The PPI may thus have increased the overall level of happiness of those who participated.

The literature indicated that a PPI refers to various intentional activities or treatments aimed at cultivating positive emotions, cognitions and behaviours. These interventions targeted activities relating to individual strengths (Peterson & Seligman, 2004) and cultivating positive emotions (Della Porta et al., 2009). Sin and Lyubomirsky (2009) argued that PPIs comprised self-administered intentional activities, group-based development or individual therapy/coaching. PPIs have demonstrated success in developing positive emotions and well-being in adolescents and young adults (Sin & Lyubomirsky, 2009; Seligman, 2011). PPIs are, therefore, an appropriate approach through which to develop sustainable happiness in university students. The current study's PPI has integrated these three approaches into a

multi-faceted strategy to enhance student happiness. The focus was on addressing internal psychological and emotional mechanisms to bring about a real change in the individual's manifested behaviour in order to result in sustainable happiness through a three day workshop and six individual coaching sessions.

The first phase of the PPI was based on the principles of experiential learning (Merriam, Caffarella, & Baumgartner, 2007). The workshop comprised of short lectures, video presentations, group discussions and activities, individual activities and self-administered intentional activities. The workshop aimed to address the core components of happiness (meaning, pleasure and engagement) in the *past* (forgiveness and gratitude), *present* (savouring and mindfulness) and *future* (optimism and hope) (Lyubomirsky, 2011; Seligman, 2004), as well as developing quality friendships (Berne, 1964, 1972; Carkhuff, 2002) and conflict management strategies through appreciative inquiry (Cooperrider & Whitney, 2006; Johnson, 2009). These sections were structured around life satisfaction, affect balance, pleasure, meaning, engagement, person-environment fit, authenticity, competence and relatedness. Each section of the workshop contained a 'classroom exercise', coupled with a self-administered intentional activity.

These self-administered intentional activities were inspired by and adapted from the work of Lyubomirsky (2011) and Seligman (2002, 2004, 2011). The participants indicated that these self-administered intentional activities were "*easy to use and apply to their daily lives*". This ease of use, coupled with the variety of techniques (e.g. gratitude visit, happiness journal, letters from the future) ensured commitment to the continuous application of the self-administered intentional activities (Lyubomirsky, 2011). Individuals reported that these activities became "*natural after a while*" and didn't require much cognitive effort. The use and application of the intentional activities were reinforced during the individual coaching sessions.

After the completing of the intervention, participants were encouraged to attend six individual coaching sessions. The coaching sessions were structured around the broad themes of the workshop, but were led by the unique needs of the specific participant. The initial coaching session was used to establish rapport with the participants and to compile a personal development plan for each participant (Bachkirova, 2011; Van Zyl & Stander, 2011). Participants indicated that this initial session felt "uncomfortable" and even "weird". This is

in line with the findings of Cilliers (2011) that participants find the initial coaching sessions as unnatural and difficult. However, participants became more at ease as the process unfolded. Furthermore, participants became more at ease as soon as they could see how the coaching sessions were used to achieve the end-results set in the PDP. The PDP comprised five sections: (a) the end-results that the individual wanted to achieve; (b) action plans to achieve the desired outcomes; (c) evaluation method to ascertain whether the objectives had been achieved; (d) the resources needed; and (e) a deadline for achieving the goal (Van Zyl & Stander, 2011). The PDP served as the foundation for the developmental process.

The subsequent coaching sessions were used to set forth the development of the skills that had been learned during the workshop. The coaching process was structured around the outcomes identified through the PDP. Furthermore, the coaching process aimed to address aspects such as unbiased processing and enhancing authenticity. The final coaching session was used to evaluate and debrief the process (Smith, 2006). Participants appear to have valued the impact of the individual coaching sessions, and indicated that they “*helped to apply the skills of the workshop in real life*”. However, similar to other intervention research, this multi-faceted approach produced mixed results.

For the most part, the PPI has increased the levels of perceived happiness of the participants. As a result of the pre-experimental research design, the result reported by the individuals cannot fully be attributed only to the intervention (Salkind, 2012). Through using a pre-experimental design, one cannot completely attribute the results to the intervention, seeing that this design does not control for environmental factors. It should be stressed, however, that various interventions in both medical and psychological disciplines have successfully utilised pre-experimental research designs (Palmen, Didden, & Lang, 2012; Shek & Sun, 2012; Sin & Lyubomirsky, 2009). However, major changes took place in the measured psychological and emotional constructs over the course of the intervention, which may indicate higher levels of face validity for this intervention (Salkind, 2012). Various changes took place in the core constructs associated with happiness on both the emotional and psychological domains as conceptualised in this study. The results indicated that a combination of the self/group development workshop with the individual coaching had a significant impact on participants’ overall satisfaction with their lives, pleasure, engagement, awareness, person-environment fit, autonomy, competence and relatedness. All these constructs increased over the period of the intervention. However, no significant results were

reported between the pre-test and the post-test (group development) on competence. Therefore, competence only partially increased overtime.

The PPI affected the participants' level of satisfaction with life, which the participants reported to have substantially increased after the group development workshop. Participants reported higher levels of satisfaction with life from the initial measurement to the post-test. While it would seem that individual coaching complemented this overall increase, it was not to the same extent as the group development workshop. Sheldon, Kashdan and Steger (2011) indicated that group-related activities affect the onset of satisfaction with life, since it may address the individual's inherent desire for affiliation and acceptance. The extent towards which individual coaching may have affected life satisfaction are not unfounded in the literature. Studies by Sin et al. (2011) and Sin and Lyubomirsky (2009) indicated that individual development enhances the experience of overall life satisfaction. Coaching provides a medium through which these students could develop and provides a mechanism through which development can take place.

Furthermore, the results showed that the PPI affected the participants' experience of pleasure. Participants reported higher levels of pleasure than before the intervention to the post-test. Even higher levels of pleasure were reported during the post-post-test. This increase in pleasure may be the result of the participant deriving more pleasure from the *past* (through forgiveness and gratitude), the *present* (through savouring and mindfulness) and the *future* (through optimism and hope) (Lyubomirsky, 2011; Seligman, 2004). The results indicate that PPI might have been a major contributor to the experience of pleasure.

Engagement levels increased substantially from the pre-test to the post-test. Participants reported higher levels of engagement at both measuring intervals implying that the PPI may have had an effect on this experience. The experience of engagement is attributable to the participants learning to create opportunities to utilise and apply their individual signature strengths (Peterson & Seligman, 2004). Furthermore, engagement is the result of a balance between the participants' available competence/capacity (e.g. resources, social support, skills) and the demands from their environment (e.g. level of challenge) (Csíkszentmihályi, 1996). Consequently, the use of signature strengths within an environment where there is a balance between the skills and challenge would result in increased levels of engagement (Peterson & Seligman, 2004).

Self-awareness seemed to have been affected by the PPI. The intervention was structured around the concept of self-discovery through experiential learning. The strong drive towards highlighting and understanding behaviour may have resulted in the development of self-awareness during the course of the intervention (Bachkirova, 2011). Participants indicated that the PPI taught them new techniques on how to understand and manage their behaviour. This is an indication of the development of self-awareness (Bachkirova, 2011; Cilliers, 2011). Self-awareness developed as a result of the participants being sensitised with new information about themselves (Smith, 2006). This confrontation between the participants' conscious-selves ('known selves') and their shadow-selves ('unknown selves'), results in epiphanic experiences about their behaviour and attitudes (Jung, 1942).

Individuals within this intervention initially presented with high levels of person-environment fit. The post-test indicated that perceptions of person-environment fit had dropped ever so slightly, but increased in the post-post-test that was conducted four months after the coaching had ended. This could be a result of the self-exploration process (Rogers, 1973). During the intervention, individuals were presented with new information about themselves. This information may have resulted in individuals starting to question how they relate to their current field of study (Bachkirova, 2011). However, through the individual coaching, participants learned how to apply their own signature strengths to address challenges in their environment in order to feel that they are living out their 'true-selves' in their current field of study.

