

**EFFECT OF EQUINE ASSISTED GROWTH AND LEARNING ASSOCIATION
(EAGALA) MODEL ON PSYCHOLOGICAL WELL-BEING OF ADOLESCENTS:
A MIXED METHODS APPROACH**

by

SHARON BOYCE

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SUPERVISOR: DR. NICOLEEN COETZEE

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<p>UNIVERSITY OF PRETORIA FACULTY OF HUMANITIES RESEARCH PROPOSAL & ETHICS COMMITTEE</p>
--

DECLARATION

Full name: Sharon Doris Boyce

Student Number: U15196357

Degree/Qualification: MA (Counselling Psychology)

Title of thesis/dissertation/mini-dissertation:

Effect of Eegala model on psychological well-being of adolescents: A mixed-
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ABSTRACT

Historically, South African adolescents have experienced high levels of adversity and continue to be exposed to high levels of trauma as either victims or witnesses of violence and are recognised as being a most neglected sector of the South African population. This can negatively affect their psychological well-being. The young residents of South African disadvantaged townships represents a group that does not have access to resources that are traditionally acknowledged for promoting mental health and well-being; leading to a loss of self-esteem, depreciated sense of self-worth, a loss of self-respect and suicide. Existing community-based health facilities lack child and youth friendly mental health services to prevent mental disorders and promote mental health and psychological well-being. The purpose of this study is to determine the effect of the Eagala model to facilitate psychological well-being in adolescents living in an under-resourced community, Diepsloot. Positive psychology was used as a theoretical point of departure for using an embedded mixed-methods approach. The quantitative data was collected using the Ryff scales of psychological well-being (RSPWB) pre- and post-intervention to determine the effect of the Eagala model on participants' psychological well-being. The qualitative data in the form of personal texts was embedded in this larger design for the purpose of expanding and deepening understanding regarding the subjective experience of the participants. Significant differences were observed between the experimental and control group with regards to psychological well-being ($p < 0.05$). Qualitative themes that came to the fore were autonomy, personal growth, positive relations with others and self-acceptance. The Eagala Model is effective in promoting psychological well-being. It was also found that horses can act as facilitators of teaching of positive life values. Recommendations are that Eagala model programs be established as part of youth friendly mental health services.

Key Words:

Psychological well-being, adolescents, Eagala model, equine-assisted psychotherapy, equine-assisted counselling, animal-assisted interventions, mixed-method design, youth friendly mental health service, under-resourced communities

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CHAPTER 1: AN INTRODUCTION TO THE STUDY

1.1 Introduction

Historically, South African children and youth have experienced high levels of adversity and trauma coupled with limited access to appropriate mental health care resulting in them being one of the most neglected sectors of the South African population (Jooste & Maritz, 2014). In particular the children and youth living in impoverished townships often experience daily exposure to multiple risk factors such as violence, substance abuse, sexual abuse and rape, domestic violence, poverty and unemployment (Mahajan, 2014). These factors can negatively affect their psychological well-being (Barbarin, Richter, & DeWet, 2001; Reddy et al., 2010). Existing community-based health care facilities provide limited child and adolescent friendly mental health services that prevent mental disorders and promote mental health and psychological well-being (Gauteng Department of Education, 2005; Jooste & Maritz, 2014; Patel, Flisher, Hetrick, & McGorry, 2007; Reddy et al., 2010).

Chapter 1 provides background information to this research relating to the impact of impoverished communities, such as Diepsloot, on adolescents and their psychological well-being. Furthermore it situates equine-assisted counselling, in particular the Eagala model, as a framework for facilitating appropriate therapeutic interventions for this population. Finally it describes the aims of the study and provides an overview of subsequent chapters.

1.2 Research Problem

One of South Africa's historical legacies is the existence of impoverished communities, often referred to as townships on the outskirts of cities and towns. Diepsloot is one such impoverished urban township on the northern outskirts of Johannesburg. It spreads over 12 square kilometres, and has an official population of 138 329 (Stats SA, 2012). However, unofficial

reports place the population closer to the region of 350 000 (Makwela, 2015), of which 55.9 % are youth and young adults (Stats SA, 2012).

Diepsloot has become known for its violent service delivery protests, xenophobic attacks, lack of public safety and violence against youth and women (Mahajan, 2014). For the youth, it is regarded as a poverty and unemployment trap where there is a pervading sense of disillusionment and discontent (Cross, 2014), which “ferments a brew of anger, suspicion, fear, and longing for opportunity” Mahajan (2014, p. 10). This cycle of poverty, violence and unemployment appears to be viewed as an inescapable life situation of suffering which creates pronounced deprivations on well-being (Kehler, 2001).

Ratele (2007) describes poverty as depriving people of a life of freedom and dignity as well as opportunities to reach their potential. Literature supports the view that poverty is associated with factors that place adolescents at risk of experiencing abuse and neglect; parental alcoholism and substance abuse in addition to being a victim and or perpetrator of crime (Blair & Raver, 2012; Ratele, 2007; Reddy et al., 2010). Moreover such environmental and social factors appear to have a negative impact on child psychological development (Blair & Raver, 2012), in addition to being known contributors to depression, self-injurious behaviours, suicide and susceptibility to conduct problems and substance abuse (Barbarin et al., 2001; Richter, Dawes, & Higson-Smith, 2004; Schonert-Reichl, 2000). These conditions are indicators of potential mental ill-health and a lack of psychological well-being, which in adolescents can be prevented from further manifestation in adulthood

(Jooste & Maritz, 2015; Kessler et al., 2010; Richter et al., 2004; Schonert-Reichl, 2000).

Additionally poverty deprives individuals of access to resources that are traditionally acknowledged for promoting mental health and psychological well-being; leading to a loss of self-

esteem, depreciated sense of self-worth, a loss of self-respect and suicide (Seedat, Van Niekerk, Jewkes, Suffla, & Ratele, 2009). This situation is confirmed by the findings of Lund, Kleintjes, Kakuma, Flisher, and JMHaPP Research Programme Consortium (2010) which reflect the significant limitations of mental health resources across South Africa. They found that there are only 0.28 psychiatrists and 0.32 psychologists per 100,000 people in the country. This is augmented by a lack of non-specialist community based mental health workers with the necessary skills and motivation to provide quality mental health services (Jooste & Maritz, 2014, 2015; Pillay & Lockhat, 1997). In considering Diepsloot, one is dismayed to realize that there are two general health clinics and two full time counsellors at the South African Depression and Anxiety Group (SADAG) facility to provide for the mental health needs of the Diepsloot residents (Shamos, 2011).

Adolescents are regarded as young people between the ages of 10 and 19 years (World Health Organisation, 2014). According to the life span developmental approach this is a period when the majority of a person's biological, cognitive, psychological, and social characteristics are changing from what is typically considered childlike to what is considered adult-like (Lerner & Galambos, 1998; Overton, 2010). Adolescence is an important life stage and understanding of psychological well-being in adolescence is a complex phenomenon due to the multiple transitions and changes that happen (González, Casas, & Coenders, 2007). Adolescent developmental success and positive psychological health can be regarded as a predictor of mental health in adulthood (Kessler et al., 2010; Keyes, 2007).

Working therapeutically with adolescents, particularly those who are regarded as being at-risk, can be regarded as "difficult" as they tend to be ill equipped for traditional counselling interventions which require them to be verbal and disclose thoughts and feelings (Hill, 2007). Additionally, in the South African context it appears there is a necessity for effective interventions

that address prevention and management of adolescent emotional and behavioural problems over and above the infrastructure that is currently in place; this necessity has been identified by educators and mental health professionals alike (Carlson, 2003; Lund et al., 2010; Van Schalkwyk & Wissing, 2010). This highlights a need to identify alternative counselling interventions that promote general life skills, responsible citizenship, and moral regeneration (Hill, 2007; Hill, Burrow, O'Dell, & Thornton, 2010; Van Schalkwyk & Wissing, 2010) in order to assist South African adolescents to grow into adults with a sense of psychological well-being and overall quality of life (Gauteng Department of Education, 2005, 2014; Mathews, Griggs, & Caine, 1999; Reddy et al., 2010).

Despite adolescents being typically regarded as difficult to engage in traditional office settings, experiential learning counselling programmes have shown to provide an alternative modality which maximize an individual's tendency to self-disclose whilst interacting with the environment (Hill, 2007). Benard (1990) cites studies showing significant positive results within programmes which provide adolescents with the opportunity to experience somewhere in their life a caring, nurturing environment which encourages their active participation in terms of problem-solving, decision-making, planning, goal-setting, and helping others in meaningful activities.

Psychological well-being is a broad term used to describe a state of good or satisfactory existence, a state characterized by health, happiness and prosperity and is often used interchangeable with the term mental health (Visser & Routledge, 2007). To experience psychological well-being is to be in a state of optimum functioning and flourishing which is more than being free of distress or mental ill-health (Ryff, 1995; Seligman & Csikszentmihalyi, 2000).

There is a paucity of rigorous research documenting the potential links between interaction with animals and positive adolescent development with recent studies indicating a positive

correlation between human-animal interactions and positive youth development (Mueller, 2014). Human- animal interactions have been found to promote psychological well-being through stress reduction in children and young adults (Esposito, McCune, Griffin, & Maholmes, 2011). Emerging research focusing on the nature of equine–human therapeutic interventions with populations of adolescents indicates positive impacts on psychological well-being (Cawley, Cawley, & Retter, 1994; Pendry & Roeter, 2013; Trotter, Chandler, Goodwin-Bond, & Casey, 2008). However, more research is needed to better understand the relationship between the equine and humans (Notgrass & Pettinelli, 2014). One modality of human-equine interaction is the Eagala model¹ where there is increasing evidence relating to its psychologically therapeutic impact (Masini, 2010; Shultz, 2005; Whittlesey-Jerome, 2014). This study intends to contribute to insight and understanding of the potential for Eagala model as an appropriate intervention to facilitate psychological well-being of adolescents.

1.3 Aim and Objectives

In order to explore interventions promoting the psychological well-being of adolescents, this research aims to determine the effect of the Eagala model to facilitate psychological well-being in a group of Diepsloot adolescents.

The following research questions are posed:

- What is the effect of an Eagala model intervention on the psychological well-being of adolescents living in Diepsloot?

¹Eagala model is a framework developed by the international Equine Assisted Growth and Learning Association (Eagala) for equine-assisted psychotherapy, counselling and personal development

- How do adolescents describe the effect of the Eagala model intervention on their psychological well-being?

The following objectives were set to attain this aim:

- To measure psychological well-being of the participants pre- and post to participating in Eagala model intervention.
- To investigate what the influence of the Eagala model intervention is on the subjective psychological well-being of the participants.

1.4 Chapter Outline

This dissertation comprises five chapters each one contributing interdependently to the completeness and fullness of the study.

Chapter 1 provides a general overview of the study, including an introduction to and rationale for the study. The chapter also contains the research problem, research questions, and the purpose of the research and definition of concepts.

Chapter 2 will outline the conceptual framework for the study by providing a literature exploration with regard to information on psychological well-being in adolescents, equine-assisted counselling, Eagala model, within the theoretical framework of positive psychology.

The third chapter will describe the research process in-depth, including the research design and methodology that was followed in the study.

Chapter 4 presents the results of the study.

In Chapter 5 the researcher will summarise the results of the study and will present conclusions drawn from the study. Limitations and recommendations for additional research will also be discussed.

1.5 Conclusion

Chapter 1 has provided an overview of the research to be conducted, introducing the literature that has informed the research problem. The aim of the study was described together with the research questions and the objectives. An outline of the study was provided and subsequent chapters will follow this outline.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter creates the conceptual framework for the study by reviewing the relevant literature. Psychological well-being is considered within the theoretical framework of positive psychology, and the need for innovative interventions promoting adolescent psychological well-being is then discussed. The case is made for the applicability of interventions encompassing a human-animal bond which will segued into a literature motivation of the therapeutic use of horses, specifically the Eagala model of equine-assisted counselling as an appropriate intervention for adolescents. Gaps in the current literature are identified and used to position this study in terms of its potential contribution to the field of psychology.

2.2 Positive Psychology

Positive psychology is the theoretical framework for this research study, which over the past two decades, has challenged the mainstream position of psychology to expand the focus from human deficits and psychopathology to include that which has not been studied; psychological health, well-being and human strengths and virtues (Baumgardner & Crothers, 2014; Linley, Stephen, Harrington, & Wood, 2006; Pawelski, 2016a, 2016b; Seligman & Csikszentmihalyi, 2000). Positive psychology, as an approach, values those things that make life most worth living; optimal human experience and functioning and, essentially what goes right in life at both the individual and group level (Linley et al., 2006; Park & Peterson, 2008; Seligman & Csikszentmihalyi, 2000). Positive psychology is believed to have grown out of the foundations of existential philosophy and humanistic psychology as is evidenced in its concern for the human experience as a whole as well as the subjective human experience (Robbins, 2008; Wong, 2006). It aims to compliment and extend traditional problem-focused psychology (Baumgardner &

Crothers, 2014; Peterson, 2013), to bring a realistic balanced view of the holistic realm of human nature (Baumgardner & Crothers, 2014; Linley et al., 2006).

Duckworth, Steen, and Seligman (2005), Hefferon and Boniwell (2011) and Seligman and Csikszentmihalyi (2000) all concur that the realm of positive psychology is concerned with life as can be described by the following domains:

- i. The pleasant life maximises subjective experiences focussed on happiness, contentment and life satisfaction associated with the past, present and future such that pain and negative emotions are minimised; a concern with hedonic notions of well-being.
- ii. The engaged or good life is a life led around the use of individual traits and character strengths and talents (character strengths are qualities considered virtuous across cultures and historical periods such as valour, leadership, kindness, integrity, wisdom, the capacity to love and be loved), leading to experiences of flow when functioning optimally; a concern with eudaimonic notions of well-being.
- iii. The meaningful life where life is one led in the service of something larger than oneself facilitated by a sense of belonging and serving such institutions (institutions encompassing positive emotions and traits include; mentoring, strong families and communities, democracy and free press), creating hope and optimism for the future; a concern with eudaimonic notions of well-being.

When these three domains of life are achieved then individuals are regarded as having achieved a state of optimal functioning or flourishing, and can be said to experience mental health and psychological well-being (Keyes, 2007; Seligman & Csikszentmihalyi, 2000). Keyes (2007)

states that to promote and maintain genuine mental health is to promote a state of flourishing where high levels of emotional, psychological and social well-being are experienced.

Mental health is not merely the absence of mental illness but the presence of “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (World Health Organisation, 2004, p. 10). An operationalised view of mental health is that it is a syndrome of symptoms comprising subjective well-being; an individual’s perceptions and evaluations of one’s affective state in addition to optimal psychological and social functioning (Keyes, 2002). Within the literature the term mental health is often used interchangeably with the term well-being, implying high levels of emotional, psychological and social well-being (Keyes, 2007; Snyder, Lopez, & Pedrotti, 2011). According to Duckworth et al. (2005), the work of Marie Jahoda provided a six process framework for understanding mental health namely; acceptance of self, growth or development and becoming, integration of personality, autonomy, accurate perception of reality and environmental mastery. Additionally Jahoda stressed that mental health, and by implication psychological well-being, be viewed as separate from the absence of distress or pathology; which is the underlying premise of positive psychology. A literature review conducted by Linton, Dieppe, and Medina-Lara (2016) identifies that within the literature the term mental health and psychological well-being are used interchangeably and they concluded that mental health is generally used as an alternative phrasing for psychological well-being.

Psychological well-being as a construct of positive psychology is understood in relation to the major philosophical, now turned psychological, perspectives of well-being namely; hedonism and eudaimonism (Henderson & Knight, 2012; Robbins, 2008; Wong, 2006). The

hedonic perspective views the maximisation of pleasurable moments as the foundation to happiness and, therefore, psychological well-being. It is reflected through both affective and cognitive components; the subjective experience of feelings such as happiness, satisfaction, jollity, as well as the subjective evaluations, judgements, regarding the quality of one's life in general or in specific life domains such as relationships, work and so forth (Henderson & Knight, 2012). Hedonic well-being, also known as subjective well-being, is regarded as the subjective state of having positive emotions towards one's life, in other words to be happy (Keyes, 2007); a state of feeling good, content and satisfied with life (Ryff & Singer, 2008). Such hedonic states tend to be measured subjectively according to the personal assessment of the ratio of pleasure to pain experienced in life (Robbins, 2008).

The eudaimonic perspective postulates that living an authentic life guided by moral values focused on actualizing intrinsic individual potential is the way to psychological well-being. According to Henderson and Knight (2012), individual potential can be achieved through the pursuit of complex and meaningful goals in addition to achieving well-being through acting in an honest, just, kind, courageous manner for its own sake. Eudaimonic psychology comprises living life to its fullest potential with core component constructs being personal growth and meaning in life, supported by constructs such as purpose, self-realisation, social connectedness, authenticity and value congruence (Henderson & Knight, 2012; Steger, Todd, & Kashdan, 2008). Eudaimonic well-being equates to living a good life in terms of character strengths and virtues, including positive psychological and social functioning in life (Keyes, 2007; Robbins, 2008).

Ryff and Singer (2008) argue that equating psychological well-being only with hedonic states of happiness, is limiting as it ignores the influence of eudaimonic factors. Eudaimonic factors such as the satisfaction of right and wrong desires and the striving towards excellence based

on individual potential are significant factors in the determination of psychological well-being (Henderson, Knight, & Richardson, 2013; Keyes, 2007).

The focus of positive psychology, according to Duckworth et al. (2005), is to identify empirical research regarding the nature and effects of positive psychology interventions that build positive emotions, engagement and meaning.. Duckworth et al. (2005) noted that such research is lacking globally. This position is supported by Pawelski (2016a, 2016b) who maintains that it is necessary for positive psychology to extend theoretical, empirical and applied work beyond the focus of fixing what is broken, to encompassing and nurturing what is best, so as to challenge what is good in an attempt to make it better. Thereby developing a broader understanding of what it takes to cultivate the good life: one of psychological well-being. Within the South African context this viewpoint is corroborated by Coetzee and Viviers (2007) who stated that research in the field of positive psychology tends to focus on levels of coping, locus of control, strengths, virtues and other intrapersonal factors. They however believe that more needs to be done to identify interventions that facilitate wellness, happiness, flourishing and psychological well-being, particularly on the interpersonal level.

2.3 Psychological Well-being

Psychological well-being is indicated by high levels of positive psychological functioning (Keyes, 2007), which can encompass both states of hedonia and eudaimonia as described in section 2.2. This study adopts the eudaimonic perspective of psychological well-being as described by the Ryff model of psychological well-being, which was generated to replace the generally accepted definition of psychological well-being as the absence of mental illness (Ryff, 1989a). An alternate perspective of psychological well-being that encompasses positive evaluations of one's self and one's past life, a sense of continuous growth and development, a belief that one's life has purpose

and meaning, the experience of good quality relationships with others, the ability to effectively manage one's surroundings, and the possession of a sense of self-determination (Ryff, 1989b, 2014; Ryff & Keyes, 1995). These constructs are the keystones of what has become known as Ryff's multi-dimensional theory of psychological well-being (Ryff, 1989b; Ryff, 1995; Ryff, 2014; Ryff & Keyes, 1995) that is still used by researchers today (Abbott, Ploubidis, Huppert, Kuh, & Croudace, 2010; Fernandes, Vasconcelos-Raposo, & Teixeira, 2010; Kafka & Kozma, 2002; Ryff, 2014; Van Dierendonck, 2005).

Ryff and Singer (2008) provide an overview of the extensive literature on psychological functioning that informed the development of the Ryff theory of psychological well-being. They situate the theory in the convergence of the following clinical theories on personal growth, life-span developmental theories, and mental health perspectives such as

- Maslow's theory of self-actualization;
- Rogers's view of the fully functioning person;
- Jung's formulation of individuation; Allport's conception of maturity;
- Frankl's view of meaning and purpose in life;
- life span developmental perspectives of psychological well-being emphasizing the differing challenges confronted at various phases of the life cycle including the psychosocial stages model of Erikson;
- Bühler's theory that basic life tendencies are to work towards a fulfilled life;
- Neugarten's descriptions of personality change in adulthood through old age (Ryff, 1989b); as well as
- Jahoda's criteria of positive mental health (see Section 2.2).

The result of this integration is a multi-dimensional view of psychological well-being comprised of six core dimensions: self-acceptance, positive relationships with other people, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, 1989b, 2014; Ryff & Keyes, 1995). The complexity of the relationship of these contributors to the core dimensions of psychological well-being is encapsulated in Figure 2.1.

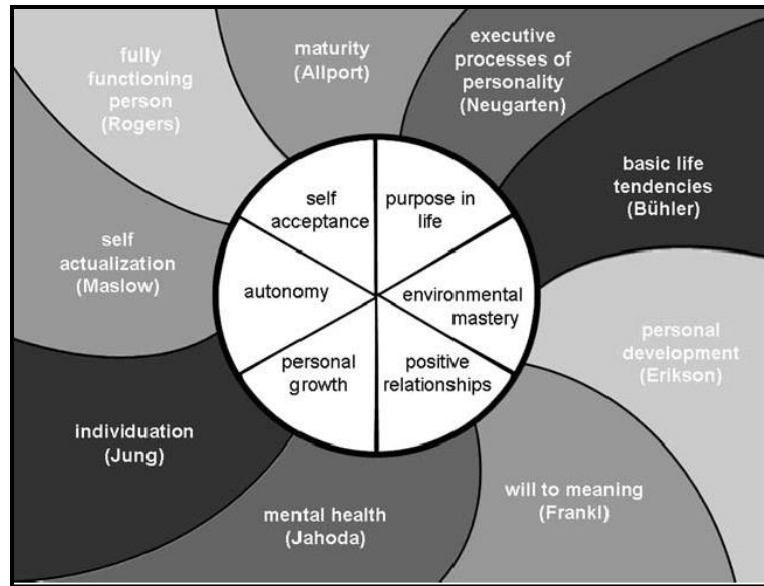


Figure 2. 1. Core dimensions of psychological well-being and their theoretical foundations. Source: Ryff (1995, p. 100).

Ryff and Singer (2008) provide a detailed description of the influence of each theorist on the construction of the core dimensions of well-being depicted in Figure 2.1. The following section will provide a summary of the description and the contributing theorists as cited by Ryff and Singer (2008) are attributed in brackets:

- i. Self-acceptance: To know ourselves, know our actions, motivations and feelings was encouraged by the ancient Greek philosophers and this was extended by psychological theorists to include the need for positive self-regard which is a characteristic of self-actualization (Maslow), optimal functioning (Rogers) and

maturity (Allport). Self-acceptance, including acceptance of one's past life, is emphasized in the life span theories of (Erickson and Neugarten). Both the formulation of (Erickson's) ego integrity and (Jung's) process of individuation, the need to come to terms with one's shadow side of self, include notions of self-acceptance. This notion is richer than standard views of self-esteem as it involves a long-term self-evaluation that requires awareness and acceptance of personal strengths and weaknesses. (Jahoda) also identified self-acceptance as a central aspect of mental health.

- ii. Positive relations with others: Philosophers (Aristotle and Mill), as well as mental health promoters (Jahoda), emphasized positive interpersonal relationship experiences of friendship and love as essential features of a well-lived life and positive mental health. The ability to love is central to mental health (Jahoda) and self-actualization which also includes capacities for empathy and affection, deep friendship and close identification with others (Maslow). Maturity requires the ability to relate warmly to others (Allport) and developmental tasks of intimacy and generativity also requires close relationships with others (Erikson). Philosophical accounts of the life well lived are underpinned by constructs of empathy, love and affection. Culturally there appears to be a near universal endorsement of the need to get on with others as a way to live functionally.
- iii. Personal growth: Eudaimonic perspectives, (Aristotle), of well-being are most closely understood by the construct of personal growth which, as an integral aspect of positive functioning, is concerned with self-actualization through the continual development of one's potential (Maslow and Norton). (Jahoda's) conception of

mental health included the realisation of personal potential. Self-actualization as described by (Maslow), and elaborated by (Norton), is centrally concerned with realization of personal potential, as is (Jahoda's) positive conception of mental health. Humanistic (Rogers) and life-span theorists (Buhler, Erikson, Neugarten, Jung) emphasize continual personal growth and becoming as fundamental to the development of the fully functioning person across the different life phases.

- iv. Purpose in life: The sense that life has meaning and purpose is central to existential (Frankl) and humanistic (Allport) theorists; where even in the face of suffering life can have meaning and the belief that life has a purpose brings direction and intentionality in terms of maturity. Additionally philosophers (Satre and Russell) identified living authentically involves not only that the will to meaning is realized but that one is reflective and actively engaged with life. Jahoda emphasized how mental health is positively impacted by beliefs that life has meaning and purpose. Life-span psychology describes that the different life stages as have different life purposes and goals (e.g. creativity in midlife and emotional integration in later life).
- v. Environmental mastery: The ability to choose personally suitable environments as well as the ability to act and change complex environments is defined as an important contributor to positive functioning and maturity by (Jahoda) and life-span developmental theories as well as individual psychological theories. (Allport) refers to an individual's ability to be extended by participating in activities that go beyond the self into the external world. The ability to find and create a situational context that suits one's personal needs is a unique element of environmental mastery.

- vi. **Autonomy:** The majority of the foundational theories influential in the Ryff model highlight qualities of self-determination, independence and self-regulation of behaviour. This includes the ability to resist following the trends of a particular culture (Maslow) and have an internal locus of control by evaluating self on own standards and not on external viewpoints (Rogers). (Jung's) notion of individuation involves a separation from collective beliefs, fears and rules. Existential theories also uphold the importance of separating from central dogma to make own decisions and live authentically. This ability to self-determine and become increasingly free from the dictates of society over the life-span positions this dimension more strongly in individualistic Western cultures than in more collectivist cultures. Aligned to this notion is research cited by Ryff (1995), showing that collectivist cultures, oriental, place less emphasis on autonomy and greater emphasis on positive relations with others in defining their own psychological well-being.

These six theoretical dimensions have been operationalized as separate scales in the self-report items of Ryff's Scales of Psychological Well-Being (RSPWB) which will be discussed in more detail in Chapter 3 (see 3.6.1.1) (Ryff, 1989b, 2014; Ryff & Keyes, 1995; Ryff & Singer, 2006). Moreover both Ryff's notion of psychological well-being and the RSPWB have been successfully applied in populations of adolescents (Ryff, 1995; Yeager & Bundick, 2009).

2.3.1 Psychological well-being in adolescents.

In line with the perspective presented in section 2.3, adolescent psychological well-being is not regarded as the absence of psychological distress. Literature concurs that indicators of reduced psychological distress, such as low levels of anxiety and depression, should not be

regarded as the indicators of psychological well-being in adolescents (Demo & Acock, 1996; Wilkinson & Walford, 1998). However this unfortunately does not appear to have translated into practice as studies on psychological well-being in adolescents' seem to have predominantly used measures of mental ill-health (e.g. measures of anxiety and depression) to determine levels of psychological well-being (Hoffman, Levy-Shiff, Sohlberg, & Zarizki, 1992; Siddique & D'Arcy, 1984).

Both the theoretical foundations (see section 2.3) and operationalised dimensions of psychological well-being as described by Ryff, which will be indicated in Table 3.3, provide a reasonable framework to understand adolescent psychological well-being (Gao & McLellan, 2018). The dimensions are translatable into actions that can be seen to support the requirements for successful resolution of developmental tasks of adolescents and as such; the establishment of a sense of purposeful identity that gives direction and meaning to life as an adult (Rathi & Rastogi, 2007; Yeager & Bundick, 2009). The implication of this is that adolescents who exhibit strengths in each of the dimensions can be regarded as in a state of good psychological well-being, whilst those who struggle in these dimensions will be in a state of low psychological well-being (Rathi & Rastogi, 2007).

Adolescence is a life phase that is characterized by complex adaptations and transitions that occur simultaneously within multiple intra- and interpersonal milieus; inner-biological, individual-psychological, physical-environmental and sociocultural contexts (Lerner, 1981; Roisman, Masten, Coatsworth, & Tellegen, 2004). All of these changes impact on the individual's experience of transitioning and adapting from childhood to adolescence as well as from adolescence to adulthood (Petersen, 1988).

From a psychological perspective adolescence is traditionally recognised as a developmental period where young people are grappling with the emergence of self, the need to distinguish self from others in the formation of identity, a sense of “Who I am”. This involves the emergence of both an individual identity and social identity that is recognised by self and society (Eccles, 1999; Josselyn, 1961; Rathi & Rastogi, 2007). It is a time where they establish sexual, ethnic, and career identities, or become confused regarding their future role in life, as per Erikson’s psychosocial developmental stage of identity vs. role confusion (Eccles, 1999). These adaptations and changes can potentially create turmoil and stress, having important consequences for psychological well-being both in the present and the future (Rathi & Rastogi, 2007; Ryff & Keyes, 1995)

The process of identity formation involves a tension between the struggle for uniqueness and authenticity; the pull of autonomy- the experience of a sense of being one’s true self (Thomaes, Sedikides, Van den Bos, Hutteman, & Reijntjes, 2017), and the desire to be accepted and supported by peers - the pull of conformity which is experienced in adapting to meet the values of peers (Fabry, 1988). Frankl (1988) refers to adolescence as a time of meaning-in-life crises where individuals grapple with the prescriptions of societal pressures in terms of defining; “what I ought to be”, “what I ought to do”, “what I ought to choose”. The tension between this desire to fit in with society and group norms and determining important aspects of self in terms of “who I am” and “what makes me unique” can lead to existential frustration. The requirement to conform runs counter to uniqueness and authenticity and impacts the emergence of autonomy through adolescence into later adulthood (Frankl, 1972; Thomaes et al., 2017). Yet, it is this very frustration that can lead to a discovery of meaning, self-acceptance and personal growth (Fabry, 1988; Frankl, 1988; Rathi & Rastogi, 2007) in adolescence, thereby assisting in the successful

resolution of developmental tasks to emerge into adulthood with a sense of a meaningful purposeful self (Eccles, 1999). This is supported by the findings of Rathi and Rastogi (2007) who show that psychological well-being in adolescents is highly correlated with meaning in life. They found that adolescents who perceived their life to be meaningful were more likely to be psychologically well than their peers who perceived life as meaningless. Additionally, autonomy as indicated by a developed internal locus of control and an ability to effectively regulate emotions, is associated with greater levels of psychological well-being in adolescents (Hoffman et al., 1992; Siddique & D'Arcy, 1984).

According to May (1953) personal meaning also occurs through a conscious process of decision making with an aligned commitment to uphold those decisions. Adolescents are specifically confronted with the inherent risks associated with making choices. If they make a choice aligned to the authentic self they risk rejection by others and if they make a choice which facilitate conforming to societal and cultural norms they risk denying their authenticity. Thomaes et al. (2017) noted that most adolescents aspire to be authentic; striving to be true to their values, emotions and desires; yet simultaneously agonizing over how to be natural in their social interactions. As a result they may exhibit conflicting attributes and struggle to be true to their real self. To be authentic requires the acceptance of self and the courage to uphold individuality (May, 1953; May, 1983). Ryff and Keyes (1995) postulate that given the struggles associated with identity formation it is possible that adolescents might show less self-acceptance as they work through this developmental task towards emerging adulthood.

Additionally, there is evidence in the literature that shows positive relations with others, particularly in terms of experiences of positive relationships within the family, as well as

opportunities to do good deeds for someone else, facilitates a state of psychological well-being in adolescents (Siddique & D'Arcy, 1984).

That the Ryff dimensions of psychological well-being are relevant to adolescents is further supported by positive psychology literature that indicates that psychological well-being leads to optimal development of adolescents as is evidenced by these broad themes: (a) being on a hopeful path towards the future; (b) having a sense of meaning and purpose in their lives; (c) believing they are living up to their true potential; (d) are reasonably satisfied with their lives; and (e) have the personal agency to make the world a better place (Bundick, 2011; Norrish & Vella-Brodrick, 2009; Yeager & Bundick, 2009). The positive psychological perspective of adolescence transcends the notion that adolescence is a developmental period purely filled with tension and distress (Hameed & Mehrotra, 2017), where individuals' are broken and in need of psychological repair or support (Lerner, Almerigi, Theokas, & Lerner, 2005). Psychological well-being in adolescents is nurtured through viewing them as naturally competent, in possession of resources, assets and strengths such that they have agency in their own development; a paradigm shift to a perspective of positive youth development (Hameed & Mehrotra, 2017).

The area of psychological well-being in adolescents is surprisingly under researched with most emphasis being on the development of measurement tools and there is a need to design and develop interventions specifically for adolescents (González et al., 2007; Norrish & Vella-Brodrick, 2009). Adolescent psychological well-being is identified as an important construct to be studied as developmental success and positive psychological health during this life stage are recognised as having significant impact on psychological well-being in adulthood (Keyes, 2007; Robbins, 2008).

2.3.2 Impact of under resourced communities on adolescent psychological well-being.

According to the South African Human Rights Commission and United Nations Children's Fund (2014), children suffer greatly from poverty and its associated under-resourced environmental contexts. The impact of such environmental conditions deprives people of their ability to live a life of freedom and human dignity with opportunities to achieve potential and to set achievable life goals (Ratele, 2007), placing children and adolescents at significant risk for poor childhood developmental outcomes, including decreased psychological well-being (Luby et al., 2013). Furthermore, poverty coupled with South Africa's legacy of inequality is regarded as contributing to high levels of anger and frustration which may result in violence being used as a strategy to regain power, status and control within communities (Seedat et al., 2009). The World Health Organisation (2007) describes the consequences of violence as typically non-fatal, often involving physical injuries in addition to problems in mental and reproductive health as well as higher rates of sexually transmitted diseases. These negative effects on health are significant and long lasting and may include permanent physical or mental disability.

Currently, many South African children and adolescents grow up in contexts of poverty (Stats SA, 2012) where there is little refuge from violence and other threats to well-being created by social ills in under-resourced communities, such as a lack of social cohesion and inadequate housing (Kaminer, Du Plessis, Hardy, & Benjamin, 2013). Deprivation associated with poverty extends beyond malnutrition, inadequate access to safety and security to include low levels of stimulation and psychosocial neglect. The impact of violence on children's psychosocial development has been shown to include poor cognitive development and scholastic performance, increased behavioural and mental health problems (Leibowitz-Lee, 2006; Luby et al., 2013). Leibowitz-Lee (2006) states that there is a non-linear relationship between violence and its

psychosocial consequences, as the nature of the violence, personality factors, social support and poverty all exert differing levels of influence on the individual. There is agreement in the literature that poverty has a negative impact on the psychological well-being of adolescents (Cluver, Gardner, & Operario, 2009; Kehler, 2001; Luby et al., 2013; World Health Organisation, 2002a).

Schonert-Reichl (2000) indicates that there is a continuum of multidimensional, interactive and multiplicative factors which place adolescents in an “at-risk” position. Along this continuum it is not the type of risk factors that plays a significant role, but rather the amount of simultaneous risk factors in a child’s life. In other words, it is the accumulation of risk factors in the life of a child that can be a predictor for negative consequences for instance: psychological disorders, school failure, criminal involvement, job-related instability, and unrewarding social relationships. These predictions are most likely valid regardless of race, culture, or gender.

2.3.2.1 Diepsloot as an example of an under resourced community

Diepsloot has been described as a “black spot”, Manase (2014, p. 70) and disorderly township environment of violence, poverty and slum conditions. Media and resident reports corroborate this in their descriptions of Diepsloot as a community that is ravaged by poverty, hopelessness, drug abuse, gender based violence (Malan, 2016; University of the Witwatersrand, 2016) as well as violence against children (Hasel, 2014). A research study conducted by the University of the Witwatersrand (2016) found disturbingly high rates of gender based violence and incidence of child physical and sexual abuse. All the more alarming is the identification that there are no mental health services available for victims of violence within this community nor are there youth friendly mental health services to address the psychological needs of children and adolescents in Diepsloot (Jooste & Maritz, 2015) .

Given the described situation in Diepsloot, it is not unrealistic to anticipate that the adolescent residents would experience a negative impact on their psychological well-being (Cluver et al., 2009; Luby et al., 2013; Ratele, 2007). This may contribute to them becoming a particularly marginalized and vulnerable, “at-risk” population group (Budlender, 2008; Reddy et al., 2010). Furthermore, there is evidence suggesting that the environments in which adolescents grow up may have a profound effect on the adults they become; increased exposure to violence increases the likelihood of becoming ensnared in a cycle of violence that leads to future violent behaviour (Guerra & Dierkhising, 2011), as is predominant in the Diepsloot community (Hasel, 2014; Malan, 2016; University of the Witwatersrand, 2016).

What cannot be ignored is that amidst the violence and poverty of Diepsloot there is a celebration of the human spirit as evidenced in many individual and community based acts of personal agency and purpose as they seek to make meaning of their urban condition and place of belonging (Hasel, 2014). In fact, Diepsloot is described as an urban paradox where, within the myriad of challenging political, social and environmental factors residents show remarkable resilience, hope and positivity (Manase, 2014). Hasel (2014) describes how residents are taking responsibility to unite as a community to improve the situation through the creation of recreational programmes designed to provide alternative perspectives to the youth. This finding was supported by Manase (2014) who reported instances whereby residents were actively engaging in civic activities with the objective to better their social situation, such as the development of community safety forums, children’s learning centres, after-school recreational and sporting programmes and safe houses for women and children who have experienced violence. From this it would seem that not all is negative as these are indicators of some crucial protective factors for positive development of the youth. Research consistently identifies that, in addition to an adolescent’s own

internal resources, their social surroundings and environmental conditions can positively impact psychological well-being (Aisenberg & Herrenkohl, 2008; Osofsky, 1999). It is evidenced that, despite the lack of access to an adult who cares, mental and health services, proper schooling and so forth, the presence of protected spaces in neighbourhoods creates community safe havens which offer protection from violence, access to food, and support by peers which can reduce negative impacts on psychological well-being (Aisenberg & Herrenkohl, 2008; Osofsky, 1999).

Despite the attempts to protect adolescents of Diepsloot, the ongoing cycle of poverty and violence continues to be an inescapable life situation and they remain vulnerable to the pronounced negative effects of such deprivation on their psychological well-being which contributes to a loss of self-esteem, depreciated sense of self-worth and a loss of self-respect (Kehler, 2001; Makwela, 2015; Seedat et al., 2009). This is exacerbated by Diepsloot's lack of resources for promoting mental health and psychological well-being which results in the under-recognition and under-treatment of children's psychological well-being needs (see Section 1.2). This adds weight to the call of the World Health Organisation that priority should be given to the prevention of mental illness and the promotion of mental health in the youth as an attempt to reduce the increasing burden of mental disorders in under-resourced communities (World Health Organisation, 2002b). The promotion of mental health and/or psychological well-being includes the enhancement of capacities to strengthen or support positive emotional, cognitive and behavioural experiences within individuals, families, groups or communities (Hodgson, Abbasi, & Clarkson, 1996).

It is within this context that one can argue that these adverse life experiences could contribute to the potential of adolescents to have positive life outcomes (Park, 2004; Park & Peterson, 2008), as it is recorded that situations of psychological suffering hold potential for significant personal growth and psychological well-being for adolescents (Frankl, 1988; Norrish

& Vella-Brodrick, 2009). Frankl (1988) challenges traditional psychology to view adolescents acting out or engaging in arbitrary acts of violence as expressions of existential anguish or psychological distress and, therefore, an expression of a plea for help. Positive psychologists posited that adolescents have potential and unique strengths which are hidden and waiting to be discovered as opposed to being ill, naughty or beyond help (Lerner, 2005; Silbereisen & Lerner, 2007; Swanzen & Stay, 2015).

The fact remains that adolescents, particularly those who are regarded as being “at-risk” can be difficult to engage in traditional therapeutic office settings and that innovative interventions are often required (Rathi & Rastogi, 2007). Hill et al. (2010) propose experiential therapeutic interventions that involve interactions with the environment as an alternative innovative modality to maximize adolescent engagement and self-disclosure. Additionally, Benard (1990) cites studies showing significant positive results within programmes which provide adolescents with opportunities to experience caring, nurturing environments which encourages their active participation in instances of problem-solving, decision-making, planning, goal-setting, and helping others in meaningful activities. The majority of these constructs have been identified as facilitating the development of the dimensions (see Section 2.3.1) that are consistently identified as necessary conditions for the promotion of psychological well-being in adolescents (Fabry, 1988; Rathi & Rastogi, 2007; Wong, 1998).

Hoagwood, Acri, Morrissey, and Peth-Pierce (2016) describe animal assisted therapy (AAT) as a meaningful experiential therapeutic option that is gaining popularity for its efficacy with adolescents at risk for mental health problems.

2.4 Animal-Assisted Interventions

The field of animal-assisted interventions (AAI) is rooted in the strong belief that relationships with animals contribute to human health and psychological well-being (Beck, 2000; Fine, 2015; Kruger & Serpell, 2010; Morrison, 2007). The term AAI is an umbrella phrase used to describe numerous dimensions of animal-assisted activities and interventions that are in use. Kruger and Serpell (2010) provide a universally accepted definition of AAI as “any intervention that intentionally includes or incorporates animals as part of a therapeutic or ameliorative process or milieu” (p. 25). Animal-assisted therapy (AAT) is a subcategory of AAI that involves a specific experiential therapeutic intervention using animals which is delivered by health professionals who practice within their scope of professional expertise (Hoagwood et al., 2016; Kruger & Serpell, 2010).