Furthermore, it would seem that the PPI affected the participants' perception of the extent to which the inherent need for autonomy, competence and relatedness was satisfied. However, initially there was no significant difference between the pre measurement and the measure after the three day workshop. Albeit, all three of these components increased during the course of the PPI. During the intervention, individuals reported that they experienced higher levels of comfort amongst their fellow group members, which led to the participants openly and honestly expressing their opinions and feelings without the fear that they are being judged (autonomy). After the entire intervention had ended, individuals presented with higher levels of confidence in expressing their own ideas, thoughts and knowledge (competence). Finally, the PPI impacted on the participants' experience of their need to be accepted by a group. The results indicated almost a 100% mean increase in autonomy and relatedness

components from the initial measurement to the post-test. This may be as a result of the group-focused aspects of the PPI.

It would seem that the PPI only partially affected the experience of meaning and affect balance. Although emphasis was placed on both these aspects in the PPI, it would seem that the concept of experienced meaning is more complex than initially anticipated (Sheldon et al., 2011). There are various factors that might have influenced the reported experience of meaning. Steger (in press) argued that experienced meaning is the result of situations where participants' levels of resilience are challenged. These situations result in an existential crisis, where the sensation of meaninglessness is challenged by meaningfulness (Frankl, 1955; Yalom, 1980). Frankl (1955) argued that experienced meaning is influenced by the individual's will to meaning. Individuals going through a process of meaning-crafting, or self-development may even experience lower levels of experienced meaning as a result of the re-crafting process (Sheldon et al., 2011; Yalom, 1980).

Moreover, the results indicated that the meaning scale in the OHS produced very low alpha values when compared to the rest of the measures. The levels of internal consistency were represented by Cronbach alpha values on the pre-test (0.59), post-test (0.87) and post-post-test (0.40). It is possible that the western conceptualisation of meaning may not be fully applicable within multicultural environments (Steger, in press). Furthermore, the alpha values may represent the participants' inner struggle with the concept of meaning and could imply growth. However, the mean scores across the different measurement intervals indicate that higher levels of meaning were reported during the post-test and the post-post-test. Furthermore, the standard deviations decreased from the post-test (0.61) to the post-post-test (0.16). This implies that there is little individual differentiation between the participants and the average mean level. This indicates that the majority of the individuals experienced high levels of meaning.

Affect balance seemed to have been only partially affected by the PPI. This is in contrast to the findings of Sin et al. (2011). The PPI focused on the development of positive emotions in the past, present and future, which might have attributed to the development of affect balance. The results indicated that the individuals presented with a healthy affect balance at the time of the post-test measurement. However, descriptive statistics indicated that individuals experienced low levels of affect balance (-1.80) at the pre-test.

The results indicated that the PPI did not seem to have an effect on affect balance during the post-post-test. Lyubomirsky (2011) indicated that affect is a dynamic construct that is influenced by momentary events; emotions are, therefore, likely to vary from day to day. However, the mean level of emotions across a period of time should present a valid indication of an individual's mood state during a given time (Seligman, 2011). The results indicated that positive affect systematically increased over the course of the intervention; however negative affect increased during the post-test, but then decreased during the post-post-test. Warr (2007) reports that self-development is not an easy process for the individual. Smith (2006) stated that individuals are likely to present with higher levels of negative affect during a process of development as a result of the intensity of the process and the extent of the development taking place. This is in line with this study's findings. Jung (1942) argued that self-exploration often exposes aspects of one's unconscious to one's consciousness, which may result in heightened levels of negative affect. Development can only take place if these negative emotions can be meaningfully channelled from the personal unconscious to consciousness, where the individual can make sense of and address the causes of these emotions (Jung, 1942).

The PPI may have impacted on unbiased processing. Unbiased processing is a component of authenticity. While the workshop addressed certain aspects of authenticity, it did not specifically address unbiased processing. Bachkirova (2011) reported that addressing aspects relating to unbiased processing within group settings would be detrimental to the process. As a result, unbiased processing was only addressed during the individual coaching sessions. The results indicated a significant change in the level of unbiased processing from the pre- to post-post-test as well as from the post- to post-post-test.

However, it would seem that the participants' experience that they are behaving in accordance with their 'true-selves' (behaviour) and striving for openness and sincerity in close relationships (relational orientation), did not increase as a result of the intervention. Furthermore, the participants' perception of their competence did not increase as a result of the initial workshop. These three aspects are closely related, seeing that participants are still in a phase of self-discovery and might still be afraid to present their true-selves to others because of a fear of rejection (Durkeim, 1951; Lyubomirsky, 2011; Noddings, 2003; Seligman, 2011).

Furthermore, the qualitative data suggested that individuals found the individual coaching sessions helpful in their developmental journey. The value of the individual interaction was highlighted; however, participants indicated that the initial coaching session was uncomfortable and they felt a sense of uncertainty. Cilliers (2011) argued that participants may have experienced a reluctance to explore their own developmental needs and to expose their true selves during the process, as it was the first time all the attention of the facilitator was directed solely towards them and not the group as a whole. Once this barrier was overcome, participants engaged more openly and easily with the process. The coaching sessions stimulated the curiosity of the participants regarding their own developmental journey (Bachkirova, 2011; Cilliers, 2011). However, some participants indicated that the self-exploration process posed some difficulty, since they felt as though they did not have the necessary skills to change negative and self-defeating behaviours. After the intervention had been completed, individuals reported that the PPI had provided them with techniques and strategies (such as conflict management skills) to change these self-defeating behaviours.

One individual reported during the individual coaching that she felt more “*comfortable in expressing her ideas in group settings*” and that she could make “*more valuable contributions to group discussions*”, because these ideas weren’t “*stupid or irrelevant*” (competence). Furthermore, individuals reported that they feel more accepted by others (relatedness) and that it is easier to forge new relationships.

Participants initially indicated difficulty in relating to and trusting others, especially those from other cultures. However, as the process continued participants reported higher levels of trust and ease around their peers. Seligman (2011) argued that this is as a result of the familiarity that had developed amongst the participants, and serves as an indication of positive relationships. After the PPI, participants reported that they found it easier to establish and maintain relationships. Finally, participants reported that they started to enjoy life and decided “*not to take life so seriously anymore*”. Some individuals indicated that they found themselves smiling a lot more.

In conclusion, it would seem that this PPI affected the overall level of happiness of individuals. The PPI affected all the measured aspects in this study, with the exception of two components of authenticity, namely authentic behaviour and relational orientation. Participants in this study demonstrated the impact that this intervention had on various

aspects of their lives, both quantitatively and qualitatively. It can, therefore, be presumed, that a multi-dimensional approach towards PPIs aimed at happiness of students in a tertiary educational environment may produce happy students.

This study has clear limitations. Firstly, the sample size is too small to generalise the result to the broader tertiary educational environment. The convenience sampling method also contributes to the lack in generalizability. Furthermore, this may result in various biases occurring. It is suggested that future research utilise random sampling techniques in order to ensure that the sample is representative of the entire population. Secondly, only third year students were targeted for the intervention. Fourthly, the sample was quite homogenous in terms of race, however a fair distribution of culture was represented in the sample. Finally, a major limitation to this study is the use of a pre-experimental design with no control group. The pre-experimental design does not control for environmental changes that may affect the intervention (Salkind, 2012). This design thus opens the results up to situational biases and influences (Salkind, 2012). The use of the pre-experimental design was based on the low level of interest presented by the population group (third year students in industrial psychology). The initial sample was too small to use a true- or quasi-experimental research design, whereby the researcher had to make provisions for participants withdrawing from the process. Therefore, the pre-experimental design was the only remaining valid research design option through which the research questions could be addressed in this study. However, pre-experimental research designs have been used in clinical, behavioural and medical contexts to test new techniques and approaches (Palmen et al., 2012; Shek & Sun, 2012; Sin & Lyubomirsky, 2009). Therefore, the research design is deemed to hold some scientific merit (Salkind, 2012).