The use of animals in the promotion of mental health is gaining empirical recognition although its integration into mainstream health interventions has been lacking (Fine, 2015; Morrison, 2007). Fine (2015) describes how the scientific interest in the field grew out of the pressure from mainstream media and popular press coverage to understand the nature of the unique relationship between humans and animals. Whilst scientific curiosity regarding the mechanisms of this bond is growing, the field remains limited by weak empirical research to support the lay community testimonials and anecdotal evidence regarding the positive outcomes and benefits experienced in the human-animal bond (Fine, 2015). Intrigue varies from wanting to understand the similarities and differences between humans and animals to exploring the nature and effects of the relationship between people and their companion animals, which some believe is natural and rooted in evolution (Chandler, 2005; Fine, 2015; Kruger & Serpell, 2010).

The power of the human-animal bond has been recognised for centuries since the times when humans first began domesticating animals and became aware of an extraordinary relationship different from conventional human relationships (Chandler, 2005; Fine, 2015; Kruger & Serpell, 2010). The human-animal relationship has been found to facilitate the fulfilment of basic human needs for connection to nature and living beings, love and friendship (Beck, 2000; Fine, 2015). Not only were the interactions with animals found to be a source of pleasure but they alleviated loneliness through providing a connection to the outside world, as the animal often became a topic of conversation. Through the act of caring for a living creature people reportedly found hope and a reason to live (Chandler, 2005). The range of benefits surpasses those anticipated to arise out of companionship as a number of health benefits related to exercise and beneficial physiological reactions stimulated through touch have also been identified (Beck, 2000; Fine, 2015).

Literature shows statistically significant health benefits with improvements in blood pressure, heart rate, and salivary immunoglobulin A levels and in depression and anxiety, as well as in perceived quality of health, and loneliness (Esposito et al., 2011; Morrison, 2007). Different kinds of psychological distress including anxiety and depression can result in disruptions to the patterns of normal cortisol and oxytocin production (VanFleet & Faa-Thompson, 2010; Yorke et al., 2013). Recent studies showed that human animal interactions have moderating effects on cortisol and epinephrine production, blood pressure, and heart rate variability (Esposito et al., 2011; Yorke et al., 2013), as well as increases in oxytocin levels (VanFleet & Faa-Thompson, 2010), suggesting positive effects on psychological well-being.

The theoretical understanding of the therapeutic benefits of the field tend to focus on either the notion that unique attributes of the animal facilitate and contribute to the therapy or that the

experience of a working relationship with the animal requires the acquisition of life skills, acceptance of personal agency, and responsibility that can elicit positive changes in cognitions, emotions and behaviour (Kruger & Serpell, 2010; Melson & Fine, 2015). This has extended to include use of metaphors in therapy as animals are often symbols for power, freedom, nurturance and relationship (Latella & Abrams, 2015; VanFleet & Faa-Thompson, 2010).

The value of metaphor therapy lies in the assumption that people, in general, structure their reality metaphorically. Hence interactions with animals can create the opportunity for both participants and therapists to use metaphors to elicit the internal world of the participant thereby uncovering internal concerns as well as feelings and coping strategies (VanFleet & Faa-Thompson, 2010; VanFleet, Fine, O’Callaghan, Mackintosh, & Gimeno, 2015). Additionally the participant–animal relationship can become the metaphor for the participant’s relationships in daily life which, can be particularly powerful therapeutically if the participant was the creator of that metaphor (VanFleet et al., 2015).

Human-animal interactions with youth can be associated with both positive and negative experiences which have therapeutic value regarding relationships in addition to promoting psychological well-being (Esposito et al., 2011; Mueller, Fine, & O’Haire, 2015). Furthermore, observation of adolescent-animal interactions can be a useful therapeutic tool in providing a lens to understanding the quality of relationships providing light on both individual and family functioning (Mueller et al., 2015).

As has been mentioned previously, adolescents may be difficult to engage in traditional talk therapy; it is recorded that even Freud recognised that children and adolescents were more willing to talk openly and about difficult issues when his dog was in the room (Fine, 2015). Cohen (2015) cites research where adolescents in foster care who have experienced domestic violence

experienced enhanced social relationships, reduced anger, an increase in trust, and improved communication skills through interactions with animals. In fact, a fast growing trend in certain criminal and juvenile systems in the world is to have therapy animals present to assist young and vulnerable victims and witnesses feel safe and comfortable in addition to empowering them to divulge their stories (Phillips, 2015).

Contraindications reported regarding AATs are related to individual attitudes and behaviours towards the animal such as fear, disinterest towards the animal, or safety for both parties including inhumane treatment of the animal (Morrison, 2007; Mueller, 2014). These are easily overcome through individual interviews prior to interventions to address concerns and determine if an AAT would be appropriate (Morrison, 2007). However, Mueller (2014) cautions that contexts in which animal experiences may not be appropriate or advantageous for either the human or the animal should be identified and could be a topic for further research.

Currently, there is a paucity of rigorous research documenting the potential links between interaction with animals and optimal human functioning, although more recently there has been an increase in the depth and quality of research on the effects on both physical and mental health, to which reference was made earlier in this section (Kazdin, 2015; Morrison, 2007; Mueller, 2014). One of the biggest benefits of AAT is that “ from the affluent to the most impoverished, a connection with animals seems morally, philosophically, and spiritually needed for optimum functioning” (Fine, Tedeschi, & Elvove, 2015, p. 26).

The range of animals used in AAT is extensive and includes, not excluding others; dogs, cats, varieties of fish, birds, small mammals, reptiles and amphibians as well as horses and donkeys (Fine, 2015; Kruger & Serpell, 2010). Dogs and horses appear to be by far the most commonly used animals for AAT (Morrison, 2007).

The inclusion of horses has shown increased attention over recent years (Latella & Abrams, 2015; Masini, 2010; Yorke et al., 2013), and they have been included in the treatment of a diverse range of mental health problems in both children and adults (Chardonens, 2009; Trotter, 2012; Yorke et al., 2013). The result of which is that psychotherapy with horses is considered part of the broader intervention category of AAT (Kruger & Serpell, 2010; Schultz, Remick-Barlow, & Robbins, 2007). Schultz et al. (2007) found that of equine-assisted psychotherapy appeared to be effective in improving the General Adaptive Function (GAF) scores of 63 children who had experienced abuse and/or neglect and had been diagnosed with adjustment disorder, mood disorder, post-traumatic stress disorder (PTSD), attention deficit hyperactivity disorder (ADHD) and disruptive disorders. The results also indicated that young children and those with a history of intra-family violence and substance abuse tended to show greater improvement in GAF scores. Trotter et al. (2008) conducted a pre-test post-test experimental comparison group design with 164 at-risk children and adolescents which statistically showed significant increases in positive behaviours and decreases in negative behaviours on the Behaviour Assessment System for Children (BASC) after 12-weeks of equine-assisted counselling. The equine-assisted counselling intervention was found to be more effective than the in-school group counselling programme in several social behavioural areas.

Despite the paucity of research in this field, the initial findings are encouraging regarding the positive effects of equine-assisted therapies for young people who are at risk of mental health problems (Hoagwood et al., 2016), and are therefore worthy of ongoing empirical evaluation (Kendall et al., 2015).

2.5 Equine-Assisted Interventions

Humans have been in relationship with horses throughout the course of civilization where horses have assumed differing roles, ranging from being a mode of transportation to being a workmate or companion and a therapist (Frewin & Gardiner, 2005; Kelenka, 2009). The ancient Greeks were known to prescribe horseback riding to improve physical and psychological well-being (Latella & Abrams, 2015). Over time horses have been integrated into many cultures as symbolic of the human spirit's yearning to be wild and free, leading to them being regarded as metaphors for strength and freedom (Latella & Abrams, 2015; VanFleet et al., 2015). Jung described horses as embodying one of humanities deepest mythological archetypes, the Pegasus and the unicorn, which embody qualities such as worker, bolter, helper, victim, vital, destructive, sensitive, and panicked (Jones, 1983; Lentini & Knox, 2009; McCormick & McCormick, 1997). Interactions with them are often described in terms of these aspects of archetypes (Lentini & Knox, 2009) and/or in terms of experiences of attachment and non-verbal communication eliciting feelings of freedom, trust and pleasure (Latella & Abrams, 2015).

Horses are prey animals whose survival is dependent on the strong social bonds that exist between the members within the herd. Every member of the herd has a specific role which is reliant on cooperation in order to ensure the safety of all in the herd (Burgon, 2011; Skipper, 2005). Furthermore, as a prey animal they pay close attention to detail and react to stimuli in the environment instinctively based on the fight, flight or freeze response: very often these stimulus cues are so subtle that they are unrecognisable to humans (McGreevy & McLean, 2010; Skipper, 2005). McGreevy and McLean (2010) cite research indicating that horses react to humans on the ground in exactly the same way as they react to conspecifics in the herd. This means that they will exhibit behavioural and body language changes in response to the human emotions and

behaviours they experience during horse-human interactions (Burgon, 2011). Hence in order for humans to interact and be in relationship with horses it is necessary to heed the immediate biofeedback that horses provide through their instinctual responses, as well as large size and subtle non-verbal cues (Hausberger, Roche, Henry, & Visser, 2008; Latella & Abrams, 2015). As Masini (2010) points out, these qualities provide unique opportunities for learning as participants can identify with the equine's instinct for safety and security which can become a metaphor that assists the participant to learn confidence, self-efficacy and trust. Furthermore, it is suggested that the relationship between horse and human does not only mirror relationships in life, but that it can also parallel the therapist-participant relationship. This provides additional opportunities for therapeutic interventions based on inherent qualities of a collaborative relationship based on trust, acceptance and respect (Masini, 2010; Yorke et al., 2013).

For a session with horses to be regarded as therapeutic it is not sufficient for them to be merely present, it is necessary that they be engaged as agents of change using their specific equine traits to facilitate a process of enhanced biopsychosocial development, growth, and education (Latella & Abrams, 2015; Smith-Osborne & Selby, 2010).

There are numerous differing interactions with horses that are regarded as being therapeutically beneficial to humans which range from mounted activities such as riding or driving to unmounted activities including caring for and other relational activities (Kendall et al., 2015; Latella & Abrams, 2015; Smith-Osborne & Selby, 2010). This has given rise to number of different equine-assisted interventions and a multiplicity of terms used to describe the role that horses play in therapeutic interactions with humans. The recognised umbrella term is equine-assisted activities and therapies (EAA/T) (Smith-Osborne & Selby, 2010) which is subdivided to include physical, educational and psychological therapies (Latella & Abrams, 2015; Macauley,

2006). Some of the commonly used terms include hippotherapy, therapeutic riding, equine-assisted (EAL) or –facilitated learning (EFL), equine-assisted therapy (EAT), equine-facilitated (EFP) and equine-assisted psychotherapy or counselling (EAP) (Macauley, 2006; Rothe, Vega, Torres, Soler, & Pazos, 2005). Within the context of this study, the focus will be on equine-assisted psychotherapy and counselling (EAP). In the literature on EAP there is increasing evidence of the positive therapeutic impact of the Eagala model with a diverse range of participants (Lee, Dakin, & McLure, 2016; Masini, 2010; Shultz, 2005; Whittlesey-Jerome, 2014). It is this model that was selected as the intervention for the study and thus will be discussed in the next section.

2.5.1 The Eagala model of psychotherapy and personal development.

Eagala is an international non-profit organisation that is committed to developing a high-quality network of professionals who are trained to provide ethical, evidenced-based therapeutic services incorporating horses in a deliberate way that meets the mental health needs of diverse participants (Boyce, 2016; Equine Assisted Growth and Learning Association, 2015; Trotter, 2012). The organization achieves this through the establishment of a code of ethics and an ongoing training and certification process (Equine Assisted Growth and Learning Association, 2015; Notgrass & Pettinelli, 2014). Eagala has developed a standardised model of equine-assisted therapy, the Eagala model, that provides a framework of practice for rendering psychological services with horses (Boyce, 2016; Thomas & DiGiacomo, 2010). There are four key standards underpinning the Eagala model (Equine Assisted Growth and Learning Association, 2015) namely:

- i. Code of ethics protocol is upheld by an ethics committee as well as required adherence by all professionals through a signed ethical declaration on application

for certification as commitment to maintain best practice and highest level of care (Equine Assisted Growth and Learning Association, 2015).

- ii. Team approach requires that all sessions involve a licensed mental health practitioner working in conjunction with a qualified equine specialist, at least one living horse, and the participants. It is also required that at least one of the professionals be certified in the EAGALA model approach (Equine Assisted Growth and Learning Association, 2015; Thomas & DiGiacomo, 2011; VanFleet et al., 2015).
- iii. Ground-based deliberate activities with the horses are set up and processed using recommended good-practice facilitation techniques (see Table 2.1), such that the horses become metaphors in the participants' life story. Riding and horsemanship are not included as part of the therapeutic framework (Equine Assisted Growth and Learning Association, 2015; VanFleet et al., 2015). The horses are allowed to act and react naturally in the sessions; they require no specific training to participate. Participants do not require any equestrian specific education or specialist equipment in order for interactions with the horses to take place (Boyce, 2016; Equine Assisted Growth and Learning Association, 2015).
- iv. Solution-oriented approach focusses sessions on the future through participant-led identification and resolution of problems (Boyce, 2016). The belief that all participants can discover their own best solutions when given the opportunities to do so is an underlying premise of the model (Equine Assisted Growth and Learning Association, 2015; Thomas & DiGiacomo, 2011).

Within this framework of standards the EAGALA model sessions combine intentional horse-human interactions with accepted therapeutic and counselling processing skills such that participants gain greater understanding into themselves and others (Boyce, 2016; Thomas & DiGiacomo, 2011). The horses and the environment provide the experiential relational content of the therapeutic process. Participants project their external and internal world onto horses and objects within the environment. This helps them to create metaphors and symbols of their worldview with which they are able to interact (Equine Assisted Growth and Learning Association, 2015; VanFleet et al., 2015). In physicalizing their unconscious and conscious experiences, the participants find an increased awareness, insight and control of their personal emotions, cognitions and behaviours (Boyce, 2016). Sessions typically involve the facilitation team allowing participants to have their own experience with the activity, horses, and environment. Examples of activities with the horses include, but are not limited to, observing the horses, moving horses by catching, and or leading them through, round or over created “obstacles” such as a lane of poles or a jump, or merely by being in relationship with them (Equine Assisted Growth and Learning Association, 2015; VanFleet et al., 2015).

Although the EAGALA model provides opportunities for creativity and adaptability within the various therapeutic orientations of mental health practitioners in the field, it does recommend good-practice process facilitation techniques as described in the following table:

Table 2.1

Model Recommended Good-practice Facilitation Techniques

Facilitation Techniques	Description
Non-interpretive observation framework using Shifts, Patterns, Unique events, Discrepancies and Self Awareness (SPUD'S [©])	The SPUD'S [©] framework guides the facilitators to focus on observations of human-horse interactions in terms of Shifts, Patterns and Unique actions that occur in primarily the horses' behaviour; in addition to Discrepancies between participant actions and words as well as the facilitators 'S = Self –awareness of, for example; own agendas, judgements; these observations must be specific, objective, behavioural interactions of participants and horses without interpretation from the facilitators (Equine Assisted Growth and Learning Association, 2015). A detailed description of the SPUD'S [©] Eagala assessment framework is described in Boyce (2016).
Participant story development	Participants are encouraged to present life stories in a symbolic manner, according to own criteria, purposes and meaning making during interactions with and through experiences with the horses. These can then become a symbolic microcosm of their lives. Symbolism is developed through the non-interpretative use of the observed SPUD'S and the correlation thereof to the participants' story. Additionally SPUD'S inform emergent patterns and themes, the exploration of which may facilitate meaning making and desired change (Boyce, 2016; Equine Assisted Growth and Learning Association, 2015).
Participant-generated metaphoric interventions	Facilitators remain in a curious space of “not knowing” and use external non-interpretive language to explore this facilitates the therapeutic use of metaphors. Participant's metaphoric imagery and language are influenced by and reflective of the individual's unique frame of reference comprising individual, familial, cultural, and societal influences (Boyce, 2016; Equine Assisted Growth and Learning Association, 2015)
Focus on the external environment	Using the SPUD'S observed and non-interpretive language the SPUD'S are then correlated to participants shared experiences as a way of exploring participant-generated metaphors and the subsequent transformation of these into real-life challenges is done within the world view of the participant. This also facilitates self-distancing of the participant from the problem or issue thereby creating greater emotional safety in the therapeutic experience (Boyce, 2016; Equine Assisted Growth and Learning Association, 2015)
Experiential learning principles	Experiential learning occurs when carefully chosen experiences are intentionally structured to engage participants intellectually, emotionally and spiritually in their change process (Boyce, 2016; Equine Assisted Growth and Learning Association, 2015)

The use of these recommended good-practice facilitation techniques coupled with the facilitation teams' heightened self-awareness ('S) facilitates a safe space for participants to project their stories freely and reflect on the metaphorical landscape of their lives without being directed to facilitator led and potentially biased culture specific solutions (Boyce, 2016). The requirement for Eagala model facilitators to be continually vigilant of their 'S facilitates the development of culturally skilled and sensitive therapists. In addition the involvement of horses, which do not have a specific culture, provides a culturally neutral situation. These factors create an openness to different human cultural perspectives which contributes to the Eagala model being particularly relevant in the diverse South African context (Boyce, 2016). This notion is supported by the research of Kemp, Signal, Botros, Taylor, and Prentice (2014) who found that an Eagala model intervention was an effective intervention in reducing psychological distress in children and adolescents of different ethnic and cultural backgrounds, who had experienced sexual-assault. Additionally, support for the Eagala model with adolescents is provided by the results of Pendry, Smith, and Roeter (2014) who found that adolescents engaged in an Eagala model intervention experienced a decrease of average daily cortisol levels. These results are encouraging indicators of the potential positive neurobiological impact of the interactions with horses on stress reduction; an important aspect of psychological well-being.

Based on the information presented above, it is postulated that the Eagala model is a youth friendly therapeutic method that could be used to improve the psychological well-being of adolescents, especially those that live in under-resourced areas such as Diepsloot.

2.6 Conclusion

This chapter indicated that psychological well-being in adolescents is a state consisting of six dimensions namely; (i) self-acceptance, (ii) positive relationships with other people, (iii)

autonomy, (iv) environmental mastery, (v) purpose in life, and (vi) personal growth. Each of these was explained in depth. It was established that the Eagala model as a form of equine-assisted therapy can be used as an intervention with adolescents in under-resourced communities.

The next chapter will now focus on the research methodology that was used during the course of the study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The aim of this study, as previously stated in section 1.3, was to determine the effect of the Eagala model to facilitate psychological well-being in a group of adolescents living in Diepsloot. In order to attain this aim, a sample had been drawn and both quantitative and qualitative data was collected. This chapter describes the research design and methodology implemented to investigate the aims and objectives of the study. Attention will also be paid to the validity and ethical considerations of this study.

3.2 Purpose Statement

As is mentioned in section 3.1, the primary intent of this mixed methods study was to determine the effect of the Eagala model to facilitate psychological well-being in a group of adolescents living in Diepsloot. The objectives were to measure psychological well-being of the participants pre- and post to participating in an Eagala model intervention, and to investigate what the effect of the Eagala model intervention was on the subjective psychological well-being of the participants.

3.3 Research Design

Creswell and Plano Clark (2011) and Tashakkori and Teddlie (2010) advocate that a combination of the best suited methods and modes of analysis be adopted in order to address complex research problems such as those of this research as described in Chapter 1. Hence, it was decided that a strategy to best answer the research questions postulated in section 1.3, is one that combines a quantitative and a qualitative methodology, thus a mixed methods research design (Creswell & Plano Clark, 2011; Heyvaert, Hannes, Maes, & Onghena, 2013). Mixed methods

designs reject the dichotomy between qualitative and quantitative methods and combine their use in a single design. As such, mixed methods can be regarded as a third methodological approach to research designs (Tashakkori & Teddlie, 2010). Contemporary literature identifies that mixed methods designs subscribe to the philosophical stance of pragmatism which views knowledge as fallible and constantly changing in the face of experience, as well as accepts the existence of both objective and subjective realities believing that investigation of both leads to a richer understanding of the research problem (Barnes, 2012; Biddle & Schafft, 2015). An advantage of this type of research design is that it potentially brings more credible understandings to researching human phenomena in addition to being regarded as more robust (Tashakkori & Teddlie, 2010). The concurrent strategy, where one form of data is nested within another in order to analyse different questions (Creswell, 2013), known as embedded mixed methods design, was selected as the research design (Creswell & Plano Clark, 2011; Johnson, Onwuegbuzie, & Turner, 2007).

For the purposes of the current study, closed-ended quantitative data in the form of a self-report psychological well-being questionnaire was collected pre- and post-intervention. The data was statistically analysed (see section 3.4), to test the hypothesis that the Eagala model intervention would positively influence the psychological well-being of the participants. The pre-intervention data provided a baseline measure of the participants' psychological well-being. For the purpose of expanding and deepening understanding regarding the subjective experience of psychological well-being of the participants' open-ended qualitative data, in the form of text from personal letters written to the horses, was embedded in this larger design intervention. Thereafter, the two data strands were analysed independently and combined during the interpretation phase of the research process (Creswell, 2013; Tashakkori & Teddlie, 2010).

3.4 Data Collection Procedures

3.4.1 Sampling.

3.4.1.1 Sampling Techniques.

Sampling techniques can be broadly viewed as falling into one of two categories; probability sampling and non-probability sampling methods (Babbie, 2013; Gravetter & Forzano, 2012). Probability sampling methods employ techniques whereby all members of a population have an equal chance of being selected to participate thereby ensuring that the sample is representative of the population from which it was drawn and allows for generalisability of the results. On the contrary, non-probability sampling techniques do not involve random sampling thereby excluding the possibility for generalisability of the results. Due to constraints, such as Shumbashaba community programme logistics as well as time and finances, the non-probability sampling technique of convenience sampling was employed in this study. Babbie (2013) and Gravetter and Forzano (2012) describe convenience sampling as reliant on participants' accessibility or availability in addition to their willingness to participate and caution that the results should be interpreted carefully as they cannot be generalised to the greater population

3.4.1.2 Sampling Frame.

The sampling frame comprised mixed gender learners in attendance at a high school in Diepsloot that collaborates with the Shumbashaba Community Trust² in the personal development of their learners. Learners who had previously participated in an Eagala model equine-assisted counselling programme at Shumbashaba were excluded from the sample. Participants were

²Shumbashaba Community Trust is a non-profit organisation in Diepsloot that provides counselling and psychosocial support programmes that focus on making a positive difference in people's lives through horses.

randomly assigned to either the control or experimental condition using the simple randomization technique of drawing a ticket from a hat.

Randomization was conducted by the Shumbashaba research assistant after the pre-test had taken place. The control group participants were informed and placed on a wait list to participate in the Eagala model intervention at a later stage once the research has been completed.

3.4.1.3 Sample Description.

A sample of 74 African participants, 40 females and 34 males, between the ages of 13 and 17 years was obtained from a high school in Diepsloot (whose learners attended Shumbashaba Community Trust programmes). These participants were allocated a number and randomly assigned to equal sized experimental and control conditions after the pre-assessment. The two conditions were similar in demographics with respect to age, gender and school grade. An overview of these demographics is provided in Table 3.1.

Table 3. 1

Description of Control and Experimental Groups

CONTROL CONDITION		EXPERIMENTAL CONDITION	
Group size	37	Group size	37
Age Range	13-17yrs	Age Range	13-17yrs
Mean Age	15yrs 0mnths	Mean Age	14yrs 9mnths
Gender:		Gender:	
Female	20 (54%)	Female	20 (54%)
Male	17 (46%)	Male	17 (46%)
Grades	7-10	Grades	7-10

3.4.2 Permissions.

The Shumbashaba Community Trust provided the researcher with permission to conduct research into the effects of the Eagala model counselling programme on a group of participants, copy provided in Appendix 1.

Those learners who returned signed guardian / parent consent forms in addition to their own signed personal assent forms (in relation to the research) were included in this study, see appendices 2 and 3.

3.4.3 Eagala model intervention.

The research intervention was the Eagala approved manualised curriculum entitled “Logos Equus” (Boyce, 2014). “Logos Equus” comprises eight 90 minute sessions that took place once a week over an eight week period during the third school term of 2017. Prior to each session Shumbashaba Community Trust commissioned a taxi to transport the participants to and from school. On arrival at Shumbashaba the participants were provided with a hot lunch.

At the outset of the intervention, the participants were randomly assigned to three smaller sub-groups, each one with their own facilitation team. These sub-groups were then allocated a paddock and a horse herd that remained the same throughout the intervention. All sessions took place in a combination of an outdoor classroom in the stable yard area and in the horse paddocks with a horse herd of four horses for each sub-group.

The first session included verbal confirmation of informed consent as well as an explanation of the intervention. Thereafter the format for the process of the subsequent intervention sessions was discussed; this was followed consistently across each of the intervention sessions. There were three phases to the process of the intervention sessions:

- Phase 1: Welcome and psychoeducation relating to the construct for the session. Each session began with a check-in concerning the previous weeks learning and the experience of implementing the construct in daily living. They then engaged in a reflective journaling process which was guided by the following questions.

Table 3. 2

Logos Equus Reflective Journal Questions

No.	DESCRIPTOR
1.	What stood out for me in last week's session?
2.	During the session I became aware of in myself.
3.	The horse / horses think I am
4.	During the last session I learned
5.	I hope that
6.	Using what I learned, in the past week I did

Thereafter the construct topic for the session was introduced in an experiential learning format by two members of the larger facilitation team; examples of session constructs are conscience, respect, empathy and responsibility. This first phase took place as a large group process with all the participants involved in the outdoor classroom.

- Phase 2: Experiential equine-assisted counselling interaction. The sub-groups then proceeded to the paddocks with their facilitation team. Each session had a predefined activity and herewith is an example of the activity for the session dealing with the construct of responsibility. Each participant was provided with a cup filled either with water or sand and told, "This is your responsibility for the session". (The cup with sand is a physicalisation of the symbol for the construct of responsibility and has potential metaphorical value in the session). Thereafter the instruction was to move all the horses and the people to another place in the paddock (Boyce, 2014). The participants then engaged in a personal experience of interacting with the horses in line with their interpretation of the task and management of the symbol of responsibility. Thereafter, whilst still in the paddock, processing of the experience in terms of learning and meaning making was facilitated.

- Phase 3: Consolidation of learning. The participants returned to gather for a large group process at the outdoor classroom. This conversational phase was guided through a Socratic enquiry process which was facilitated in the following sequence :
 - i. In the large group participants were requested to pair with someone from a different small group and to discuss the following questions; “What did the horses learn about you? / What did they say to their friends in the stable about you?”
 - ii. Combine pairs to form groups of four to consider the following question; “What were you surprised to learn about yourself and the “construct of the day?”
 - iii. Combine groups of four to create groups of eight to consider the following question and a spokesperson from each sub group to share their answer with the whole group; “What will you do in the coming week with what you have learned that will involve others?”
 - iv. The group were then asked to identify the key word/s that they were introduced to that describe the primary learning construct of the session. For example in session 1 the two words relating to the constructs were; “ CONSCIENCE & RESPECT” (Boyce, 2014).

3.4.4 Collection of information.

3.4.4.1 Quantitative measure.

Only in recent decades has empirical attention been directed to the ancient concern of human beings with physical and psychological well-being with little agreement on how best to measure essential aspects of well-being (Cooke, Melchert, & Connor, 2016; Linton et al., 2016). Literature reviews performed by both Cooke et al. (2016) and Linton et al. (2016) reveal that the

most common form of measurement of psychological well-being are self-report instruments. This is due to well-being, be it physical or psychological, being a subjective experience with an impact on quality of life that can only be determined by the respondent (Diener, Lucas, & Oishi, 2005; Linton et al., 2016) According to Linton et al. (2016) there is growing recognition within contemporary literature that self-report data has empirical value and they recommend that an appropriate measure be selected based on the dimensions of well-being to be investigated in conjunction with the psychometric properties of the instrument.

An overview of the quantitative research instrument used in this research will now be presented.

3.4.4.1.1 The Ryff Scales of Psychological Well-Being.

The quantitative measure used in the study is the self-report scale of psychological well-being known as the Ryff Scales of Psychological Well-being (RSPWB).

In response to a deficit in attempts to define positive psychological functioning Ryff (1989b) developed a multi-variate scale of psychological well-being. As presented in section 2.3 Ryff maintained that the various traditional theorists on positive psychological functioning offered something that contributes to what can be regarded as the core dimensions of psychological well-being which create the basis for the six scales incorporated in the overall scale of psychological well-being. The RSPWB comprises six scales representing dimensions of psychological well-being namely: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Ryff, 1989b). The definition for each of these dimensions is presented in Table 3.3.

Table 3. 3

Definitions of Theory-Guided Dimensions of Well-Being (Ryff, 1989b, p. 1072)

Dimension	Definition of High Scorer	Definition of Low Scorer
Self-acceptance	Possesses a positive attitude toward the self; acknowledges and accepts multiple aspects of self, including good and bad qualities; feels positive about past life.	Feels dissatisfied with self; is disappointed with what has occurred in past life; is troubled about certain personal qualities; wishes to be different than what he or she is.
Positive relations with others	Has warm, satisfying, trusting relationships with others; is concerned about the welfare of others; capable of strong empathy, affection, and intimacy; understands give and take of human relationships.	Has few close, trusting relationships with others; finds it difficult to be warm, open, and concerned about others; is isolated and frustrated in interpersonal relationships; not willing to make compromises to sustain important ties with others.
Autonomy	Is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates behavior from within; evaluates self by personal standards.	Is concerned about the expectations and evaluations of others; relies on judgments of others to make important decisions; conforms to social pressures to think and act in certain ways.
Environmental mastery	Has a sense of mastery and competence in managing the environment; controls complex array of external activities; makes effective use of surrounding opportunities; able to choose or create contexts suitable to personal needs and values.	Has difficulty managing everyday affairs; feels unable to change or improve surrounding context; is unaware of surrounding opportunities; lacks sense of control over external world.

Table 3.3 continued

Purpose in life	Has goals in life and a sense of directedness; feels there is meaning to present and past life; holds beliefs that give life purpose; has aims and objectives for living.	Lacks a sense of meaning in life; has few goals or aims, lacks sense of direction; does not see purpose of past life; has no outlook or beliefs that give life meaning.
Personal growth	Has a feeling of continued development; sees self as growing and expanding; is open to new experiences; has sense of realizing his or her potential; sees improvement in self and behavior over time; is changing in ways that reflect more self-knowledge and effectiveness.	Has a sense of personal stagnation; lacks sense of improvement or expansion over time; feels bored and uninterested with life; feels unable to develop new attitudes or behaviours?.

The original scale consisted of 20 items per dimension resulting in a 120-item scale with an equal split between positive and negative items (Ryff, 1989b). In the interest of reducing respondent burden when completing the questionnaire the original Ryff scale was reduced to include either 14 items per dimension, to create a scale of 84-items, or one that includes 3 items per dimension creating a scale of a total of 18-items. More recently a 7-item scale has been created of which the psychometric properties are yet to be released (Linton et al., 2016). For the purposes of this study the 14 item scale was selected with scale items equally split between positive and negative worded items (Ryff, 1989b). For example on the purpose in life scale a positively worded item is, “I am an active person in carrying out the plans I have set for myself” and a negatively worded item is, “My daily activities often seem trivial and unimportant to me”. On the positive relations with others scale a positively worded item is, “I enjoy personal and mutual conversations with family members or friends” and a negatively worded item is, “I often feel like I’m on the outside looking in when it comes to friendships”. The scale requires the subjects rate themselves on a 6-point Likert Scale (1= strongly disagree, 2 = moderately disagree, 3 = slightly disagree, 4

= slightly agree, 5 = moderately agree, 6 = strongly agree). Internal consistency of the 14-item scale was determined for the current research subject sample and compared to that found in the literature prior to inferential statistical analysis.

Research indicates that across cultural and age contexts, particularly adolescents, the RSPWB reveals inconsistent findings regarding reliability and validity (Gao & McLellan, 2018; Henn, Hill, & Jorgensen, 2016; Van Dierendonck, 2005). Given the dearth of information examining the factor structure of the RSPWB within the South African context Henn et al. (2016) recommend that the scales be used with caution.

3.4.4.1.2 Reliability of the Ryff scales of psychological well-being.

In order to determine the reliability of the RSPWB for the current study, Cronbach's alpha (α) was determined for the research sample as well as separately for both the control and experimental groups on the pre-assessment prior to the intervention. This facilitated the determination of the internal consistence of the responses of the sample on the dimensions and overall scale. Additionally, any differences between the internal reliability of the respondents' answers in the control and experimental conditions could be detected. The correlations of the six dimensions were considered in the light of those found by other researchers, who studied psychological well-being as measured by the RSPWB in adolescents and young adults, as a guideline to determine the acceptability of reliability of the scale (Fernandes et al., 2010; Ryff, 1989b; Van Dierendonck, 2005).

Table 3.4 provides an overview of the determined RSPWB reliability coefficients of the current study as well as the comparison values cited in the aforementioned articles.

Table 3. 4

Comparison of Current Study Reliability on RSPWB to that of Other Studies

Current Study Cronbach alpha (Pre questionnaire – 84 items)				Articles				
				Fernandes et al (2010)			Van Dierendonck (2005)	Ryff (1989)
	Whole Sample 84 items Age: 13 – 17 years	Control Condition	Exp Condition	Study 1 18 items Age: 10 – 18 years	Study 2 18 items Age: 10 – 20 years	Study 3 84 items Age: 12 – 17 years	84 items Age: 16 – 28 years	120 items Age: 18 – 82 years
	N=78	n=34	n=34	N=402	N=790	N=771	N=233	N=321
Autonomy	.59	.52	.65	.50	.37	.60	.83	.86
Environmental mastery	.47	.51	.53	.45	.28	.59	.77	.90
Personal growth	.68	.66	.74	.37	.50	.69	.82	.87
Positive relations	.55	.63	.57	.42	.46	.55	.80	.91
Purpose in life	.63	.65	.68	.38	.33	.68	.84	.90
Self-acceptance	.57	.57	.62	.36	.48	.70	.90	.93
Overall dimensions	.92	.92	.93	.93				

The RSPWB 18 item scales have been found to have low internal consistencies and are not recommended for either clinical or academic use (Ryff, 2014; Van Dierendonck, 2005). According to Van Dierendonck (2005) and Ryff (1989b, 2014) both the RSPWB scales of 84 items and that of 120 items shows reasonable to good internal consistency, with a Cronbach’s alpha coefficient range of 0.77 - 0.90 reported by the first and 0.83 - 0.93 by the latter author. Field (2013) and Pallant (2016) explain that the observed reduction in internal consistency across the studies can be attributed to the reduction in the number of items of the scale.

Overall, Table 3.4 indicates that the 14-item scales have been found to have acceptable reliabilities with Cronbach’s alpha ranging from 0.77 to 0.99 across studies with adults (Ryff, 2014; Van

Dierendonck, 2005). Whilst Cronbach's alpha coefficient values of 0.7 to 0.8 are typically deemed to be acceptable, values of lower than 0.7 are realistically acceptable with regard to diverse psychological constructs, such as psychological well-being, and that 0.5 may be acceptable in early stage research with values of 0.6 regarded as an acceptable lower limit in exploratory research (Field, 2013; Pallant, 2016). In the current study, the Cronbach alpha coefficient was 0.92.

3.4.4.2 *Qualitative measure*

The qualitative measure consisted of a writing activity, in the form of letters to the horses, which was included as a part of the final session of the Eagala model intervention. The purpose of the letters was to expand and deepen the research understanding regarding the subjective experience of the participants. Thus, the participants were provided with an opportunity to reflect on their personal experience, learnings or change, during the intervention and to communicate this in an alternative non-verbal, non-direct way (White & Murray, 2002). The participants were requested to write a letter to the horses telling them what they found meaningful and had learned during the intervention (Boyce, 2014).

3.4.5 Data collection.

3.4.5.1 *Timing of the data collection.*

The timing of data collection was such that the quantitative data was collected pre- and post the intervention for both the experimental and control groups, with the qualitative data collected unobtrusively as part of the last session of the intervention for the experimental group as is typical of a concurrent nested data collection procedure (Creswell & Plano Clark, 2011).

There was parity of priority of the qualitative and quantitative data in order to answer the two research questions which are equally weighted.

3.4.5.2 Quantitative data collection.

The quantitative data collection was arranged by Shumbashaba Community Trust in conjunction with the high school that the participants attended. The pre-assessment for both conditions was conducted by the primary researcher in conjunction with the Shumbashaba Community Trust appointed research assistant at the Diepsloot school during the school lunch break in the week preceding the start of the intervention. Likewise these researchers conducted the post-assessment for both conditions. For logistical ease the post-assessment for the experimental group occurred in the outdoor classroom at Shumbashaba after the last session of the intervention whilst that for the control group occurred at the Diepsloot school during an appointed school lesson period the week after the intervention was completed.

3.4.5.3 Qualitative data collection.

In order to reduce the possibility of introducing bias the qualitative data collection occurred unobtrusively in the form of personal writings during the last session of the intervention as part of the facilitated session plan. As a result the qualitative data collection took place in the paddock with the horses at Shumbashaba. In this writing activity the participants were requested to; “Write a personal letter to the horses telling them what you have learned during the sessions. Include something about what you have learned about meaning in your life / where you have found meaning in your life, during your time with them? Go and place your letter on the horse that means the most to you / to who you feel the most connected”. The facilitators of the session then collected the letters off the horses once the session was completed.

3.4.6 Data records.

The original quantitative data records are the participant RSPWB answer sheets. The data of these questionnaires was captured by an independent person onto an excel spreadsheet in a format to be used for SPSS Version 23®.

The original qualitative data set was participant's hand-written letters which were transcribed verbatim into an excel spreadsheet. The original qualitative data remained unchanged and both printed and handwritten copies of the data were used in the phases of the thematic analysis (Joffe, 2012).

All the raw data and documents relating to the research are held in safekeeping on University of Pretoria Hatfield campus in the department of Psychology, and will be held for a minimum period of 15 years.

3.4.7 Data analysis procedures.

The data analysis for both the quantitative and qualitative data occurred separately post the intervention. During the interpretation phase both data sets were merged through triangulation where they informed one another in order to gain greater insight and depth of understanding in terms of the dependent variable.

3.4.7.1 *Quantitative data analysis.*

The quantitative data analysis was conducted on SPSS Version 23®. Descriptive and inferential statistical analyses were conducted. Inferential statistical analysis included both parametric and non-parametric statistics. Parametric statistics was a **within** groups comparison (dependent t-test), to test the null hypothesis that there was no difference in the psychological well-being pre- and post- intervention mean scores within the experimental and control conditions; as well as a **between** (independent t-test) groups comparison, to test the null hypothesis that there is

no difference in the psychological well-being pre- and post- intervention mean scores between the two experimental conditions.

It was decided to interrogate the results further by controlling for the number of sessions attended by the participants in order to determine if the number of sessions had any impact on the mean scores of the participants on the RSPWB. The following three categories of attendance were identified within the sample, N=74; (i) 0 sessions attended (control condition), and two categories from the experimental condition: (ii) 1-3 sessions attended, and (iii) 4-8 sessions attended. The creation of the three categories resulted in a reduced sample size in the experimental group and hence it was decided to statistically analyse this data using the non-parametric Kruskal-Wallis test (Field, 2013).

3.4.7.2 *Qualitative data analysis.*

Qualitative data analysis was an inductive thematic analysis, where themes were generated from the data through open (unrestricted) coding. These codes were allocated to categories which were developed and refined into a combination of manifest and latent sub-themes and themes. A theme was understood as a specific pattern of response or meaning in the dataset that contained explicit and or implicit content in relation to the research question (Braun & Clarke, 2006; Joffe, 2012). The thematic analysis process was informed by that described by both Joffe (2012) and Braun and Clarke (2006).

Joffe (2012) recommends that a dual inductive/deductive and latent/manifest set of themes be identified within a dataset. Inductive thematic analysis is the process of identifying themes that emerge across the data set through the researcher searching for repeated patterns of meaning which were extracted and grouped into higher order categories (Braun & Clarke, 2006; Braun, Clarke, & Terry, 2015) This was facilitated by the researcher's openness to deriving themes for analysis from

categories linked directly to the data within the dataset in conjunction to those representing existing theoretical constructs (Joffe, 2012). Initially, the researcher focussed on identifying the explicit themes using the semantic content and thereafter theoretically interpreted the significance of the patterns as well as their broader meanings and implications (Braun & Clarke, 2006).

The researcher and an independent second coder both worked independently with the data set according to the six phase analysis process described by Braun and Clarke (2006). This afforded triangulation of the coding which was then overseen by the researcher's supervisor as recommended by Joffe (2012). These authors define the following process to which the researcher and a second coder adhered:

- i. Familiarisation with the data through reading, re-reading, and transcribing the data verbatim;
- ii. Generating initial codes;
- iii. Searching for themes;
- iv. Reviewing and refining themes;
- v. Defining and naming themes;
- vi. Final analysis of the identified themes in relation to the research question.