RECOMMENDATIONS

This study indicates the scientific merit of PPIs aimed at increasing happiness of students within a tertiary educational environment. The presented PPI in this study may need to be adapted for other contexts. Furthermore, the PPI should ideally be extended over a longer period of time, with more coaching and follow up sessions provided. The PPI should also incorporate more group-related activities in order to increase the social cohesion amongst the participants. Future PPIs should focus more strongly on aspects relating to authenticity, more specifically authentic behaviour and relational orientation. It is also suggested that the

intervention be presented by at least two diverse facilitators to ensure maximum impact (Bachkirova, 2011). Future interventions should aim to incorporate objective criterion (such as academic performance) in the PDP. Finally, future interventions should incorporate principles of team-based coaching, to ensure that the participants can support and motivate each other.

Future studies should aim to incorporate a representative sample across first year to doctorate students. A pre-experimental design was used for this study; future research should ideally utilise true-experimental or quasi-experimental research designs. Further, a control group will need to be identified and incorporated into the study. Here, intergroup and inter-person correlations can be drawn in order to isolate the effects of the intervention within the bounds of the study. The intervention could also have been extended to last for a longer period of time and incorporated moment-based measuring techniques. Finally, the current study only involved one university, and faculty. Therefore the results cannot be generalised to the entire population. Future studies should aim to include other universities in order to ensure generalizability.

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CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The purpose of this chapter is to discuss conclusions, recommendations and limitations with respect to the findings from three scientific articles regarding the development and evaluation of a positive psychological intervention aimed at happiness of students in a tertiary educational institution. Firstly, deductions are built, based on the research objectives of the three research articles. Secondly, the limitations of the three studies will be highlighted. Finally, recommendations for future research will be presented.

5.1 CONCLUSIONS

The purpose of this research was to develop and evaluate a psychological intervention aimed at increasing happiness of students in a tertiary educational institution. Based on a thorough review of the existing literature, as well as the empirical results presented in the previous three chapters, the following conclusions can be made:

The first objective of this thesis was to conceptualise happiness, its approaches/models and happiness intervention methodologies from the existing literature. Happiness is defined as a positive affective state of contentment characterised by a sense of joy derived from living a meaningful life, establishing and maintaining positive relationships, and well-being (on psychological, social and emotional levels) through living a life of virtue. However, various conceptualisations of happiness exist. Seligman (2011) argued that happiness is rooted in two philosophical theorems: (a) hedonism (i.e. striving towards pleasure and avoiding pain) and (b) eudaimonia (i.e. living in accordance with one's true-self). These philosophical theorems gave birth to six streams of happiness research: (a) Subjective well-being (i.e. individuals' subjective evaluations of affect balance and life satisfaction) (Diener, 1984); (b) Hedonic well-being (i.e. a moment based evaluation of the subjective experience of cumulative positive emotion) (Kahneman, 2000; Kahneman, Diener, & Schwarz, 1999); (c) Eudaimonic well-being (i.e. the quality of life derived from the actualisation of potential and its application in an attempt to fulfil personal expressive and concordant goals) (Waterman, 1993); (d) Psychological well-being (i.e. a dynamic concept which includes social, psychological, and subjective criteria as well as health-related behaviours that manifest in the

experience of sustainable positive affect) (Ryan & Deci, 2001; Ryff, 1989; Ryff & Keyes, 1995); (e) Flourishing (i.e. a state of subjective well-being, which is the result of feeling good and functioning well) (Keyes, 2002; Seligman, 2011); and (f) Authentic happiness (i.e. the subjective experience relating to joy, satisfaction, contentment and positive well-being which manifests in meaning, pleasure and engagement) (Seligman, 2002). However, most of these models are unidimensional in nature, and only address a certain aspect of the individual's psyche.

One way through which happiness can be attained or developed is through positive psychological interventions (PPIs) (Seligman, 2011). PPIs refer to methods, intentional activities, group-related development and individual therapy/counselling/coaching sessions, which are aimed at cultivating positive emotions, cognitions and behaviours (Sin & Lyubomirsky, 2009). From the definition, it is apparent that PPIs are structured around individual self-administered activities (e.g. happiness journal), group-administered interventions and individual therapy/counselling/coaching (Sin & Lyubomirsky, 2009). Individual self-administered intentional activities refer to activities that are structured around cultivating positive emotions, which individuals can practice without the aid of a professional (Sin, Della Porta & Lyubomirsky, 2011; Sin & Lyubomirsky, 2009). Group-administered interventions are aimed at cultivating system-wide positive behaviours, cognitions and emotions (Magyar-Moe, 2009). These types of interventions are structured around group-work, group-implementation and group-planning (Magyar-Moe, 2009). Finally, individual therapy/counselling/coaching refers to a process whereby a professional engages with an individual in order to facilitate change in behaviour, emotions and cognitions (Seligman, 2011). These processes are tailored to meet the specific and unique needs, interests, strengths and environments of each individual (Sin & Lyubomirsky, 2009).

The second objective of this research was to investigate the mechanisms that bring about changes in individual happiness and its components. Seligman (2011) argued that happiness should be approached from a multi-dimensional perspective. Unidimensional happiness models have been critiqued in the literature (Kashdan, Biswas-Diener & King, 2008), and have produced mixed results when applied to happiness interventions (Sin & Lyubomirsky, 2009). However, multi-dimensional approaches (such as flourishing, self-determination theory and authentic happiness) have been shown to be more effective in predicting and developing/enhancing happiness. Flourishing, self-determination theory and authentic

happiness integrates hedonic and eudaimonic principles to conceptualise happiness. Keyes (2002) argued that flourishing (the high-end of happiness) is comprised of emotional, social, and psychological components. Deci and Ryan (2002) argued that happiness is the result of the extent to which the need for autonomy, relatedness and competence is satisfied. On the other hand, Seligman (2002) argued that happiness is the result of the experience of pleasure, meaning and engagement. However, while each of these approaches promotes strategies for achieving short-term happiness, they lack the behavioural component necessary to ensure sustainable or long-term happiness (Lyubomirsky, 2011). Furthermore, these approaches place too little emphasis on the fit between the person and the environment, as well as the importance of behaving authentically (Kernis & Goldman, 2005, 2006; Warr, 2007). Both of these aspects have been shown to be integral to achieving sustainable happiness (Warr, 2007). It is, therefore, important to incorporate these three approaches with both authenticity (Kernis & Goldman, 2006) and person-environment fit (Warr, 2007). In other words, happiness should be approached from both a psychological (engagement, meaning, person-environment fit, autonomy, relatedness, competence, and authenticity) and emotional level (pleasure, affect balance and life satisfaction) to facilitate behavioural changes that should result in sustainable happiness.

The third objective of this research was to develop the content and methodology of an intervention programme aimed at increasing happiness. PPIs aimed at happiness should be structured around a multidimensional model that is focused on addressing the underlying psychological moderators of happiness. These moderators have been discussed in the previous section. PPIs aimed at happiness also need to be multifaceted in nature, and need to be comprised of individual intentional activities, group-administered interventions and individual therapy/counselling/coaching. These three techniques complement each another in the developmental process. For example, individual coaching may reinforce the skills learned during the group-administered intervention. The content of the intervention should, therefore, be in line with the chosen methodological approach (Lyubomirsky, 2011; Seligman, 2011).