In order to facilitate transparency of the thematic analysis process, photographic evidence was taken of the coding frames and this was also transcribed into excel spreadsheets and mind maps for ease of ongoing reflection and revision of themes (Joffe, 2012).

3.5 Measures of Trustworthiness

Strategies employed to ensure the quality of data included the following measures of trustworthiness:

- i. credibility through triangulation of coding using a peer and supervisor as multiple coders as well as triangulation of qualitative data using all experimental group participants transcripts;
- ii. applicability by creating rich descriptions from all the participants transcripts;
- iii. dependability was created through the, coding and reviewing of themes, procedures of the thematic analysis as well as through peer review and the use of multiple coders and coder reflexivity;
- iv. confirmability occurred through triangulation of the data and the use of a peer and supervisor as multiple coders and coder reflexivity;
- v. Appendix 4 provides a detailed overview of the adhered to research project plan with activities, venue and timelines; and
- vi. the original transcripts remain unaltered as copies of verbatim transcripts were used for coding and analysis;
- vii. authenticity was facilitated through the researcher and coders adopting an attitude of fairness, awareness, understanding, action and empowerment towards the participants and data (Creswell & Plano Clark, 2011; Sweeney, Greenwood, Williams, Wykes, & Rose, 2013).

3.6 Ethical Considerations

Ethical permission to conduct the study was given by the faculty of Humanities ethics committee; human protocol number GW20170506HS. According to the Health Professionals Council of South Africa (HPCSA) research best practices requires adherence to the ethical core principles of, “best interest or well-being; respect and justice” in relation to those who are participating (Health Professionals Council of South Africa, 2008, pp. 2-3). This research adhered to those principles by taking into account the following ethical considerations: voluntary participation and the informing of all participants of their right to withdraw from the research at any time and still continue to attend the Eagala model intervention without negative consequences. Informed assent was voluntarily obtained from the participants as well as informed consent voluntarily obtained from participants’ parents / guardians. All parties were fully informed about the research process and purposes.

Safety in participation was delivered through the Shumbashaba facilitation team that comprised a licensed mental health professional and a horse specialist whose Eagala certification and membership was current. This certification requires members to adhere to both the Eagala code of ethics (see Appendix 5) and that of the relevant licensing body– in South Africa this is the HPCSA - in addition to being in possession of a valid first aid certification.

According to the Eagala model the mental health professional responsibilities include the maintaining of emotional safety and the counselling process. Whilst the horse specialist is responsible to maintain physical safety of both the humans and horses in terms of both the Eagala facilitation standards (Equine Assisted Growth and Learning Association, 2015), and the Shumbashaba horse welfare document (Shumbashaba Community Trust, 2014). The Shumbashaba horse welfare document requires that the horses are allowed to participate in the

therapeutic process in an ethical manner, such that they can express their natural behaviours in an unrestricted manner. Furthermore, the horse specialist is required to remain alert to the horses' nonverbal behaviour (pinning ears; moving away; turning hindquarters; swishing tails; and so on) and to interrupt an interaction if it appears that the horse is uncomfortable or threatens the welfare of the horses or humans. Session activities occurred in a very large space where horses are free to remove themselves from human interaction if they choose not to participate, so a horse was not obliged to interact with a human. As an extra safety procedure Shumbashaba was registered with the Fourways Life medical centre that would dispatch an ambulance immediately should someone be injured and all facilitators are required to store the number on their cell phones.

Confidentiality and anonymity of the participants was protected through the Shumbashaba requirement that all facilitators sign confidentiality agreements and participants were informed that anonymity would be maintained through referencing only participant numbers in any forums where the results of the research are shared. The participants were not subjected to any acts of deception or betrayal in the research process nor in its published outcomes. The data is locked away - as described earlier. There was no form of compensation awarded to the participants.

3.7 Positionality of the Researcher

The researcher holds a diplomate of Logotherapy which informs her anthropological and philosophical position of viewing humans as meaning seekers and life as unconditionally meaningful (Frankl, 1969). The intervention, Logos Equus, was developed by the researcher as part of the requirements for advanced certification in Logotherapy. She is advanced certified in the Eagala model and is an active member of the international Eagala training team which may contribute to researcher bias. To put aside her own bias and view the data neutrally, she did not

participate as a member of the therapeutic facilitation team and included peer and supervisory reviewers in the data analysis.

3.8 Conclusion

This chapter provided a description of the methodology utilised to reach the desired outcomes of the study. An experimental concurrent mixed methods design was implemented in which participants were selected through convenience sampling from participants who attend Shumbashaba Community Trust development programmes. Mention was also made of the types of data analyses used. The next chapter will focus on the results of the data analysis.

CHAPTER 4: RESULTS

4.1 Introduction

As was indicated in Chapter 1, the overarching aim of this research is to determine the effect of the Eagala model to facilitate psychological well-being in a group of Diepsloot adolescents. This chapter is organised so that the results are presented in line with the following objectives set to facilitate meeting this aim:

- to measure psychological well-being of the participants pre- and post to participating in the Eagala model intervention;
- to investigate the effect of the Eagala model intervention on the subjective psychological well-being of the participants.

Chapter 4 provides the reader with a description of the analysis of the data collected in terms of the methodology described in the previous chapter. The sequence of the data analysis followed those for embedded mixed methods design where qualitative data collection was embedded in the quantitative data collection procedure (Creswell & Plano Clark, 2011).

This chapter commences by presenting the basic descriptive quantitative findings and inferential statistical analysis. Thereafter, a detailed presentation of the qualitative data thematic analysis follows. In line with the protocol for a concurrent mixed methods design the quantitative data strand and the qualitative data strands are independent and inferences from the separate analysis of these data strands are combined into meta-inferences for discussion in Chapter 5 (Teddlie & Tashakkori, 2006).

4.2 Quantitative Results: Measuring psychological well-being

4.2.1 Description of the sample.

The final sample of the study included 74 mixed gender high school participants who were randomly assigned to either the control or experimental condition as described previously in Table 3.1. Within the experimental group 10 participants (27%) attended 1 – 3 sessions and 27 participants (73%) of the participants attended 4 – 8 sessions of the intervention.

4.2.2 Parametric statistical analysis.

The data collected from the scores on the RSPWB is interval and the sample size is of sufficient size, (see Table 4.1), to meaningfully statistically analyse the effect of the Eagala model intervention on the experimental group whilst the control group was not exposed to any intervention at all. Statistical analysis included the paired samples t-test for within group analysis to test the null hypothesis that there is no difference in psychological well-being pre- and post-intervention mean scores on the RSPWB within the two groups. Additionally, the independent t-test was applied to the data to test the null hypothesis that there is no difference in psychological well-being pre- and post-intervention mean scores between the control and experimental group.

4.2.2.1 Paired t-test.

The paired sample t-test was used to analyse the observed differences in the mean scores on the overall RSPWB as well as the six dimensions of psychological well-being of the RSPWB, pre- and post-intervention within the control and the experimental groups. A confidence level of 95% and the significance level of 5%; $p < .05$ was used throughout the statistical analyses. The size of the effect was determined using Cohen's d which describes the constitution of effect size as follows; $d=0.2$ (small effect), 0.5 (medium effect), 0.8 (large effect) (Field, 2013; Pallant, 2016). The data analysis for the two groups will be presented separately.

4.2.2.1.1 Control Group

Table 4.1 presents the descriptive statistics for the control group.

Table 4.1

Descriptive Statistics for Control Group

	Mean	n	Std. Deviation	Std. Error Mean
Pre Overall RSPWB	4.07	37	0.48	0.08
Post Overall RSPWB	3.46	37	0.16	0.03
Pre Purpose in life	4.31	37	0.66	0.11
Post Purpose in life	3.59	37	0.35	0.06
Pre Autonomy	3.83	37	0.58	0.10
Post Autonomy	3.49	37	0.34	0.06
Pre Positive Relations	4.06	37	0.59	0.10
Post Positive Relations	3.36	37	0.43	0.07
Pre Environmental Mastery	4.10	37	0.58	0.10
Post Environmental Mastery	3.36	37	0.38	0.06
Pre Personal growth	4.28	37	0.67	0.11
Post Personal growth	3.49	37	0.37	0.06
Pre Self-acceptance	3.83	37	0.59	0.10
Post Self-acceptance	3.44	37	0.28	0.05

Note. RSPWB = Ryff's Scale of Psychological Well-Being

In order to determine if the control group difference in the mean scores as shown in Table 4.1 is statistically significant, a paired t-test statistical analysis was done. The results of this analysis are presented in Table 4.2.

Table 4.2

Control Group Paired Samples t-Test on RSPWB

	Paired Differences					t	df	Sig. (2-tailed)	Cohen's d
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pre Overall RSPWB – Post Overall RSPWB	.61	.49	.08	.45	.78	7.55	36	.00	1.24
Pre Purpose in life - Post Purpose in life	.72	.78	.13	.46	.98	5.60	36	.00	0.92
Pre Autonomy - Post Autonomy	.34	.61	.10	.14	.54	3.37	36	.00	0.55
Pre Positive Relations - Post Positive Relations	.69	.74	.12	.45	.94	5.72	36	.00	0.94
Pre Environmental Mastery - Post Environmental Mastery	.74	.62	.10	.54	.95	7.31	36	.00	1.20
Pre Personal growth - Post Personal growth	.79	.73	.12	.55	1.03	6.56	36	.00	1.08
Pre Self-acceptance - Post Self-acceptance	.40	.72	.19	.16	.64	3.34	36	.00	0.55

Note. RSPWB = Ryff's Scale of Psychological Well-Being. Statistically significant values at p

< .05

The results for the control group are as follows:

1. Lower mean scores on overall RSPWB post-test scores ($M = 3.455$, $SE = .026$) than overall RSPWB pre-test scores ($M = 4.068$, $SE = .079$). This difference, 0.613 at 95% CI [.45, .78], was significant $df(36)$, $t = 7.55$, $p = .00$ and represented a very large effect size, $d = 1.241$.
2. Lower purpose in life post-test scores ($M = 3.59$, $SE = .057$) than purpose in life pre-test scores ($M = 4.31$, $SE = .11$). This difference, 0.72, at 95% CI [.46, .98], was significant $df(36)$, $t = 5.6$, $p = .00$, and represented a large effect size, $d = 0.920$.
3. Lower autonomy post-test scores ($M = 3.49$, $SE = .056$) than autonomy pre-test scores ($M = 3.83$, $SE = .1$). This difference, 0.34, at 95% CI [.14, .54], was significant $df(36)$, $t = 3.37$, $p = .00$, and represented a medium effect size, $d = 0.553$.
4. Lower positive relations post-test scores ($M = 3.36$, $SE = .070$) than positive relations pre-test scores ($M = 4.06$, $SE = .09761$). This difference, 0.69, at 95% CI [.45, .94], was significant $df(36)$, $t = 5.72$, $p = .00$, and represented a large effect size, $d = 0.940$.
5. Lower environmental mastery post-test scores ($M = 3.36$, $SE = .063$) than environmental mastery pre-test scores ($M = 4.10$, $SE = .1$). This difference, 0.74, at 95% CI [.54, .94], was significant $df(36)$, $t = 7.31$, $p = .00$, and represented a very large effect size, $d = 1.202$.
6. Lower personal growth post-test scores ($M = 3.49$, $SE = .06$) than personal growth pre-test scores ($M = 4.28$, $SE = .11$). This difference, 0.79, at 95% CI [.55, 1.03], was significant $df(36)$, $t = 6.56$, $p = .00$, and represented a very large effect size, $d = 1.078$.

7. Lower self-acceptance post-test scores ($M = 3.44$, $SE = .05$) than self-acceptance pre-test scores ($M = 3.83$, $SE = .1$). This difference, 0.4, at 95% CI [.16, .64], was significant $df(36)$, $t = 3.34$, $p = .00$, and represented a medium effect size, $d = 0.549$.

Overall the results of the paired samples t-test indicate that the control group participants reported a significant decrease in mean scores on overall psychological well-being as well as on each of the six dimensions of psychological well-being from pre- to post-assessment.

4.2.2.1.2 Experimental Group

The descriptive statistics for the experimental group are presented in Table 4.3

Table 4. 3

Descriptive Statistics for the Experimental Group

	Mean	n	Std. Deviation	Std. Error Mean
Pre Overall RSPWB	4.05	37	.52	.09
Post Overall RSPWB	3.77	37	.46	.08
Pre Purpose in life	4.23	37	.72	.12
Post Purpose in life	3.91	37	.70	.12
Pre Autonomy	3.82	37	.68	.11
Post Autonomy	3.64	37	.46	.08
Pre Positive Relations	4.15	37	.60	.10
Post Positive Relations	3.64	37	.61	.10
Pre Environmental Mastery	3.94	37	.58	.10
Post Environmental Mastery	3.72	37	.64	.11
Pre Personal growth	4.37	37	.68	.11
Post Personal growth	4.01	37	.67	.11
Pre Self-acceptance	3.78	37	.64	.11
Post Self-acceptance	3.67	37	.49	.08

Note. RSPWB = Ryff's Scale of Psychological Well-Being.

What stands out in Table 4.3 is that the pre-test mean scores on the overall RSPWB and on all six of the dimensions of the RSPWB are higher than those of the post-test mean scores indicating that the experimental group reported a decrease in psychological well-being from pre- to post- intervention.

In order to determine if this reported difference is statistically significant a paired t-test statistical analysis was done, and the results are presented in Table 4.4.

Table 4.4

Experimental Group Paired Samples t-Test on RSPWB

	Paired Differences					t	df	Sig. (2-tailed)	Cohen's d
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pre Overall RSPWB – Post Overall RSPWB	.28	.63	.10	.07	.49	2.75	36	.01	0.45
Pre Purpose in life - Post Purpose in life	.32	.85	.14	.04	.60	2.30	36	.03	0.38
Pre Autonomy - Post Autonomy	.18	.76	.13	-.07	.44	1.46	36	.15	
Pre Positive Relations - Post Positive Relations	.51	.77	.13	.26	.77	4.05	36	.00	0.67
Pre Environmental Mastery - Post Environmental Mastery	.21	.80	.13	-.05	.48	1.62	36	.11	
Pre Personal growth - Post Personal growth	.36	.86	.14	.08	.6	2.59	36	.01	0.43
Pre Self-acceptance - Post Self-acceptance	.12	.80	.13	-.15	.38	0.87	36	.39	

Note. RSPWB = Ryff's Scale of Psychological Well-Being. Statistically significant values at $p < .05$

The statistics reported in Table 4.4 indicate the following results:

1. Lower overall RSPWB post-test scores ($M = 3.765$, $SE = .075$) than overall RSPWB pre-test scores ($M = 4.048$, $SE = .086$). This difference, 0.28, at 95% CI [.07, .49], was significant $df(36)$, $t = 2.75$, $p = .009$, and represented a small effect size, $d = 0.451$.
2. Lower purpose in life post-test scores ($M = 3.91$, $SE = .12$) than purpose in life pre-test scores ($M = 4.23$, $SE = .12$). This difference, 0.32, at 95% CI [.04, .60], was significant $df(36)$, $t = 2.3$, $p = .03$, and represented a small effect size, $d = 0.377$.
3. Lower autonomy post-test scores ($M = 3.64$, $SE = .08$) than autonomy pre-test scores ($M = 3.82$, $SE = .11$). This difference, 0.18, at 95% CI [-.07, .60], was not significant $df(36)$, $t = 1.46$, $p = .15$.
4. Lower positive relations post-test scores ($M = 3.64$, $SE = .01$) than positive relations pre-test scores ($M = 4.15$, $SE = .1$). This difference, 0.51, at 95% CI [.26, .77], was significant $df(36)$, $t = 4.1$, $p = .00$, and represented a medium effect size, $d = 0.666$.
5. Lower environmental mastery post-test scores ($M = 3.72$, $SE = .11$) than environmental mastery pre-test scores ($M = 3.94$, $SE = .1$). This difference, 0.21, at 95% CI [.54, .94], was not significant $df(36)$, $t = 1.62$, $p = .11$.
6. Lower personal growth post-test scores ($M = 4.01$, $SE = .11$) than personal growth pre-test scores ($M = 4.37$, $SE = .11$). This difference, 0.36, at 95% CI [.08, .65], was significant $df(36)$, $t = 2.6$, $p = .01$, and represented a small effect size, $d = 0.426$.
7. Lower self-acceptance post-test scores ($M = 3.67$, $SE = .08$) than self-acceptance pre-test scores ($M = 3.78$, $SE = .11$). This difference, 0.11, at 95% CI [.16, .64], was not significant $df(36)$, $t = 0.87$, $p = .39$.

Overall, the results of the paired samples t-test indicate that the experimental group participants reported a significant decrease ($p < .05$) of mean scores on the overall RSPWB as well as on the dimensions of purpose in life, positive relations and personal growth which represented a small to medium effect size from pre- to post-intervention. On the dimensions of autonomy, environmental mastery and self-acceptance, the participants reported no significant decrease from pre- to post-intervention.

4.2.2.2 Independent t-test.

The independent t-test was used to analyse if there was a reported difference in the mean scores on the overall RSPWB as well as the dimensions of psychological well-being pre- and post-intervention between the control and the experimental groups.

4.2.2.2.1 Pre-intervention Condition

The descriptive data for the both experimental and control conditions on the overall scale as well as each of the dimensions of the RSPWB before the intervention are presented in Tables 4.1 and 4.3. The difference in the pre-intervention mean scores between the two groups was then analysed using independent t-test statistical analysis the results of which are presented in Table 4.5.

Table 4.5

Results for the Pre-intervention Independent Samples t-Test

		Levene's Test for Equality of Variances		t-Test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre RSPWB	Equal variances assumed	.17	.68	.17	72	.87	.02	.12	-.21	.25
	Equal variances not assumed			.17	72	.87	.02	.12	-.21	.25
Pre Purpose in life	Equal variances assumed	.16	.69	.50	72	.62	.08	.16	-.24	.40
	Equal variances not assumed			.50	71	.62	.08	.16	-.24	.40
Pre Autonomy	Equal variances assumed	.55	.46	.05	72	.96	.01	.15	-.28	.30
	Equal variances not assumed			.05	70	.958	.01	.15	-.28	.30
Pre Positive Relations	Equal variances assumed	.04	.84	-.70	72	.49	-.10	.14	-.37	.18
	Equal variances not assumed			-.70	72	.49	-.10	.14	-.37	.18
Pre Environmental Mastery	Equal variances assumed	.02	.90	1.22	72	.23	.17	.14	-.10	.44
	Equal variances not assumed			1.22	72	.23	.17	.14	-.10	.44
Table 4.5 continued		.06	.81	-.58	72	.56	-.09	.16	-.40	.22
growth	Equal variances not assumed			-.58	72	.56	-.09	.16	-.40	.22
Pre Self-acceptance	Equal variances assumed	.27	.61	.33	72	.74	.05	.14	-.24	.33

	Equal variances not assumed			.33	71	.74	.05	.14	-.24	.33
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Note. RSPWB = Ryff's Scale of Psychological Well-Being. Statistically significant values at $p < .05$

The average difference between the pre-intervention mean scores of the control and the experimental groups was not significant on the overall RSPWB and its six dimensions.

4.2.2.2.2 Post-intervention Condition

The descriptive data for the both experimental and control conditions on the overall scale as well as each of the dimensions of the RSPWB post the intervention are presented in Tables 4.1 and 4.3. This difference in the posts-intervention mean scores between the two groups was then analysed using independent t-test statistical analysis and the results are presented in Table 4.6.