In order to support the development of sustainable happiness, interventions should be structured around the psychological and emotional components of happiness as conceptualised by this study. The self-administered intentional activities should be brought in line with the participants' signature strengths, in order to ensure continuity in their application. It is important to note that not all self-administered intentional activities would

be ideal exercises for all individuals (Lyubomirsky, 2011; Magyar-Moe, 2009), as each individual would have their own unique set of personal strengths and challenges that need to be developed. Therefore, the choice of self-administered intentional activities should be determined by the needs, interests and signature strengths of the individual (Lyubomirsky, 2011).

The fourth objective of this research was to determine the validity and reliability of various instruments measuring happiness and human flourishing within a tertiary educational institution. The psychometric properties of the Mental Health Continuum Long Form (MHC-LF), Positive and Negative Affect Scale (PANAS) and Satisfaction with Life Scale (SWLS) were evaluated. The results confirmed a three component model for MHC-LF (namely Emotional Well-Being, Psychological Well-Being and Social Well-Being), two factors for PANAS (Positive Affect and Negative Affect) and a single component model for SWLS.

Each component of the MHC-LF was analysed in isolation. The results on each component were not in line with the proposed structure reported by Keyes (2002). These components were labelled: “Emotional Well-being”, “Psychological Well-being” and “Social Well-Being”. Exploratory factor analysis indicated that a single component model for *emotional well-being* could be extracted, which produced acceptable levels of internal consistency as well as person separation and item reliabilities. Furthermore, Rasch modelling indicated that no random selection took place, nor were the items difficult to comprehend (Wu & Adams, 2007).

Similarly, exploratory factor analysis indicated that a single component model of psychological well-being could be extracted, which produced high levels of internal consistency, person-separation and item reliability. Furthermore, Rasch modelling indicated that the majority of the items on psychological well-being were not difficult to understand, nor did the responses appear to be distorted. However, three items on the scale produced extreme outfit mean scores, namely “*I tend to be influenced by people with strong opinions*”, “*The demands of everyday life often get me down*”, and “*I sometimes feel as if I’ve done all there is to do in life*”. This implies that participants may have misinterpreted or misunderstood these items. These items may either have been too complex for the individuals, or internal emotional, psychological, or psycho-social factors may have influenced the results (Wu & Adams, 2007).

Finally, exploratory factor analysis indicated that a single component model could be extracted for *social well-being*. An initial exploratory factor analysis confirmed a four component structure which could not be meaningfully interpreted. Furthermore, the four component structure produced low communalities and showed low levels of internal consistency. Factor and item loadings were not in line with the original conceptualisation of Keyes (2002). The confirmatory factor analysis also produced below acceptable levels of internal consistency. Resultantly, a single component model was fitted to the data. The single component structure produced acceptable levels of reliability. Rasch modelling indicated acceptable person- and item-separation reliabilities on most items. Furthermore, the outfit mean squares were acceptable for the majority of the items. However, two items produced extreme outfit mean squares, namely “*People who do a favour expect nothing in return*” and “*I have something valuable to give the world*”. Therefore, these items may have been difficult for the participants to understand (Wu & Adams, 2007).

Exploratory factor analysis indicated that a two factor model for the PANAS could be extracted. These factors were labelled “Positive affect” and “Negative affect”. The two factor structure produced acceptable communalities and showed high levels of item and person-separation, as well as construct reliability. Rasch analysis indicated that there was no distortion in the results, nor were the items difficult to understand. These results can, therefore, be construed as a true representation of the emotional states of the participants.

The exploratory factor analysis on the SWLS indicated that a single component structure for satisfaction with life could be extracted. All the items produced high person-separation, item and component reliabilities. The results showed that the SWLS produced high levels of internal consistency. Rasch modelling indicated that the results were less likely to be distorted by the participants, and it can, therefore, be assumed that the results are a true representation of the level of satisfaction with life felt by the participants.

The fifth objective of this research was to establish whether increased happiness manifests in improved academic performance of students in a tertiary educational institution. The results indicated that the majority of the participants experienced moderate levels of flourishing. However, in this sample more individuals were flourishing than languishing. The majority of the participants indicated below average levels of emotional, psychological and social well-

being. Furthermore, participants expressed a healthy affect balance, coupled with average levels of satisfaction with life. This indicates that individuals experienced moderate levels of subjective well-being at the time of the measurement. Correlations indicated that no practical or statistically significant relationship between the components of flourishing and academic performance exists. This is in contrast with the findings of Howell (2009), Lyubomirsky (2011) and Seligman (2011). The relationship between flourishing and academic performance was, therefore, more complex than initially anticipated.

Further analysis, through the use of an ANOVA, indicated no differences between flourishing and academic performance. However, cross-tabulations was used to break flourishing down into its three primary components (languishing, moderately flourishing and flourishing), and compared it to five groups of academic performance ('underperforming', 'average', 'slightly above average', 'above average' and 'academically excelling'). Here some significant results were found. Cross-tabulations indicated that across the five groups of academic performance, individuals displayed moderate mental health, and that a large majority of individuals who were either underperforming or performing at an average level were languishing. This is in line with Seligman's (2011) findings, which indicated that underperforming within an academic environment may be attributable to lower levels of flourishing/languishing.

The final objective of this research was to evaluate the short-term and long-term effects of an intervention programme aimed at the happiness of students in a tertiary educational environment. An eight-month-long, pre-experimental, longitudinal study examined the short-term and long-term effects of a PPI aimed at increasing happiness of students ($n = 20$) in a tertiary educational environment. The intervention targeted psychological and emotional components of happiness in order to manifest in permanent behavioural change. The PPI was presented in two phases: (a) a three day self/group development workshop, and (b) six sessions of individual coaching. The three day self/group development workshop was presented over a period of four weeks. Individual coaching sessions took place after the initial workshop and stretched over a period of two months. These individual coaching sessions reinforced the skills learned from the workshop and was made practical and applicable to each individual's unique circumstances.

The results indicated that a combination of the self/group development workshop with the individual coaching may have had a significant impact on participants' overall satisfaction

with their lives, pleasure, engagement, awareness, person-environment fit, autonomy, and relatedness. All these constructs increased over the period of the intervention. The participants' perceived level of competence partially increased over time. Furthermore, the results indicated that only the self/group development workshop may have affected aspects relating to meaning and affect balance. Additionally, it would seem that the intervention as a whole as well as the individual coaching sessions may have affected unbiased processing. However, it was noted that the participants' experience of behaving in accordance with their 'true-selves' (behaviour) and striving for openness and sincerity in close relationships (relational orientation) did not increase as a result of any part of the intervention.

The results clearly indicated that the workshop was a major contributor to the development of the participants. The theoretical structure of the workshop was structured around Seligman's (2002) orientations to happiness (pleasure, meaning and engagement), coupled with a section on quality friendships and conflict management. The PPI addressed aspects relating to happiness in the past (forgiveness and gratitude), present (savouring and mindfulness) and future (hope and optimism). These sections were particularly helpful to the participants, as they involved various interactions and rituals that fostered self-discovery and a sense of social cohesion amongst the participants. The PPI aimed to identify and apply each participant's unique signature strengths in their lives in order to ensure higher levels of engagement, meaning and person-environment fit. A meaningful aspect of the intervention was that participants developed their own strategies on how to apply their strengths in difficult situations in order to manage them more effectively. The PPI also seemed served to provide a means for the participants to establish friendships with each other, which provided an extra layer of social support. Individuals openly shared their personal feelings and fears with the group. These participants also rejoiced in the victories of their fellow group members.

This coaching process involved the development of a personal development plan (PDP), which highlighted the aspects that the individual wanted to develop. The PDP served as the foundation for the development. One aim of the individual coaching sessions was to address unbiased processing. In these sessions, participants were facilitated through a process of individuation in order to align the personal unconscious, with the self (Jung, 1942). These sessions aimed to align the participants' subjective perceptions of the self with objective reality in order to ensure that information obtained be processed in a realistic manner.

Furthermore, these coaching sessions aimed to reinforce the development that had already taken place and to ensure the continuation of the PPI. Overall, participants reported that the PPI was helpful in their developmental journeys, but suggested a few improvements be made to the programme.

5.2 LIMITATIONS OF THE STUDY

This research project was not without its limitations. A major limitation to both Chapter 2 and Chapter 4 was the use of a convenience sample. The samples may not have been representative of the entire population, which affects the generalizability of the results and the inferences that can be made regarding the entire population (Salkind, 2012). This sampling strategy may also have opened the results up to various sampling biases, which means that the results may have been skewed (Black, 1999; Salkind, 2012).

A further limitation was the use of a cross-sectional survey research design in Chapter 2, as this design does not allow for causal factors to be isolated and interpreted. Resultantly, the relationships established through the analysis between the variables can, therefore, only be inferred and not fully established.

Another limitation to the research was the measure used for academic performance. The current study utilised the average academic performance score for a single semester as an indicator of academic performance. This may have influenced the relationships inferred in the results of Chapter 2. Similarly, an accurate measure for academic performance needs to be indicated for doctoral and post-doctoral students, since these individuals do not have “academic grades” to allow for researchers to rate their performance.

Furthermore, the psychometric properties of the MHC-LF (Keyes, 2002) will need to be further investigated. The component loadings were not in line with those indicated through literature. Various items on both the psychological well-being and emotional well-being scale produced high outfit mean squares indicating that individuals might have found these items difficult to comprehend.

Chapter 3 also presented with various limitations. Firstly, the keywords selected to describe happiness and PPIs in the database searches might have resulted in important published

research being overlooked. Research was also limited to peer-reviewed scientific journals and books, as well as those dissertations and theses that conceptualise happiness and the PPI methodology. Furthermore, only psychological theories were discussed. Finally, articles were limited to those written in English and Afrikaans as a result of the researcher's competence in these languages, which means that possible relevant articles that may have been published in different languages would have been excluded from the literature review. However, most high impact journals publishes in English.

Finally, Chapter 4 presented with various limitations. Firstly, the small sample size makes it difficult to generalise the findings of the research to other tertiary institutions or environments. Furthermore, the sample size affected the calculations of internal consistency of the measures used in this chapter. The sample is also not representative of the entire population as a result of the sampling method (convenience sampling). Furthermore, only third year students were included in this intervention, whereas the tertiary educational institution has students from first year level right through to post-doctoral level.

Finally, a major limitation to this study was the pre-experimental research design. This research design did not make provisions for a control group based on the small number of individuals who showed interest in the intervention. Furthermore, this research design does not control for any environmental, emotional and psycho-social changes that might have influenced the intervention (Salkind, 2012). This design opens the results up to situational biases and influences (Salkind, 2012). The use of the pre-experimental design was based on the low level of interest presented by the population group (third year students in industrial psychology). The initial sample ($n = 20$) was too small to use a true- or quasi-experimental research design, whereby the researcher had to make provisions for participants withdrawing from the process. Therefore, the pre-experimental design was the only way through which the research objectives could be addressed in this study. However, pre-experimental research designs have been used in clinical, behavioural and medical contexts to test new techniques and approaches (Palmen, Didden, & Lang, 2012; Shek & Sun, 2012; Sin & Lyubomirsky, 2009). Therefore, the design holds some scientific merit (Salkind, 2012).

5.3 RECOMMENDATIONS

Despite the aforementioned limitations, various recommendations could be made regarding the development of positive psychological interventions aimed at increasing happiness. These recommendations will be presented in relation to: (a) the study and promotion of happiness, and (b) recommendations for future research.

5.3.1 Recommendations to study and promote happiness

The tertiary educational institution should introduce and implement strategies, programmes and interventions to address the pressing issue of the large number of languishing students within this institution. The institution should move away from directing efforts towards improving through put rates based solely on academic criterion. This study suggests some evidence that languishing affects academic performance, and should, therefore, be central to the institution's student development strategy.

Furthermore, the institution should aim to produce students that not only perform well academically, but are also flourishing. The institution should direct attention towards developing students at a psychological and emotional level, as well as academically. The institution should implement a mandatory programme for all new university students, in order to equip them with the psychological skills needed to cope with the demands which the environment would place on them. This programme could be developed based on the principles outlined in Chapter 4 in this study, and could be facilitated by intern-psychologists registered with the university. This would not only save costs for the institution, but would also benefit the students both on an academic level and in terms of promoting flourishing.

5.3.2 Recommendations for future research

Although this chapter highlighted various limitations to the research, the findings of the articles may have significant repercussions for future research.

It is recommended that future research on this subject utilise random sampling techniques, in order to combat possible measuring bias and ensure generalizability of the results. The current study only included one university. Future research should be directed towards

including additional major national universities in the project to ensure generalizability of the results.

Further investigation is also needed regarding the psychometric properties of the MHC-LF within the South African tertiary educational environment. The results for this study indicated that the MHC-LF may be used as a measure for flourishing within this context; however, contextual, cultural, psycho-social, and environmental elements need to be considered. Future research should aim to improve the factorability and item loadings of the MHC-LF. Since there is some evidence that suggests levels of flourishing/languishing impact on an individual's academic performance, interventions need to be designed to facilitate flourishing in students.

Future meta-analysis on the literature discussing the concept of happiness should be extended to include both anthropological and sociological theories on the conceptualisation of happiness. Furthermore, it is suggested that research be directed towards validating the conceptual definition of happiness and the theoretical model proposed in Chapter 3. A qualitative, interview-based approach is suggested to validate the definition. Moreover, research can be directed towards utilising both cross-sectional and longitudinal studies to test the theoretical model through the use of structural equation modelling. In addition, future research should aim to address the cross-cultural impact of happiness and to develop a valid measuring instrument within a South African context of the construct.

Finally, future research can be directed towards evaluating the proposed PPI methodology used in Chapter 4 through true-experimental research designs. These research designs should include both a control group and a placebo group, to control for various influencing factors.