Table 4.6

Results for the Post-intervention Independent Samples t-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means							Cohen's d
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
									Lower	Upper	
Post RSPWB	Equal variances assumed	31.87	.00	-3.89	72	.00	-0.31	.08	-0.47	-0.15	
	Equal variances not assumed			-3.89	45	.00	-0.31	.08	-0.47	-0.15	0.91
Post Purpose in life	Equal variances assumed	13.27	.00	-2.50	72	.02	-.32	.13	-.58	-.07	
	Equal variances not assumed			-2.50	53	.02	-.32	.13	-.58	-.06	0.58
Post Autonomy	Equal variances assumed	1.18	.28	-1.56	72	.12	-.15	.10	-.34	.04	
	Equal variances not assumed			-1.56	66	.12	-.15	.10	-.34	.04	
Table 4.6 continued Post Positive Relations	Equal	2.38	.13	-2.28	72	.03	-.28	.12	-.52	-.04	0.53
	Equal variances not assumed			-2.28	65	.03	-.28	.12	-.52	-.03	

Post Environmental Mastery	Equal variances assumed	12.21	.00	-2.94	72	.00	-.36	.12	-.61	-.12	
	Equal variances not assumed			-2.94	59	.01	-.36	.12	-.61	-.12	0.68
Post Personal growth	Equal variances assumed	11.27	.00	-4.13	72	.00	-.52	.13	-.77	-.27	
	Equal variances not assumed			-4.13	56	.00	-.52	.13	-.77	-.27	0.96
Post Self-acceptance	Equal variances assumed	5.43	.02	-2.50	72	.02	-.23	.09	-.42	-.05	
	Equal variances not assumed			-2.50	58	.02	-.23	.09	-.42	-.05	0.58

Note. RSPWB = Ryff's Scale of Psychological Well-Being. Statistically significant values at $p < .05$

The results of the independent samples t-test comparing the dimensions of psychological well-being between the control and experimental groups post-intervention are as follows:

1. On average the overall RSPWB scores of the experimental group ($M = 3.76$, $SE = .08$) were higher than those of the control group ($M = 3.45$, $SE = .03$). This difference, -0.31 at 95% CI $[-.47, -.15]$, is significant $df(45)$, $t = -3.89$, $p = .000$, and represented a large effect size, $d = 0.905$.
2. On average the purpose in life scores of the experimental group ($M = 3.91$, $SE = .12$) were higher than that of the control group ($M = 3.59$, $SE = .06$). This difference, -0.32 at 95% CI $[-.58, -.06]$, is significant $df(53)$, $t = -2.5$, $p = .02$, and represented a medium effect size, $d = 0.581$.
3. On average the positive relations scores of the experimental group ($M = 3.72$, $SE = .11$) were higher than that of the control group ($M = 3.36$, $SE = .06$). This difference, -0.28 at 95% CI $[-.52, .03]$, is significant $df(72)$, $t = -2.28$, $p = .03$, and represented a medium effect size, $d = 0.529$.
4. On average the environmental mastery scores of the experimental group ($M = 4.1$, $SE = .1$) were higher than that of the control group ($M = 3.94$, $SE = .1$). This difference, 0.12 at 95% CI $[-.61, -.12]$, is significant $df(59)$, $t = -2.94$, $p = .01$, and represented a medium effect size, $d = 0.684$.
5. On average the personal growth scores of the experimental group ($M = 4.01$, $SE = .11$) were higher than that of the control group ($M = 3.49$, $SE = .06$). This difference, -0.52 at 95% CI $[-.77, .27]$, is significant $df(56)$, $t = -4.13$, $p = .00$ and represented a large effect size, $d = 0.959$.

6. On average the self-acceptance scores of the experimental group ($M = 3.67$, $SE = .08$) were higher than that of the control group ($M = 3.44$ $SE = .05$). This difference, -0.23 at 95% CI $[-.42, -.05]$, is significant $df(58)$, $t = -2.50$, $p = .02$, and represented a medium effect size, $d = 0.582$.

In summary, the results show that post intervention the experimental group mean scores on overall RSPWB were significantly ($p < .05$) higher than those of the control group. On the dimensions of the RSPWB the experimental group scores on the purpose in life, positive relations, environmental mastery, and personal growth and self-acceptance dimensions were significantly ($p < 0.05$) higher than those of the control group post-intervention, representing a medium to large effect size of the intervention.

4.2.3 Non-parametric statistical analysis.

During the next step of the statistical analysis it was decided to interrogate the results further to see if there was a relationship between the amount of psychological well-being reported and the number of sessions attended. This required controlling the number of sessions attended by the participants in order to determine if the number of sessions had any impact on the participants' amount of psychological well-being on both overall and across the dimensions of the RSPWB.

Three categories of session attendance within the sample were identified: 0 sessions attended (control condition), $n = 37$; 1 – 3 sessions attended, $n = 10$; and 4 – 8 sessions attended, $n = 27$. The experimental group was subdivided into the latter two categories and due to the resultant reduced sample size and the use of categorical data, it was deemed necessary to use non-parametric statistical analysis for this phase (Field, 2013; Pallant, 2016). The descriptive statistics for the Kruskal-Wallis pre- and post- intervention statistical analysis are presented in

Table 4.7

Kruskal-Wallis Descriptive Statistics of Whole Sample before and after the Intervention

	N	Pre-intervention		Post-intervention	
		Mean	Std. Deviation	Mean	Std. Deviation
Overall RSPWB	74	4.06	.50	3.61	.37
Purpose in life	74	4.23	.69	3.75	.57
Autonomy	74	3.83	.63	3.57	.41
Positive Relations	74	4.10	.59	3.50	.54
Environmental Mastery	74	4.02	.58	3.54	.56
Personal growth	74	4.33	.67	3.75	.60
Self -acceptance	74	3.81	.61	3.55	.42

Note. RSPWB = Ryff's Scale of Psychological Well-Being.

The mean rank for overall RSPWB as well as for each of the six dimensions was determined for each category of number of sessions both pre- and post- intervention and the case summary is presented in Table 4.8.

Table 4. 8

Case Summary of Mean Ranks for the Different Sample Groups

	Sample	n	Pre-Intervention Mean Rank	Post-Intervention Mean Rank
Overall RSPWB	Control	37	38.22	30.08
	Sessions (1-3)	10	45.45	30.85
	Sessions (4-8)	27	33.57	50.13
	Total	74		
Purpose in life	Control	37	38.77	32.14
	Sessions (1-3)	10	45.45	30.90
	Sessions (4-8)	27	32.81	47.30
	Total	74		
Autonomy	Control	37	37.47	32.81
	Sessions (1-3)	10	48.55	43.95
	Sessions (4-8)	27	33.44	41.54
	Total	74		
Positive Relations	Control	37	35.12	31.86
	Sessions (1-3)	10	46.55	34.65
	Sessions (4-8)	27	37.41	46.28
	Total	74		
Environmental Mastery	Control	37	40.04	31.11
	Sessions (1-3)	10	35.95	34.00
	Sessions (4-8)	27	34.59	47.56
	Total	74		
Personal growth	Control	37	36.09	28.65
	Sessions (1-3)	10	45.65	28.35
	Sessions (4-8)	27	36.41	53.02
	Total	74		
Self-acceptance	Control	37	38.58	31.62
	Sessions (1-3)	10	39.75	40.95
	Sessions (4-8)	27	35.19	44.28
	Total	74		

Note. RSPWB = Ryff's Scale of Psychological Well-Being.

4.2.3.1 Pre-intervention condition.

The Kruskal-Wallis statistical analysis was performed and the results are presented in Table 4.9.

Table 4.9

Kruskal-Wallis Pre-intervention Results

	Overall RSPWB	Purpose in life	Autonomy	Positive Relations	Environmental Mastery	Personal growth	Self-acceptance
Kruskal-Wallis H	2.31	2.78	3.60	2.23	1.06	1.67	.52
df	2	2	2	2	2	2	2
Asymp. Sig.	.32	.25	.17	.33	.59	.44	.77

Note. RSPWB = Ryff’s Scale of Psychological Well-Being. Statistically significant values at $p < .05$

Pre- intervention, all participants had attended 0 sessions and the Kruskal-Wallis test yielded no significant difference ($p < .05$) in overall RSPWB or on its six dimensions, of the participants across the different categories. This result is in agreement with those of the parametric independent t-test presented in section 4.2.2.2 indicating that there was not a statistically significant difference in the mean scores of the control and experimental groups prior to the intervention on the overall or on the individual dimensions of the RSPWB scale.

4.2.3.2 Post-intervention condition.

Post-intervention a Kruskal-Wallis test was conducted to evaluate the effect of number of sessions of intervention attended (0-sessions, 1-3 sessions, 4-8 sessions) on the median change in psychological well-being (overall scores on RSPWB and scores on the six dimensions). The results of the Kruskal-Wallis statistical analysis are presented in Table 4.10.

Table 4.10

Kruskal-Wallis Post-intervention Results

	Overall RSPWB	Purpose in life	Autonomy	Positive Relations	Environmental Mastery	Personal growth	Self-acceptance
Kruskal - Wallis H	14.68	8.87	3.64	7.23	9.48	22.20	5.73
df	2	2	2	2	2	2	2
Asymp. Sig.	.00	.01	.16	.03	.01	.00	.06

Note. RSPWB = Ryff's Scale of Psychological Well-Being. Statistically significant values at $p < .05$

Table 4.10 indicates that the Kruskal-Wallis yielded significant differences, $p < .05$, for overall RSPWB, and the dimensions of; purpose in life, positive relations, environmental mastery and personal growth scores. As is recommended by both Field (2013) and Pallant (2016), a follow up pairwise comparison analysis was conducted to evaluate pairwise differences among the three groups; Type I error across tests was controlled for by using the Bonferroni approach. The results of the pairwise comparison analysis are summarized in Table 4.11.

Table 4.11

Pairwise Comparison Analysis to Determine Effect of Number of Sessions on RSPWB Scores

	H(2) N = 74	0 sessions – 4-8 sessions n = 64	1-3 sessions – 4-8 sessions n = 37	0 sessions – 1-3 sessions n = 47
Overall RSPWB	14.68 $p = .001$	$p = .000$ $r = -0.30$	$p = .015$ $r = -0.61$	$p = .920$
Purpose in life	8.87 $p = .012$	$p = .016$ $r = -0.35$	$p = .117$	$p = 1.000$
Positive relations	7.23 $p = .027$	$p = .024$ $r = -0.18$	$p = .431$	$p = 1.000$
Environmental mastery	9.48 $p = .009$	$p = .007$ $r = -0.21$	$p = .264$	$p = 1.000$
Personal growth	22.2 $p = .000$	$p = .000$ $r = -0.56$	$p = .006$ $r = -0.51$	$p = 1.000$

Note. RSPWB = Ryff's Scale of Psychological Well-Being. r = indicates effect size for significant results. Statistically significant values at $p < .05$

The overall results of the Kruskal-Wallis Test and follow up tests as presented in Table 4.10 and 4.11 are described in the following list:

1. There was a significant difference in the participants overall RSPWB scores across the number of sessions attended $H(2, N = 74) = 14.68, p = .001$. Pairwise comparison with adjusted p-values showed that there was a significant difference in overall RSPWB scores when participants attended 4 – 8 sessions as compared to 0 session ($p = .000, r = -0.30$) and when attending 4 – 8 sessions as compared to 1 – 3 sessions ($p = .015, r = -0.61$). It is

suggested that attending 4-8 sessions has a moderate to large effect on overall RSPWB as compared to 1-3 sessions or 0 sessions.

2. Participants' purpose in life was significantly affected by number of sessions attended, $H(2, N = 74) = 8.87, p = .012$. Pairwise comparison with adjusted p -values showed that there was a significant difference in purpose in life when participants attended 4 – 8 sessions as compared to 0 sessions ($p = .016, r = -0.35$). There were no significant differences in purpose in life when participants' attended 1 - 3 sessions as compared to 0 sessions ($p = 1.000$) and between attending 4 - 8 sessions and 1 - 3 sessions ($p = .117$). It is suggested that attending 4 – 8 sessions as compared to no sessions has a moderate effect on purpose in life scores.
3. Participants' positive relations was significantly affected by the number of sessions attended, $H(2, N = 74) = 7.23, p = .027$. Pairwise comparison with adjusted p -values showed that there was a significant difference in positive relations when participants attended 4 – 8 sessions as compared to 0 sessions ($p = .024, r = -0.18$). There were no significant differences in positive relations when participants' attended 1 – 3 session as compared to 0 sessions ($p = 1.000$) and between attending 1 – 3 sessions and 4 – 8 sessions ($p = .431$). It is suggested that attending 4-8 sessions as compared to no sessions has a small effect on positive relations scores. .
4. Participants' environmental mastery was significantly affected by the number of sessions attended, $H(2, N = 74) = 9.48, p = .009$. Pairwise comparison with adjusted p -values showed that there was a significant difference in environmental mastery when participants attended 4 – 8 sessions as compared to 0 sessions ($p = .007, r = -0.21$). There were no significant differences in environmental mastery when participants' attended 1 – 3 session

as compared to 0 sessions ($p = 1.000$) and between attending 1 – 3 sessions and 4 – 8 sessions ($p = .264$). It is suggested that attending 4 – 8 sessions as compared to no sessions has a small to moderate effect on environmental mastery scores.

5. Participants' personal growth was significantly affected by the number of sessions attended, $H(2, N=74) = 22.2, p = .000$. Pairwise comparison with adjusted p-values showed that there was a significant difference in personal growth when participants attended 4 – 8 sessions as compared to 0 sessions ($p = .000, r = -0.56$), as well as when participants attended 4 – 8 sessions as compared to 1 – 3 sessions ($p = .006, r = -0.51$). There were no significant differences in personal growth when participants' attended 1 – 3 session as compared to 0 sessions ($p = 1.000$). It is suggested that attending 4 – 8 sessions as compared to 1-3 sessions and no sessions has a large effect on personal growth scores.
6. Participants' self-acceptance was not significantly affected by the number of sessions attended, $H(2, N=74) = 5.728, p = .057$.
7. Participants' autonomy was not significantly affected by the number of sessions attended, $H(2, N=74) = 3.640, p = .162$.

In summary, the results show that pre-intervention there was no variability in overall RSPWB and its six dimensions across the sample. There is a relationship between the number of sessions attended and overall RSPWB and its dimensions. Attending 4 – 8 sessions of the intervention makes a significant difference to overall RSPWB and its dimensions of purpose in life, positive relations, environmental mastery, and personal growth with a small to large effect size as compared to attending 1 -3 sessions or 0 sessions.

4.3 Qualitative Results: Subjective Psychological Well-Being of the Participants

During the last session of the intervention, 19 participants were in attendance and personal texts in the form of letters to the horses were collected by the facilitators. These were scrutinised in order to determine salient themes which were then related to the research question presented in section 4.1. A theme is understood as a specific pattern of response or meaning in a dataset that can either contain explicit or implicit content in relation to the research question (Braun & Clarke, 2006; Joffe, 2012).

The researcher conducted an inductive thematic analysis where themes were generated from the data through open (unrestricted) coding. These codes were allocated to categories which were then developed and refined into a combination of manifest and latent sub-themes and themes. The thematic analysis process was informed by Joffe (2012) and Braun and Clarke (2006). Joffe (2012) recommends that a dual inductive/deductive and latent/manifest set of themes be identified within a dataset. This was facilitated through the researcher's openness to derive themes for analysis from categories linked directly to the data within the dataset in conjunction to those representing existing theoretical constructs (Joffe, 2012). Initially, the researcher focussed on identifying the explicit themes using the semantic content and, thereafter, theoretically interpreted the significance of the patterns as well as their broader meanings and implications (Braun & Clarke, 2006). The researcher worked with the data according to the six phase analysis process described by Braun and Clarke (2006). Each of the six phases referred to in section 3.9.2 will be discussed in light of the current study and results.

In phase one the researcher, coder 1, and a separate research assistant, coder 2, both familiarised themselves with the data through reading, re-reading and transcribing the original letters into an excel spreadsheet. The letters were transcribed exactly as they were written,

reflecting the grammar and spelling of the participants. Table 4.12 provides examples of the transcripts of some of the letters to the horses that comprise the qualitative data set.

Table 4.12

Verbatim Transcripts Examples of Participant Letters to the Horses

Participant Number	Letters to the horses
002	Dear horse W. I love you horse and I will respect all time you are good to me and I will should good another learn nd respect. I'm writing this letter to tell you that I love you so much.
006	I have learnt about hope because hoping for something is good. Everybody hopes to have a better future. I also learn about responsibilities becaul if I have a responsibilities it's for me not for someon else. The black horse taught me to be patience not to give up so easily and the white one taught me about respect and being different. While I was walking with the brown one with the black leg I found out that I shouldn't give up so easily. I just want to say thank you to the horses for teaching me new thing that I didn't know.
011	To the brown horse. Hi is my last day to see you so I will miss you and I will take every thing we learn and share with people.
013	Hope I hasse wlli and empathy like to horse. For horse tarte to wlli to like respect basl experiences. Beause respect to hipe people live for harse whe and nald on the wife or the era horse. Experiences like you horse like orhorse. Respect
014	I a such keep the specal thinks to the whit & brown. The horse that I like the most was brown & white because the first time I see the horses wear the bad animals in the world. I like to tell people who far the horse to try and changes your attitude the you have today I feel most different. You have to change your choice that you or resposibility for you to be the very same person that you are Because they don't like it you conceping what them I don't know that I will do it hore I am I am the same noma that you know I am very different because for you. You are most beautiful presouce animals in the world because you have change my life.
019	I love horses the best horse ever the white. I have learnt hope because attitude for is good. Empathy have to. Self-discovery better choices that for. Respect and hope. So easily that respect for I don'g the attitude. It is choices the uniqueness that the respect that it is conscience and respect I which not giving them attitude and for whthe. I what responsibility. They it is noto the horses respect which people and the uniqueness

The second and third phases saw the generation of the initial codes from the dataset followed by a search for initial themes represented by these codes. The two phases were performed independently by the two coders and the data set analysis of phase 2 and 3 is represented in table 4.13 and 4.14 for each respective coder.

Table 4.13

Coder 1: Coding and Initial Themes

INITIAL THEMES	CODES	EXAMPLE EVIDENCED IN DATA SET
LOVE AND POSITIVE EMOTIONS	Expressions of Love for others	love you / love horse / the white is the best horse ever / white one is the good one / my favourite
	Experience of being loved	know you love us / you showed me your love
	Reciprocal love	Love you and know you love us / love you for what you have done for me / you mean a lot to me as you showed me your love
	Positive emotions	Enjoyed being there / Empathy have to have / Glad / Fun and enjoyment whilst learning / Love
ATTITUDE	Overcoming Challenges	When first I came I was afraid of the horse but now I am not / It was not easy for me to know creativity, experiences, attitude and hope in my life / Not give up so easily / If they don't like it you have to change
	My attitude influences my experience of life	Changed attitude today and I feel most different / I changed my attitude to horses and they taught me how to respect someone / Thank you for showing me respect and changing my attitude / It was not giving me attitude because I was not giving them attitude
	Gratitude	God bless you / Thank you for giving me respect / Gratitude / Special thanks to the one who changed my attitude / Thank you Dot and Sonne I will as well all people in Shumba Shaba!!!!

Table 4.13 continued

MEANING AND PURPOSE	Finding meaning through actions and experiences	Found meaning when touching and hugging the horses / Found meaning when dancing horses showed their uniqueness / I found meaning walking with black big horse / you are my meaning in life as have taught me things / fulfill purpose in life
	Good memories with lasting positive impact	I will miss you / you will be forever in my heart / the day I have to dance with horses I won't forget in my life / You will be forever in my heart up to the end of the earth!!!
RESPECT	Mutual Respect	Showed respect and it respected me / It was respecting me and I was respecting them
	Respect others	I respect you / Important to respect others choices
	Respect self / I am worth respecting	Learned I have to respect myself / Respect
	Respect is an action	Show respect by not giving attitude / you showed me respect
RESPONSIBILITY	Responsibility to self and others	It is your responsibility for the person you are / I have responsibility / I have responsibilities that are for me and not for someone else / Learned must be responsible to my personal things
	Responsibility for actions and consequences of actions	I have to choose good choices and know the consequences will also be there / Learned must be responsible to my personal things and I must act with conscience
CHOICES AND CONSEQUENCES	Freedom to choose; choices and consequences; choice brings meaning in life	Choices I don't have to make wrong choices in life / Taught me about consequences in life / I have to choose good choices and know the consequences will also be there / Bad choices have bad consequences / Found meaning when I had a choice of doing things differently
HORSES AS TEACHERS	Learning from horses	I have learned too many things here / I have learned more about meaning in my personal life to have and hope to the horses / The black one taught me not to be afraid easily it showed me empathy / The brown one with

Table 4.13 continued		the white sports at the back taught me about consequences in life / When I with the horses learned we are unique
LEARNING	Learned about values	Learned respect/ learned good attitude / Learned love towards others and fulfill purpose in life / learned about hope / Learned many things about life, respect, uniqueness attitude towards others, relationships, empathy
	Learned ways of being	Learned respect, good attitude / Learned about attitude / Learned hope comes from attitude / Learned must be responsible for my personal things / Learned about being empathic towards each other / Learned about patience and to not give up easily / Learned I have to respect other / learned to have hope, if don't have hope effects attitude / Taught me not to be afraid and showed me empathy / Fun and enjoyment whilst learning
PERSONAL GROWTH	I have changed	My life has changed / you are most beautiful and precious because you have changed my life / if they don't like it you have to change / I am very different because of you / found meaning by changing my attitude
SELF-DISCOVERY	Awareness of things not known before	Personal life learned what to do in life / Learned about things I didn't know / Self-discovery through better choices / Discover myself and realise my meaning in life / I have learned many things that I didn't know but now I know / Learned many things about life, respect, uniqueness attitude towards others, relationships, empathy
	Diversity and Uniqueness	We might look different but we are not different / Learned about being different / Respect the uniqueness of people and horses / Uniqueness / We

		as human beings and donkey are not different
HOPE Table 4.13 continued	Hope others have a good life / well treated	Hope includes respect, help, and empathy / learned to have hope / Hope for life / Have hope / Hope in people // Hope to see you next time / hope is for something good/ Hope future groups show respect and good attitude
	Hope own life is better / future	learned to have hope / if don't have hope effects attitude / Hope for life / Hope is when you can trust yourself / if don't have hope effects attitude
POSITIVE RELATIONSHIPS	Sharing	I hope the next group will enjoy / Tell people not to fear them they are not bad / Show others what I learned about respect / Take everything learned and share with people / When horse came to me and showed conscience with me
	Helping	Help people live / Help others and they help you if you are in need / I have found help to learn to live a good life / Help me to live a good life
	Trust	They trust me and I trust them / Trust
	Empathy	You are good to me / Empathy to others / When horse came up to me it really meant a lot to me
	Meaningful relationships – through experiences	Donkeys showed how to live life and learn to live a good life / When horse came up to me it really meant a lot to me
	Gratitude	God bless you / Thank you for giving me respect / Gratitude / Special thanks to the one who changed my attitude / Thank you Dot and Sonne I will as well all people in Shumba Shaba!!!!