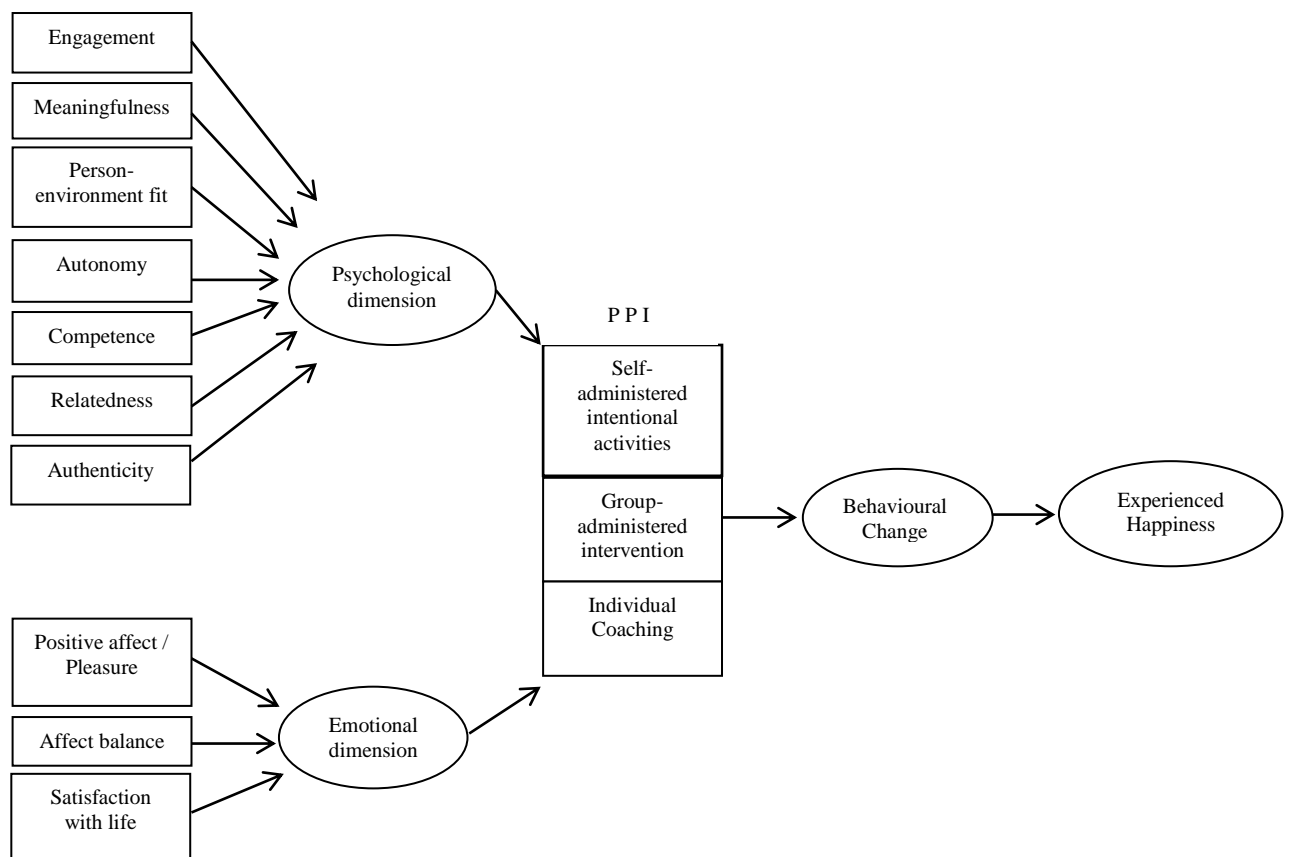
Research may be needed to focus specifically on whether the PPI would need to be adapted for other contexts such as the secondary or primary educational environments. PPI research should also aim to increase the timeframe of the intervention to 12 months, and incorporate more follow-up sessions and individual coaching. Future PPIs should focus more strongly on aspects relating to authenticity, more specifically authentic behaviour and relational orientation. It is also suggested that the intervention be presented by at least two diverse facilitators to ensure maximum impact. Future PPI research should also incorporate principles of team-based coaching, to ensure that the participants can support and motivate each other.

5.4 CONTRIBUTIONS TO THE FIELD OF INDUSTRIAL PSYCHOLOGY

Despite the aforementioned limitations and recommendations, this thesis made the following contributions to industrial psychology as a science:

From this research, it is apparent that happiness should be defined as “a positive affective state of contentment characterised by a sense of joy derived from living a meaningful life, establishing and maintaining positive relationships, and being well (psychologically, socially and emotionally) through living a life of virtue”. Furthermore, the thesis presents a model for attaining happiness (*see* Figure 5.1):

Figure 5.1. Theoretical model for promoting happiness



Furthermore, the study revisited the ‘happy-productive student’ thesis within a tertiary educational environment. The results confirmed that flourishing/languishing may indeed have an effect on the academic performance of students, and suggested that this relationship is far more complex than initially anticipated.

The study further contributed to the literature regarding the measurement of happiness and flourishing by exploring these variables within a multicultural context, and presented evidence regarding the validity and reliability of a measuring instrument for flourishing within a multicultural environment. This study expanded on the knowledge regarding the psychometric properties of the Mental Health Continuum Long Form (Keyes, 2002) within a multicultural context. Further, the thesis presented recommendations on how the instrument would need to be adapted for the tertiary educational environment within South Africa.

The thesis furthers theoretical and empirical knowledge regarding the effectiveness of three methodological approaches for PPIs, namely self-administered activities, group-based development and individual development in the form of counselling or coaching. The study contributed to the existing literature on happiness and flourishing through developing a theoretically-sound methodology for PPIs aimed at cultivating these psychological states. It also systematically evaluated the happiness literature to identify gaps in theoretical approaches and models relating of happiness and flourishing. Finally, a theoretical model to approaching happiness and flourishing was proposed, in an effort to address the presented fissures in literature.

The study built on PPI theory through developing and evaluating an intervention aimed at increasing happiness within a multicultural environment. The study broadened the current knowledge concerning the role of all mediating mechanisms (engagement, meaning, pleasure, person-environment fit, autonomy, relatedness, authenticity, life satisfaction and affect-balance) that impact on happiness and its components. The results indicated that a group-based intervention programme targeting the experience of engagement, pleasure, person-environment fit, autonomy, relatedness, competence, self-awareness, life satisfaction and affect-balance might result in increased levels of happiness. Furthermore, individual coaching may reinforce the developmental process and may impact on aspects relating to the experience of meaning, unbiased processing and competence. However, it would seem that the PPI did not affect aspects relating to authentic behaviour and relational orientation (components of authenticity).

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6. APPENDICES

6.1 Appendix A

Workshop Programme

Time	Activity	Brief description	Self-administered intentional activity during the workshop	Self-administered intentional activity for homework
Day 1				
07h15	Tea/Coffee	Participants are welcomed and the process of the next few days will be discussed. The intended outcomes of the course are discussed. Participants will have the chance to present their expectations of the course and their intended outcomes. This is followed by an ice-breaker aimed at facilitating the establishment of psychological safety.		
08h00	Welcoming and icebreaker	Participants are shown a video about an individual using his strengths to re-craft his work and life in such a manner to derive more meaning from it. The video shows the manifestation of the various components of happiness. The participants will have to share their experiences of the video, will have to identify the main character's signature strengths and share which character they identified with in the video and why.	None	None
09h00	Validation - A fable about the magic of free parking	The history of the concept, definitions and determinants of happiness is discussed with the participants. Various self-administered strategies are to be discussed, along with ways to identify which of these activities would be best suited to a given participants needs and strengths.	Activity 1 - Me at my best: Participants are required to divide themselves into groups of three. They will have to tell a story about when they are at their best, a story in which they displayed their highest virtue. The participant's partners are then required to listen for the underlying positive motivations, strengths, and virtues and to provide feedback to the participant after the activity.	None
10h00	What is happiness?		Activity 2 - My definitions: Participants are required to develop their own definitions of the various dimensions of happiness (e.g. Pleasure, meaning, engagement, positive relationships) and to provide examples of each. These definitions are discussed in small groups of three to four.	The happiness journal: Participants are provided with a hardcover book. They are asked to go home and on the front cover of the book make a collage of the positive things in their past and present. On the back cover they are to make a collage of what he/she envisions his/her positive future will be like. Furthermore, they are requested to look for three positive things they experience each day in their lives and to write it down their books. They will also have to write down three reasons why these aspects made them happy. For each day of the following week, the participants will have to look for these positive aspects in different domains of their lives (e.g. Tuesday - In their family domain). This process will have to be repeated throughout the entire intervention.

Time	Activity	Brief description	Self-administered intentional activity during the workshop	Self-administered intentional activity for homework
11h15	The pleasant life (Pleasure)	This section related to the experience of pleasure and how it manifests in the past, present and future. Pleasure in the Past - The first section related to teaching skills on dealing with the past (Forgiveness and Gratitude).	Activity 3 - Lets forgive: Participants are required to write a letter to a past transgressor whom they have not yet forgiven. A symbolic, ritualistic approach is adopted, where the participants are asked to burn each letter individually signifying "letting go".	The 26 days of gratitude: There are 26 letters in the alphabet. For the next 26 days the participants needed to complete a list of things they are grateful for. Each day is assigned a different letter. During each day participants needed to look for things they are truly grateful for, beginning with the corresponding letter (e.g. I am grateful for Elrie because of all the support she has given me over these past few weeks). The Gratitude Visit: Participants are requested to write a 300 word essay to an individual who will have a great impact on their life whom they have never thanked. The participant will have to make an appointment with this individual and read the letter to them in person. The participant will have to write down his/her experience of the event and share it with the group in the next session.
13h00	Lunch			
14h00	The pleasant life (Cont.)	Pleasure in the Present - The second section related to enhancing and prolonging pleasure in the present through teaching the skills of savouring and mindfulness. A theoretical explanation of each concept is given. Various techniques are discussed on how to enhance savouring and mindfulness. During the mindfulness discussion, participants will be asked to complete a questionnaire in order to indicate their level of mindfulness.	Activity 4 - Savouring the chocolate: Participants are provided with two chocolates. They will have to listen carefully to the instructions from the presenter. Participants are instructed to eat the first chocolate as fast as they can and to explain the taste thereof. The second chocolate is followed by deep deliberate instructions which are: <i>"Slowly unwrap the chocolate. Slowly smell the sweet scent of the chocolate. What can you smell? Take a small bite... Let the chocolate swerve around your mouth. Let it dissolve completely. Now sit back...Close your eyes and listen to what the presenter is saying. Recall the experience in as much detail as you can remember"</i> . Activity 8 – Mindfulness: Participants are presented with a picture on a projector that shows toys and various items. Participants will have to take a long look at the picture on the screen. Students are instructed to find certain items in the picture.	None

Time	Activity	Brief description	Self-administered intentional activity during the workshop	Self-administered intentional activity for homework
15h30		Pleasure in the Future - This section focused on aspects of hope and optimism. A theoretical explanation of each component is provided, followed by the completion of an Optimism Scale to indicate their position on each construct. The section on optimism is opened with a story of "Michael the eternal optimist" which is followed by a discussion on the concept. Seligman's ABCDE model of learning to be optimistic is presented and practiced. Various other techniques on how to enhance and practice optimistic thinking is presented and practiced.	Activity 9 – My future self. Participants are asked to imagine what their lives would be like in 25 years, with particular respect to the following instruction: "Imagine that everything has gone as well as it possibly could. Imagine that you have worked hard and succeeded at accomplishing all of your life goals. Think of this as the realization of all of your life dreams. Now draw this positive future"	None
16h45	Seligman on Happiness	The day is concluded with a video lecture, where Martin Seligman talks about happiness.	None	Students are requested to complete the Values in Action (VIA) Signature Strengths Inventory online and to bring their results to class.
Day 2				
07h15	Tea/Coffee			
08h00	Opening and Welcoming	Participants are welcomed for the second day. The programme for the day is discussed and those who felt comfortable could share something positive that happened to them during the course of the week.	None	None
09h00	The good life (Engagement)	An introduction of the second component of happiness is provided. A lecture on engagement is given. Here the difference between engagement, pleasure and happiness is highlighted.	None	None
10h00	Tea/Coffee break with light snacks			
10h15	The good life (Cont.) Mihaly Csikszentmihalyi on Flow /Engagement	A video lecture from Mihaly Csikszentmihalyi is shown regarding the concept of engagement/flow.		None
10h45	The good life (Cont.) Signature Strengths: An overview	A lecture on Signature Strengths is presented. A brief historical origins of the VIA Strengths are discussed. Participants were taught the impact of strengths and how to identify strengths in other people.	Activity 10 - My Strengths: Participants are required to list their strengths as they saw them and to match that with the results of the VIA Signature Strengths Inventory.	None

Time	Activity	Brief description	Self-administered intentional activity during the workshop	Self-administered intentional activity for homework
12h00	Lunch			
13h00 to the end of the day.	The good life (Cont.) Signature Strengths: What are my strengths and how can I utilise them	A lecture is facilitated regarding each one of the 24 VIA signature strengths. Here a definition of each strength is provided. Participants who have been shown a particular strength will have to indicate how you can identify that strength. Furthermore, strategies are developed that allow one to use a particular strength to cope with hardships. Participants are also given a chance to discuss their strengths and their unique combinations of strengths.	Activity 11 - Using my strengths: In groups of three, participants will have to select three activities which caused personal stress in their lives. Participants will have to brainstorm new ways in which they could use their top five strengths in order to address these stressors.	Strength awareness: Participants are instructed to look for new ways in which to use their strengths. Furthermore, to use their unique combination of strengths in at least one challenging environment where they are faced with a difficulty. Moreover, they will have to identify how many times they use a particular strength in a day. Strengths list: Participants are instructed to write their top five strengths on a A2 piece of paper. Every morning these participants will have to read these strengths out loud to themselves and each night they will have to add another strength they identified during the day on the list. This process will have to be repeated throughout the intervention.
Day 3				
07h15	Tea/Coffee			
08h00	Opening and Welcoming	Participants are welcomed for the third day. The programme for the day is discussed and those who felt comfortable shared something positive that happened to them during the course of the week.	None	None
09h00	The meaningful life (Meaning)	This section started off with a presentation on meaning and how people waste food throughout the world. The presentation highlighted how certain families in one area of the globe spent more than R10 000 a week on food, where other families only will have R1.65 a week. A brief discussion is facilitated regarding what the participants found to be meaningful in their lives and what gave their lives purpose. The difference between meaningfulness and meaninglessness is discussed.	None	None
10h00	Tea/Coffee with light snacks			

Time	Activity	Brief description	Self-administered intentional activity during the workshop	Self-administered intentional activity for homework
10h15	The myth of Sisyphus	The Greek myth of Sisyphus is told to the participants and a video is shown to visualise the day to day struggles of repetitive work and how a change in meaning facilitated a change in attitude and desire. Real life case studies are discussed regarding the manifestation of meaning and meaning crafting	Activity 12 – Re-crafting meaning: Participants are required to write down one aspect of their studies that they despised the most and to draw a circle around it in the far right will have corner. Students are instructed to draw a new bubble next to it indicating "Why this needs to be done" or "What does this activity/event/aspect lead to". They will have to continue with the exercise till it highlighted an aspect which is truly important or meaningful to them.	Letter from my future self: Participants are required to imagine themselves being ten years in the future with the following instruction: "Write a letter from your future self to your current self from a place where you are happier and have resolved the issues that are concerning you now. Describe where you are, what you are doing, what you have gone through to get there etc. Write about the crucial things you realized or did to get there and write about some crucial turning points in your life that led to this future. Give your past self some wise and compassionate advice from the future".
12h00	Lunch			
13h00	Establishing quality friendships: Transactional Analysis and the Carkhuff model of facilitation	A brief overview of Transactional Analysis and friendships/relationships are presented. The process of identifying and utilising ego stated to establish relationships is presented and practiced. The first three phases of the Carkhuff model of facilitation is used to help participants identify emotions and the basics of effective communication in order to establish better relationships.	Activity 14 – A case study. Participants are given a case study relating to poor relationships and miscommunication. In groups of three, participants will have to act out the roles assigned in the case study. The participants are then requested to apply the model they have learned in this case study to improve the relationship.	None
14h30	Tea/Coffee			
15h00	Managing conflict through Appreciative Inquiry	An overview of the AI is provided and how it can be used to manage conflict. The Thomas-Killman conflict management styles are presented and how it relates to the AI process.	Activity 13 - Simulating conflict. Role-plays are used to simulate conflict. Participants are required to play the various conflict management styles and to use AI as an approach to manage the simulated conflict.	None
16h30	Conclusions and the road forward.	The day is ended with highlighting the intended outcomes of the intervention, working through the expectations presented in the first session and to test if those expectations are met. The next phase of the intervention is discussed and the process highlighted.	Activity 14 – Reflection. The participants share their developmental stories with the rest of the class, emphasizing what they learned and how they uniquely applied the skills of the workshop in their lives.	None

6.2 Appendix B

Qualitative Impressions from the Initial Orientation, the Self/Group Development Workshop and the Individual Coaching