Table 4.14

Coder 2: Coding and Initial Themes

INITIAL THEMES	CODES	EXAMPLE EVIDENCED IN DATA SET
LOVE	Love	love you / love horse / the white is the best horse ever / white one is the good one / my favourite / know you love us / you showed me your love / Love you and know you love us / love you for what you have done for me / you mean a lot to me as you showed me your love / U will always be in my heart / I will miss the very of this horses with aware fo love / you will be forever in my heart up to the end of the earth / we love you so much
RESPECT	Respect me and others	I have learned that I must have responsible to my personal things and I must act with respect / the white one taught me about respect and being different / I have to respect others and also myself / things like respect / respect / respect to respect each other / they it is noto the horses respect / to show respect so it can also respect me / show me respect /what to do in life how to respect / I hope that they will show respect to you
UNIQUENESS AND DIVERSITY	Uniqueness	White one taught me about ... and being different / uniqueness / To Mr. Unique / respect the uniqueness of people and horses /
	Inclusion vs. discrimination	I learned that we as human beings and donkey are not different / The difference is donkeys have 4 legs and we 2 legs and they and animals and we humans
ATTITUDE	Attitude	Attitude /They will show ... good attitude / attitude that I don't have to be with the bad side / tell people who fear the horses to try and change your attitude / hope comes from a good attitude / good attitude
	Perseverance	I shouldn't give up so easily / taught me to be patient and not to give up so easily

Table 4.14 continued

RESPONSIBILITY	Responsibility	I must have responsible to my personal things / I learned about responsibilities becaul if I have a responsibilities it's for me not for someon else / resposibility for you to be the very same person you are/ responsibility
RELATIONSHIP	Relationship and empathy	Relationship, empathy / empathy like to the horse / be patient and not to give up/being empathic to each other / empathy to others
	Impact on others	Showing me respect and changing my attitude / showed me your respect and I showed you respect / to show respect so it can also respect me / trust me and I trust them / to have love towards others / you have to change choice ... because they don't like it ... I am very different because of you /
	Gratitude	Thanks for showing me / I just want to say thank you / thank you Dot and Sonne I will as well all people in Shumba Shaba!!!!
	Fun	Hope ... next school ... they will enjoy it / we had a lot of fun with you guys / tell the horse I enjoyed being here / fun and enjoyment whilst learning
	Trust	Trust / have trust / trust yourself / donkeys trust me and I trust them
HOPE	Hope	Hope to the horses / everybody hopes to have a better future / in my personal life ... and hope / Hope / have hope / Hope ... next school ... they will enjoy it / learnt about hope / I have hope / hope is when you
CHOICES AND CONSEQUENCES	Choices and consequences	I don't have to make wrong choices in life and you have to make good choices in life / change your choice / Choices / self-discovery through better choices / I don't have to make the wrong choices in life and you have to make good choices in life
MEANING AND PURPOSE	Meaning and Purpose – found through actions, attitude and experiences	Where I found meaning in my life is ... / I find means in my life was my attitude / you guys mean a lot to me / my meaning in life / meaning in my personal life / find meaning around the horses / find

		meaning in horses and donkeys about our feelings / mean in my life to fulfil my perpose in life
Table 4.14 continued		
SELF-DISCOVERY	Self – discovery	They have made me to discover myself / I learned many things that I didn't know but now I know / self-discovery through better choices / discover myself
	Change	Made me realise how I should live my life / changing my attitude/ able to change ... / I feel most different / I changed my attitude to horse taught me how to respect someone/ I am very different because of you / I was afraid but now I am not
LEARNING EXPERIENCE	Learning	Learn and respect / the back one taught me not to be afraid / I have learned that I must have responsible to my personal things and I must act with respect / I have learned too many things here / taught me a lot and I have realised how to live my life / take everything we learn and share with people / learn many things I didn't know... / the brown one with white sports at the back taught me about consequences in life / I have learnt about hope / I have learned more about meaning in my personal life / I have learned about responsibilities / taught me about respect / I learned ...
HORSES TEACH	Horses teach	The black horse taught me to be patience not to give up so easily and the white one taught me about respect and being different / the black one taught me not to be afraid easily it showed me empathy / the brown one with white sports at the back taught me about consequences in life / thank you to the horses for teaching me new things that I didn't know / walking with the brown one with the black leg I found out that I shouldn't give up so easily / I have found meaning in horses and donkeys about our feelings and being empathetic to one another

During the fourth phase, the coders came together and presented their coding and themes to one another. They engaged in discussions to review and refine these initial themes. Thereafter, time was spent independently contemplating the initial themes and at a subsequent meeting the fifth phase of defining and naming the themes gave rise to nine overarching themes of the data set; personal growth, respect, positive relationships, hope, attitude, responsibility, choices and consequences, meaning and purpose, and horses are teachers of positive life values. Each of these themes is now independently graphically portrayed with reference to the comprising codes presented in Tables 4.13 and 4.14.

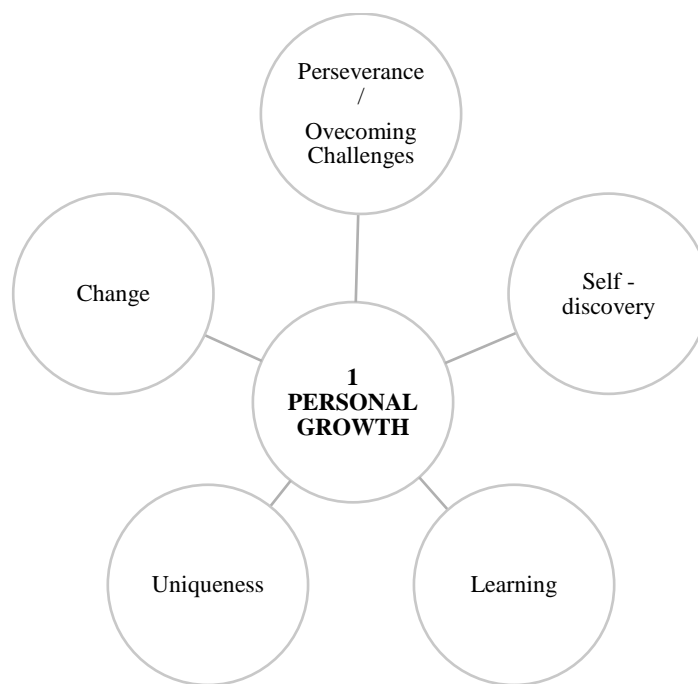


Figure 4-1. Theme 1: Personal growth

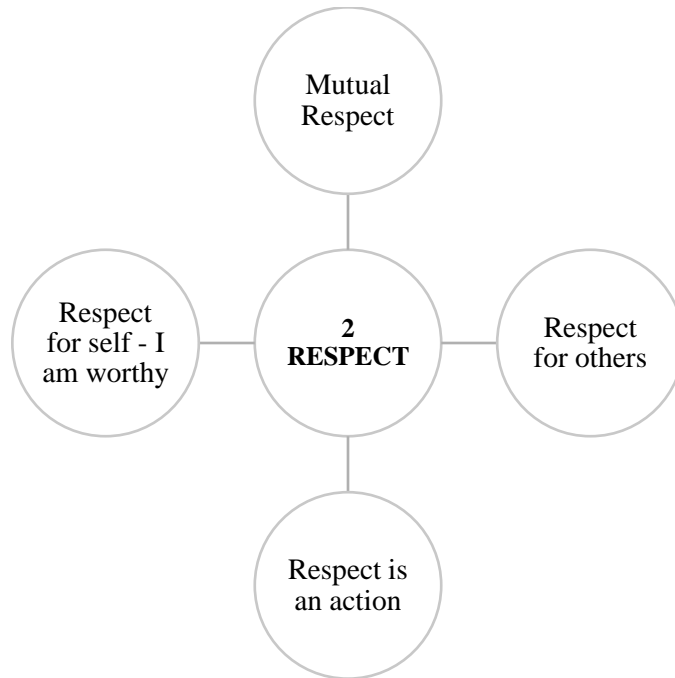


Figure 4-2. Theme 2: Respect

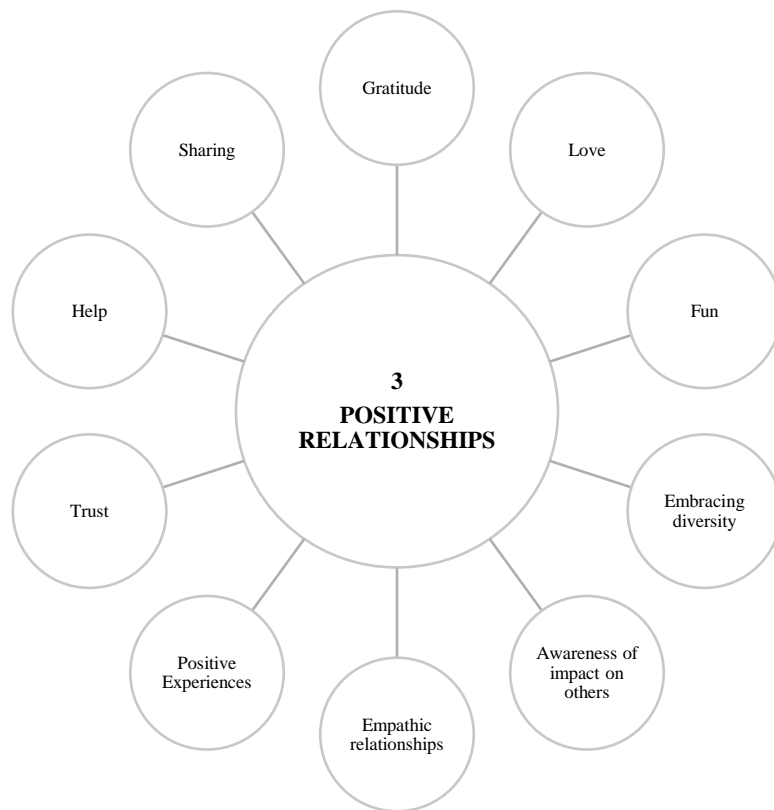


Figure 4-3. Theme 3: Positive relations

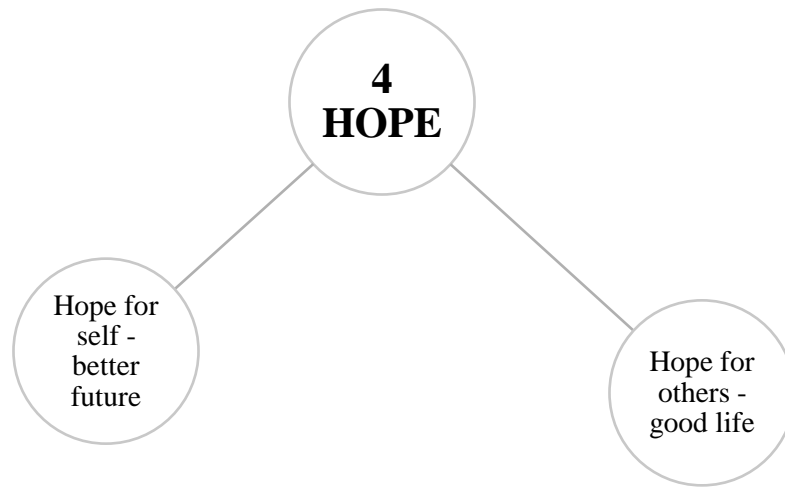


Figure 4-4. Theme 4: Hope

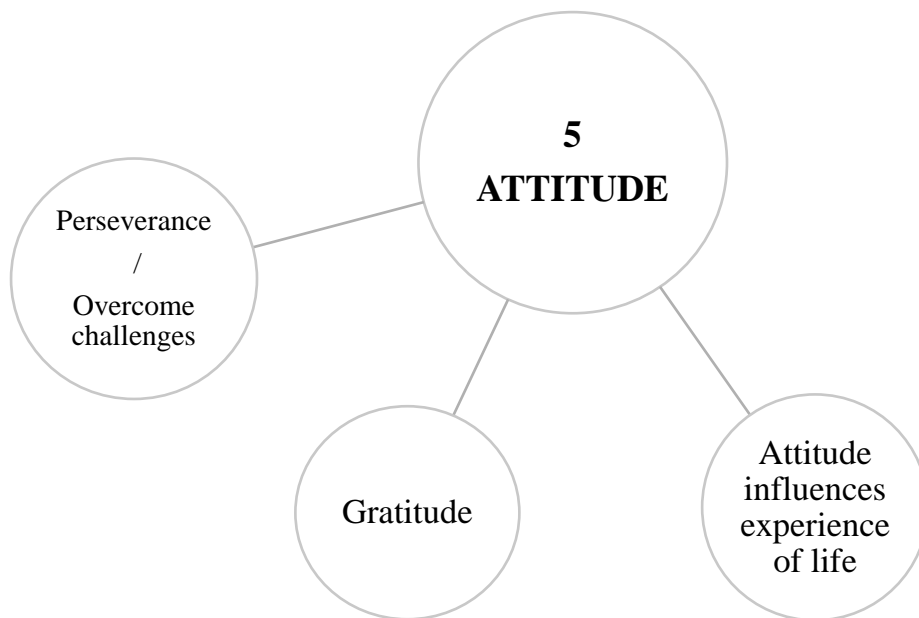


Figure 4-5. Theme 5: Attitude

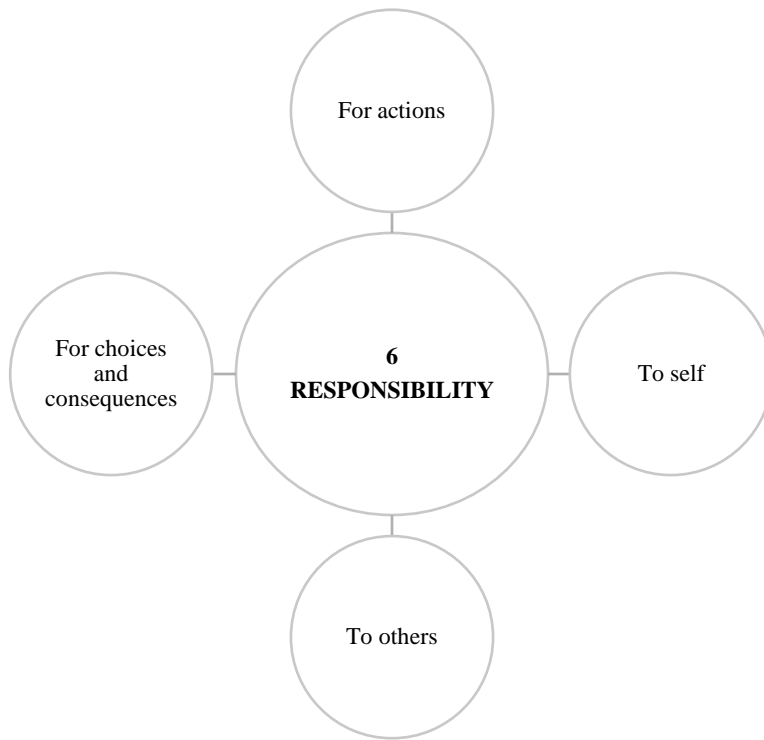


Figure 4-6. Theme 6: Responsibility

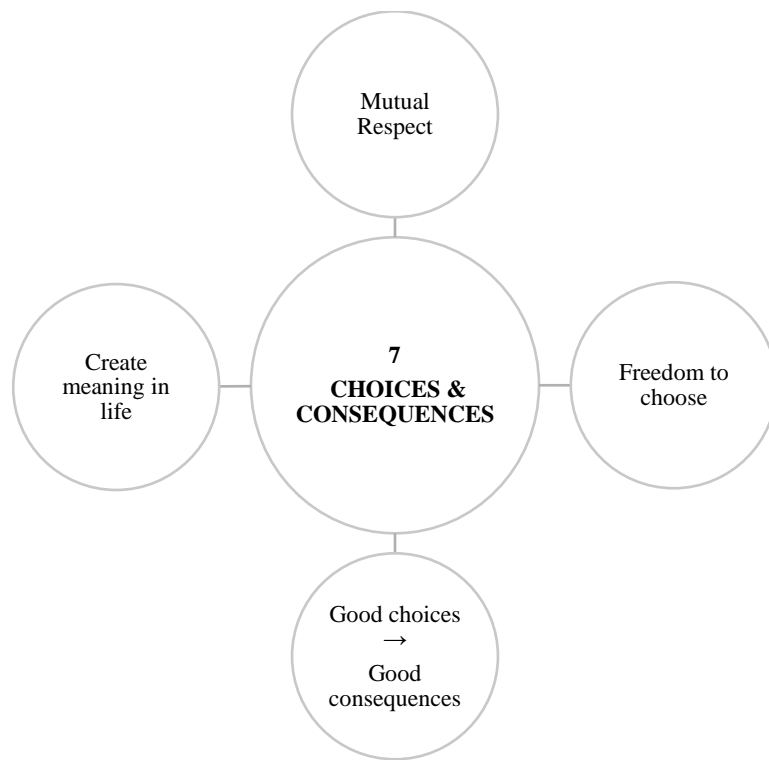


Figure 4-7. Theme 7: Choices and consequences



Figure 4-8. Theme 8: Meaning and purpose

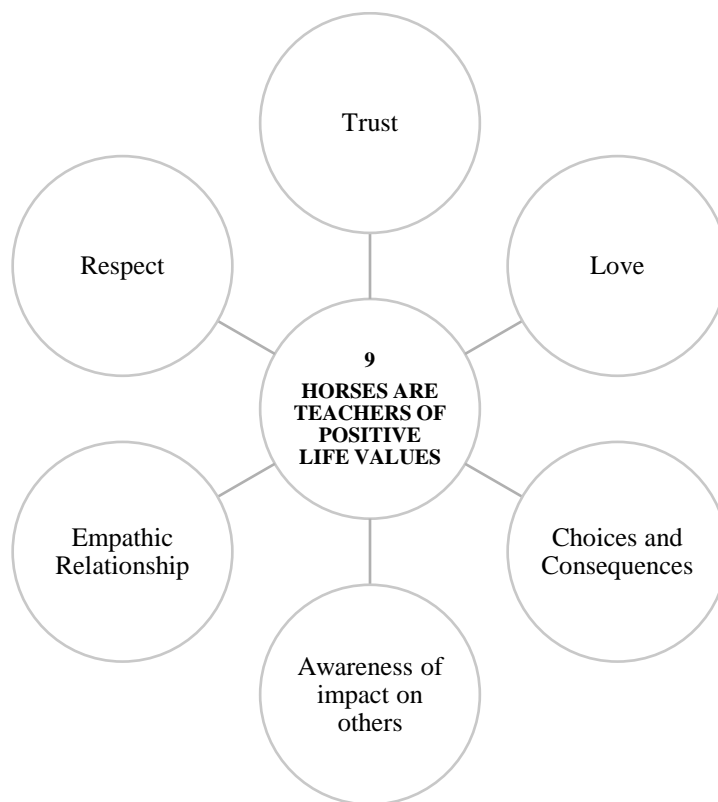


Figure 4-9. Theme 9: Horses are teachers of positive life values

4.3.1 Summary of qualitative results.

Thematic analysis of the qualitative data set according to the six phase process defined by Braun and Clarke (2006), yielded nine themes; personal growth (theme 1), respect (theme 2), positive relationships (theme 3), hope (theme 4), attitude (theme 5), responsibility (theme 6), choices and consequences (theme 7), meaning and purpose (theme 8), horses are teachers of positive life values (theme 9). The final phase of analysis of these themes in relation to the research question will be presented in the discussion in Chapter 5.