During the information session	During the self/group development workshop	During the individual coaching
<p>Participants seem to be excited and curious about the process.</p> <p>Most of the participants posed many questions regarding aspects of confidentiality and how it will be managed within the intervention. This may indicate some sensitivity and insecurity from the participants.</p> <p>When asked what the participants believed happiness to be, many struggled to formulate a proper definition. Definitions the participants presented related to aspects such as "<i>having a smile on my face</i>", "<i>feeling good all the time</i>" and "<i>just being content</i>".</p> <p>When asked what would make them 'happy', participants responded with aspects relating to the hedonic conceptualization of pleasure: "<i>Seeking the positive and avoiding the pain</i>". This might also be as a result of their current developmental phase (Noddings, 2003).</p> <p>Participants seemed to sit in isolation from one another in the venue. This might relate to the uncertainty of the process, and the fact that the participants might not know one another. It is also an indication of their relational orientation and ability to establish relationships with peers.</p> <p>Participants were experiencing trouble in setting personal goals for themselves.</p>	<p>On the first day, more than half the participants arrived an hour late. The intervention started an hour later than expected. This might also be an indication that the participants didn't take the process seriously.</p> <p>Some participants became irritated with those who arrived late. This might also be an indication of their emotional maturity and negative affect balance.</p> <p>During the Validation video, six of the female students became very emotional during the part where the supporting character told the main character how "<i>awesome</i>" and "<i>great</i>" he was. The main character responded that no one has ever said that to him before. This may have triggered the emotional reaction.</p> <p>When the researcher presented the section on the "happiness pie" and indicating that only 10% of one's overall level of happiness is determined by the environment, a lively discussion amongst the participants started. Participants believed that the environment was the largest contributor to their level of unhappiness. This may also indicate an external locus of control</p> <p>During the first activity (where individuals needed to develop their own definitions for the various components of happiness), it would seem that some insight into the concept has developed. Participants started to define happiness as more than just the pleasure component, and started incorporating other aspects such as "<i>purpose in life</i>" into their definitions.</p> <p>The section on forgiveness was very difficult for all the participants. When asked to write a letter to a past transgressor, most of the individuals became emotional. After the forgiveness ritual, the researcher facilitated a debriefing session. During this session the participants were asked how they felt before and after the forgiveness ritual. All the participants indicated that they felt like "<i>a weight was taken off my shoulders</i>". Participants indicated that they didn't know that this transgressor still had so much control over their lives and that they could not believe that these events still had such a large impact on their emotional state.</p>	<p>The participant's initial reactions to the coaching process were "<i>it's a bit weird</i>" and "<i>difficult</i>". Some participants reported feeling initially fearful, uncertain and uncomfortable. All the participants felt that the initial session were 'just talk' and that it "<i>felt weird to talk just about me and nothing else</i>". These participants found it fascinating that someone would be "<i>interested solely in me, and interested in what I was thinking and saying</i>".</p> <p>During the initial session it was difficult to break through with each participant. It seemed that the participants were still a bit cautious about the process. This however subsided during the second and third sessions.</p> <p>During the second and third sessions, the participants reported that it was "<i>easy to talk to</i>" the researcher and that they could start seeing the "<i>impact of the process</i>" in their daily lives. The majority of the participants reported that they started to realize that their struggles with their peers and family were more struggles they "had with themselves".</p> <p>Initially, a slight minority of the participants found it difficult to understand that they were responsible for their own realities. These individuals had a strong external locus of control</p> <p>During the third session, more than half the participants started to indicate that they feel more satisfied with their lives and that they are engaging more in activities which they feel were meaningful. All the participants reported lower levels of negative affect from the last two sessions to the third.</p> <p>All but three participants indicated that they made at least one more friend during the course of the coaching process. These participants initially found it difficult to establish and maintain relationships with peers and were challenged to apply the principles of the workshop in order to establish at least one more relationship. The introverted participants found establishing new relationships a lot more difficult than the extraverted participants.</p>

During the information session	During the self/group development workshop	During the individual coaching
	<p>The story about Michael, the eternal optimist, seemed to have been a great metaphor for the participants to channel their own thoughts and feelings through. During the lunch break, it would seem that the participants kept referring back to it and referred to instances where they acted optimistic and hopeful.</p> <p>Participants had to complete a self-scoring optimism questionnaire to indicate their level of optimism. Some individuals who scored high on the test started discussing how being optimistic helped them in situations that were difficult.</p> <p>During the chocolate activity, most of the participants asked for more chocolates. This might also act as an indication of their Hedonic understanding and pursuit of happiness. Seeing that these individuals are all from a very low socio-economic environment, it might also indicate that they are not use to things like this. This might also substantiate the need to look for more pleasurable activities and events in order to avoid the experienced pain of living in poverty.</p> <p>On the second day, all but one participant was more than 45 minutes early for the workshop. This might also indicate the value they drew from the first session.</p> <p>The workshop was opened with individuals sharing positive things that they had experienced during the course of the week. This seemed to be a powerful tool to create group cohesion. Most of the participants started applauding and started giving compliments to the presenting participant.</p> <p>It would also seem that the individuals started forming a bond. Unlike the first session, the participants were sitting next to each other and shared jokes as well as positive experiences.</p> <p>The following section focused on the use of personal signature strengths. Participants were shown a technique on how to identify the strengths of others and initially found it quite difficult to do so. As the day progressed, the participants were required to identify the strengths of various public figures; a task they found easy. Furthermore, the individuals started identifying the strengths of their peers.</p> <p>Participants spontaneously started sharing stories of where they had used a particular strength and how meaningful it was to do so.</p>	<p>During the fourth session it would seem that some of the participants still found it difficult to present their "<i>true-selves to other people</i>". It would seem that these participants were still cautious about "exposing" themselves to others because of the fear for rejection and ostracization.</p> <p>By the fifth session, most of the participants had conducted a gratitude visit. During this session the participants gave feedback regarding this event and how meaningful it was for them. They reported that it was easy to write the letter, but found it a bit difficult and emotional to read it to the recipient. However, the end-result was positive in each case. All these participants reported that it was a pleasurable experience and that they "<i>still smile when they think of it</i>".</p> <p>The final session was used to debrief the process for and to evaluate the progress of each individual. During this final session, each participant expressed their gratitude to the process and stated how valuable these sessions had been in terms of helping them facilitate their own growth.</p> <p>Three days after the researcher saw the last participant, the participants arrived at his office. The participants utilized the "gratitude" visit exercise and expressed their gratitude to the researcher for the help and the journey. This indicates that the researcher had some positive impact on the lives of the participants.</p>

During the information session	During the self/group development workshop	During the individual coaching
	<p>After this section, the participants were required to identify situations which they felt stressful and to identify ways in which they could use particular strengths to help cope or resolve these situations. This seemed to come naturally to the participants, and they encouraged each other to develop their own strategies to address current issues.</p> <p>On the third day, all the individuals were an hour early and came to speak to the researcher about positive aspects in their lives and how they are applying the techniques they had learned in their relationships with friends and family.</p> <p>The concept of meaning was very difficult to grasp for most of the participants. Participants struggled to understand the impact of meaning and how it affected their lives. Only after completing an activity relating to the identification of meaningful activities/events/situations did it became easier to understand.</p> <p>Participants seemed very intrigued about the section on establishing quality friendships. This might indicate the participants' need for establishing quality friendships. A lot of questions and comments were made during this section.</p> <p>The final section was on managing conflict. Participants seemed to enjoy and related to the animal metaphors for the various conflict management styles. It was easy for the students to relate to the metaphors and to internalize the Appreciative Inquiry approach towards managing conflict. The various role-plays seemed to have sparked excitement and curiosity.</p>	

6.3 Appendix C: Confirmation of Language Editing

24 April 2012

To whom this may concern,

This is to confirm that I have edited Llewellyn Ellardus van Zyl's doctoral thesis entitled '*The development and evaluation of positive psychological interventions aimed at happiness*', according to the APA guidelines (5th ed).

If you have any queries, please do not hesitate to contact me either via e-mail or cellphone.

Kind regards,

Athena Clayton

E-mail: athena.clayton9@gmail.com

Cell: 083 608-5209