4.4 Conclusion

Quantitative statistical analysis revealed that the Eagala model intervention has a significant effect ($p < .05$) on the overall RSPWB scores of the participants. This effect was found to be different across the six dimensions of psychological well-being measured by the RSPWB with the most significant differences reported on scores of overall RSPWB in addition to the dimensions of purpose in life, positive relations, environmental mastery, and personal growth and self-acceptance. Furthermore, attending 4-8 intervention sessions had a small to large effect on participant reported scores on the overall RSPWB as well as on the dimensions of purpose in life, positive relations, environmental mastery, and personal growth.

Qualitative thematic data analysis indicates that the experimental condition participants describe the effect of the Eagala model intervention as impacting their subjective well-being in terms of personal growth, respect, positive relationships, hope, attitude, responsibility, choices and consequences, meaning and purpose, in addition to reporting that they experienced the horses as teachers of positive life values.

The effect of the Eagala model intervention on the adolescent participants' psychological well-being, as inferred from the independent quantitative and qualitative data strands, will be triangulated into meta inferences (Teddlie & Tashakkori, 2006) for discussion in Chapter 5.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter integrates for discussion the quantitative and qualitative results presented in Chapter 4. The discussion is then followed by a conceptualisation of the results in terms of the research problem and the objectives set for the study as described in section 1.3. Limitations of the study as well as recommendations for future research are presented. The conclusions consolidate the significant findings and implications of this study.

5.2 Quantitative Results on Psychological Well-being

5.2.1 Parametric statistical analysis results.

5.2.1.1 *Within-Group results.*

Within-group parametric statistical analysis revealed that the participants in both conditions reported a decrease in psychological well-being measured over the research period (see Tables 4.3 and 4.5). The control group (N=37), reported a significant decrease, in psychological well-being ($t= 7.55, p<.05$) on the overall RSPWB, and a very large effect size, $d = 1.2$. Additionally they reported a significant decrease in all of the six dimensions; purpose in life ($t = 5.6, p<.05$) and a large effect size, $d = 0.9$, positive relations ($t= 5.72, p<.05$) and a large effect size, $d = 0.9$, environmental mastery ($t= 7.31, p<.05$) and a very large effect size, $d = 1.202$ and personal growth ($t= 6.56, p<.05$) and a very large effect size, $d = 1.078$, , autonomy ($t = 3.37, p<.05$) and a moderate effect size, $d = 0.6$, and self-acceptance ($t= 3.34, p<.05$) and a moderate effect size, $d = 0.6$. Hence it is concluded that the control group reported a significant decrease on overall RSPWB and across all six dimensions of psychological well-being with a moderate to very large effect size.

Whereas the experimental group ($N=37$), reported a significant decrease in psychological well-being ($t= 2.75$, $p<.05$) on the overall RSPWB and a small effect size $d = 0.5$. Additionally, on the following three of the dimensions they reported a significant decrease: in positive relations ($t= 4.1$, $p<.05$) and a moderate effect size, $d = 0.7$, in purpose in life ($t = 2.3$, $p<.05$) and a small effect size, $d = 0.4$, and in personal growth ($t = 2.6$, $p<.05$) and a small effect size, $d = 0.4$. Hence, it is concluded that the experimental group reported a significant decrease on overall RSPWB and on three of the measured dimensions of psychological well-being, with a small to moderate effect.

The results of the paired t-test lead to the rejection of the null hypothesis that there is no difference in psychological well-being within the control and experimental groups from pre- to post-assessment, as both the control and the experimental groups reported a significant difference in psychological well-being from pre- to post- assessment. The control group had a significant decrease in psychological well-being from pre- to post- assessment on the overall RSPWB and on all six dimensions of the scale with a moderate to large effect size. The experimental group had a significant difference in psychological well-being from pre- to post-assessment on the overall RSPWB and on three dimensions of the scale with a small to moderate effect.

Since both groups experienced significant reductions in reported psychological well-being it is postulated that the whole group, who are of similar age, attend the same school and live in the same community, were exposed to factors which had a negative impact on their psychological well-being. Adolescence is recognised as a developmental period of multiple adjustments and transitions at the interpersonal and intrapersonal level which could impact negatively on psychological well-being (Petersen, 1988; Rathi & Rastogi, 2007). The adolescents' stage of achieving these developmental tasks may influence their ability to cope with external environmental demands and as such influence psychological well-being (Duckworth et al., 2005).

Adolescent developmental outcomes are sensitive to the context and timing of events experienced in life (Lerner, 1981; Nakamura, 2009) thus, the pre-assessment took place at the beginning of a school term and the post-assessment took place during the end of the term when exams started. It is reasonable to extrapolate that the post- assessment took place during a more stressful period of life for the participants which could have had a negative impact on psychological well-being (Siddique & D'Arcy, 1984).

In the literature review concerning subjective well-being, Thomaes et al. (2017) observe that on a daily basis adolescent subjective well-being waxes and wanes in accordance with their perception of need satisfaction being met or unmet. This has potential implications for predictability of stability in the expression of ongoing well-being. Given the context of Diepsloot as a violent and poverty stricken community, and the possible effects of this on psychological well-being (described in section 2.3.2) it is possible that environmental contexts might have contributed to the participants experiencing unsatisfied needs, thereby negatively influencing self-reporting of subjective psychological well-being at the time of assessment.

Ryff (1995) cites research that suggests that there are cultural differences in the relationship between mental health and conceptions of self and self-in-relation to others. It is suggested that Western individualistic cultures might place greater value on self-oriented aspects of well-being such as self-acceptance and autonomy, whereas more collectivist interdependent cultures might place greater value on other-oriented aspects of well-being such as personal relationship with others. In a cited study Korean adults were found to place more emphasis on the well-being of others when defining their own well-being as compared to their American counterparts (Ryff, 1995). The participants in this study were of African ethnicity and African cultures are traditionally regarded as collectivistic (Adams, Van de Vijvera, & De Bruin, 2012). Interestingly the results of

this study indicated an alignment to the findings cited by Ryff, in that both the control and the experimental groups (see Tables 4.2 and 4.4) placed more emphasis on the dimension of positive relation to others than on the dimension of autonomy and self-acceptance.

5.2.1.2 Between-Group Results

As was shown in Table 4.6, between-groups statistical analysis indicated that post intervention the experimental group reported a significant increase in overall psychological well-being, RSPWB scores, as compared to the control group ($t = -3.89$, $p < .05$), representing a large effect size, $d = 0.9$. Additionally the experimental group showed a significant increase as compared to the control group on the following dimensions of the RSPWB: personal growth ($t = -4.13$, $p < .05$) with a very large effect size $d = 1.0$; purpose in life ($t = -2.5$, $p < .05$) representing a medium effect size, $d = 0.6$; positive relations ($t = -2.28$, $p < .05$), with a medium effect size, $d = 0.5$; environmental mastery ($t = -2.94$, $p < .05$), representing a medium effect size, $d = 0.7$; self-acceptance ($t = -2.50$, $p < .05$) with a medium effect size, $d = 0.6$.

The results of the independent t-test lead to the rejection of the null hypothesis that there is no difference in psychological well-being between the experimental and control groups post-intervention. The experimental group reported a significant increase in overall and on five of the dimensions of psychological well-being with a moderate to large effect size, as compared to the control group, post the Eagala model intervention.

This significant difference between the experimental and control groups could be understood in terms of attainment and influence of personal growth and other factors of eudaimonic well-being, living a meaningful and value centric life, all indicators of successful resolution of developmental tasks necessary in the promotion of psychological well-being in adolescents, as described in section 2.2, over the period of the Eagala model intervention.

Furthermore, the reported increase in personal growth is particularly important in the reduction of stress and development of effective coping skills in adolescence (Fabry, 1988; Rathi & Rastogi, 2007; Wong, 1998). Hence, it is reasonable to extrapolate that the Eagala model has potential as a youth friendly intervention to facilitate the development of effective life-skills that promote psychological well-being in adolescence thereby creating an essential foundation for positive mental health (World Health Organisation, 2014), and flourishing in adulthood (Henderson & Knight, 2012; Robbins, 2008)

Ryff's scale of purpose in life assesses the degree to which an individual has a general sense of purpose, meaning and goal directedness in their life. A sense of purpose in life is associated with an intention to accomplish something meaningful which contributes to a sense of psychological well-being (Ryff, 2014). The finding that the experimental group had a significant increase in the meaning in life dimension as compared to the control group is suggestive that over the period of the Eagala model intervention the experimental group participants experienced greater learning regarding the importance of one's own life, and that actions have consequences, resulting in an awakening of their potential ability to be important contributors to the world (Frankl, 1988). This realisation positively influences the development of the sense that there is a future; a hope for life regardless of the difficulties encountered thereby contributing to a sense that life has both meaning and purpose (Frankl, 1988; Yeager & Bundick, 2009).

There is emerging literature regarding the effect of equine-assisted interventions, specifically Eagala model, on psychological well-being in adolescents (Boshoff, Grobler, & Nienaber, 2015; Burgon, 2011; Klontz, Bivens, Leinart, & Klontz, 2007). Boshoff et al. (2015) found that a group of 39 mixed race South African at-risk adolescent boys showed enhanced the psychological well-being; significantly improved subjective well-being as well as problem focused

and emotional focused coping, after attending an eight session equine-assisted therapy programme. Burgon (2011) conducted a small case study with a group of seven mixed gender at-risk adolescents who attended an equine-assisted therapeutic intervention which contributed to gains in psychosocial benefits such as a sense of mastery and self-efficacy, development of empathy, and an opening up to positive opportunities for new social relationships and to gaining new skills and confidence.

Klontz et al. (2007) conducted a non-empirical study that yielded a statistically significant reduction in psychological distress and improvement in psychological well-being in a group of 31 mixed gender adults who attended 28 hours of equine-assisted experiential therapy (EAET). The aim of the study was to examine the effectiveness of EAET to relieve psychological distress and enhance psychological well-being. They confirmed the prediction that participants would experience significant and stable reductions in psychological distress and enhancements in psychological well-being from pre-test to post-test and six month follow-up. Despite the methodological weaknesses of this study the results that psychological well-being enhancements are significant and stable over time supports the findings of this research whereby participants in the Eagala model equine-assisted intervention benefited in terms of psychological well-being as compared to their peers in the control group. In both this study and that of Klontz et al. (2007) it cannot be said that the intervention exclusively contributed to the reported enhancements in psychological well-being, however they support one another in making a case for the potential positive effect of equine-assisted interventions and the necessity for future research that explores the specific effect of the horses in the intervention.

5.2.2 Non-parametric statistical analysis results.

The availability of pre- and post-test data with experimental group participants who had attended varying numbers of sessions led to the interrogation of the effect of the number of sessions on psychological well-being. The results of the Kruskal-Wallis statistical analysis were presented in Table 4.10 and the follow-up pairwise comparison in Table 4.11. There was a significant difference in the participants overall RSPWB across the number of sessions attended $H(2, N = 74) = 14.68, p = .001$. Pairwise comparison with adjusted p-values indicated that there was a significant difference in overall RSPWB when participants attended 4 – 8 sessions as compared to 0 session ($p = .000, r = -0.30$) and when attending 4 – 8 sessions as compared to 1 – 3 sessions ($p = .015, r = -0.61$). It is suggested that attending 4-8 sessions had a moderate to large effect on overall RSPWB as compared to 0 sessions or 1-3 sessions.

Additionally, on the following four dimensions of psychological well-being a significant difference was found in relation to the number of sessions attended:

- i. Purpose in life was significantly affected by the number of sessions attended, $H(2, N = 74) = 8.87, p = .012$. Pairwise comparison with adjusted p-values indicated that attending 4 – 8 sessions as compared to 0 sessions ($p = .016, r = -0.35$), had a moderate effect on purpose in life scores.
- ii. Positive relations was significantly affected by the number of sessions attended, $H(2, N = 74) = 7.23, p = .027$. Pairwise comparison with adjusted p-values indicated that attending 4 – 8 sessions as compared to 0 sessions ($p = .024, r = -0.18$) had a small effect on positive relations scores.
- iii. Environmental mastery was significantly affected by the number of sessions attended, $H(2, N=74) = 9.48, p = .009$. Pairwise comparison with adjusted p-values indicated

attending 4 – 8 sessions as compared to 0 sessions ($p = .007$, $r = -0.21$) had a small to moderate effect on environmental mastery scores.

- iv. Personal growth was significantly affected by the number of sessions attended, $H(2, N=74) = 22.2$, $p = .000$. Pairwise comparison with adjusted p -values indicated that attending 4 – 8 sessions as compared to 0 sessions ($p = .000$, $r = -0.56$), and attending 4 – 8 sessions as compared to 1 – 3 sessions ($p = .006$, $r = -0.51$) had a large effect on personal growth scores.

Non-parametric statistical analysis led to the rejection of the null hypothesis that the distribution of RSPWB, purpose in life, positive relations, environmental mastery, and personal growth is the same across the categories of number of intervention sessions attended. The findings suggest that attending 4-8 sessions of the Eagala model intervention has the potential for a moderate to large effect on overall psychological well-being and its dimensions of purpose in life, positive relations, environmental mastery and personal growth.

In the 14 – 16 studies reviewed by Smith-Osborne and Selby (2010), Anestis, Anestis, Zawilinski, Hopkins, and Lilienfeld (2014), and Kendall et al. (2015), the intervention duration in terms of number of sessions varied from 1 to 119 sessions. Within the research pertaining specifically to Eagala model studies Schultz et al. (2007) excluded participants who failed to attend six sessions. The average number of sessions attended was 19 and they found a statistically significant correlation in the percentage increase in Children's Global Assessment of Functioning (GAF) scores and the number of sessions attended. Trotter et al. (2008) implemented an equine-assisted counselling intervention that included Eagala model, adventure therapy and horseback riding. They noted that over time there were observed increases in positive behaviours such as; increased ability to cope with social stress and increased self-esteem, and a decrease of negative

behaviours such as; reductions in hyperactivity and decreased incidence of aggressive behaviours. Furthermore they found an upward trend in measured positive behaviours from session 2 through 12, with a statistically significant positive shift between sessions 10 and 11, suggesting that number of sessions has an effect on benefits observed.

In the light of current research, the findings of this study support the notion that duration of intervention is helpful for the participants' psychological well-being and is worthy of additional empirical evaluation.

5.3 Qualitative Results on Subjective Experience of Psychological Well-being

Inductive thematic analysis (Braun & Clarke, 2006) brought to light nine overarching themes namely, 1) personal growth, 2) respect, 3) positive relationships, 4) hope, 5) attitude, 6) responsibility, 7) choices and consequences, 8) meaning and purpose, and 9) horses as teachers of positive life values (see section 4.3).

These themes will now be considered in terms of their relationship to the RSPWB dimensions of psychological well-being: self-acceptance, positive relations with other people, autonomy, environmental mastery, purpose in life, and personal growth as described by Ryff (1989b); Ryff (1995) and included in section 3.6.1.1.

The theme of positive relationships (theme 3) is directly translated into the dimension of positive relations with others as is evidence through descriptions of experiences of loving, trusting, empathic, and accepting relationships with an awareness of the influence one has in the relationship in terms of sharing, impact have on others and gratitude (Ryff, 1995). This is consistent with the findings of Burgon (2011) who found themes relating to positive opportunities for relationships through the development of affectionate, nurturing and empathic relationships with horses. Some examples of this from the participants responses are; "Love you and know you love

us”, “Donkeys showed me how to live (sic) life and learn to live a good life”, ”they trust me and I trust them”, “help others and they help you if you are in need”. In this theme there is an identification with Garcia (2014) who reports that human interactions with horses may create profound experiences of heart opening and unconditional love which positively impacts on personal relationships.

The dimension of autonomy, to be able to think and act, showing internal locus of control and awareness of regulation of self through values is reflected predominantly in the themes of responsibility (theme 6), respect (theme 2), choices and consequences (theme 7), and subthemes of positive life values (theme 9) such as trust, empathy, gratitude and uniqueness (Ryff, 1995). Some examples of how participants experienced this are reflected in the following responses: “It is your responsibility for the person you are”, “what to do in life how to respect”, “I had a choice of doing things differently”, “the white one taught me about uniqueness (sic) and being different”, “showed conscience with me”, “empathy to others”, “Thanks for showing me”. Interestingly, these findings concur with those of Ewing, MacDonald, Taylor, and Bowers (2007) who also did not find a quantitative significant difference in measures relating to empathy and internal locus of control in a group of 28 at-risk adolescents, yet did find qualitative evidence of improvements in conduct, empathy and social acceptance in the participants. The ability to monitor and change one’s own behaviour is supported in the findings of Burgon (2011) who highlights the importance of a sense of self-efficacy and autonomy in the development of self-esteem and confidence. The developmental task of awareness of self as unique and authentic is said to be integral to notions of self-acceptance and autonomy through adolescence into adulthood (Fabry, 1988; Frankl, 1972; Thomaes et al., 2017).

That the Eagala model intervention has the potential to impact environmental mastery in participants is evidenced in theme 7, choices and consequences and theme 5, attitude, where participants expressed awareness that they have the ability to manage aspects of the environment, they have the freedom to choose based on needs and values and that the consequences will impact their experience of life (Ryff, 1995). Furthermore, that the attitude taken towards life impacts on one's sense of mastery and competence in managing life circumstances (Frankl, 1988) is in accordance with Burgon (2011) who found that adolescents learned to cope and overcome challenges thereby experiencing an increased sense of mastery and self-efficacy whilst engaging in the equine-assisted therapeutic intervention. Examples of how participants' responses reflect this are; "When I first came I was afraid of the horse but now I am not", "If they don't like it you have to change", "I don't have to make wrong choices in life and you have to make good choices in life", "Bad choices have bad consequences", "I have to choose good choices and know the consequences will also be there" and "I changed my attitude to the horses and the taught me how to respect someone". The themes relating choices and consequences reflect an awareness regarding personal responsibility for actions and their consequences, which when in the direction of good contribute to the subjective experience of optimal living, flourishing and psychological well-being (Keyes, 2007; Wong, 2012).

The dimension of purpose in life is reflected in theme 8, meaning and purpose as well as in theme 4, hope, where participants expressed learning regarding meaningful elements in their life, past and present, as well as that their life has a purpose with a hope filled future (Ryff, 1995). This theme is consistent with themes described by Burgon (2011) where participants' experiences with the horses were described as eliciting a sense of hope for the future. Expressions of this dimension include: "found meaning by changing my attitude", "found meaning when dancing

horses showed me their uniqueness”, “meaning in my personal life”, “meaning in my life to fulfil my purpose in life”, “hope for life” and “hope includes respect, help and empathy”. Meaning is consistently identified as a necessary condition for psychological well-being (Fabry, 1988; Wong, 2015). It’s contribution to positive adolescent mental health and psychological well-being includes lower depression and suicide rates, positive emotions, decreased high school dropout and substance abuse (Yeager & Bundick, 2009).

Theme 5, attitude, and theme 2, respect, are encompassed in the dimension of self-acceptance particularly in terms of expressions of worthiness to be respected, feeling positive, showing good attitude towards self and accepting the multiple aspects of self (Ryff, 1995) as evidenced in some of the responses from the participants: “ I have learned I have to respect myself”, “I don’t have to be with the bad side” and “I shouldn’t give up so easily, they taught me to be patient” and, “thanks for showing me respect and changing my attitude”. Additionally these themes are mirrored in the findings of the case study presented by Chardonnens (2009), where the participant learned respect, patience and positivity towards self through gaining respect of the horses.

Subthemes contributing to the theme of personal growth (theme 1) include; perseverance, self-discovery, learning, uniqueness and change which are directly translatable to experiences described in the dimension of personal growth. Ryff (1995) describes new experiences, openness to one’s potential and ability to change as a result of acquiring increased self-knowledge and efficacy as contributors to ongoing personal growth and development. Examples from the participants responses indicating experiences of personal growth are: “you are most beautiful and precious because you have changed my life”, “my life has changed”, “I am very different because of you”, “discover myself and realise my meaning in life”, “we might look different but we are not

different”, “I have learned too many things here”, “I have learned about hope”. This is consistent with the findings of Boshoff et al. (2015) whereby adolescent participants showed significant improvement in social-emotional focused coping skills such as reinterpretation of events and personal growth.

A surprising theme that arose in the study is that the participants regarded the horses as teachers of positive life values (theme 9); whereby the horses are attributed as having knowledge regarding values for living and are the motivators of learning and change, even encouraging difficult decisions and self-evaluation. Evidence of this found in participant responses includes: “the black horse taught me to be patience not to give up so easily and the white one taught me about respect and being different”, thank you the horses for teaching me new things I didn’t know”, “the brown one with white sports at the back teached me about consequences in life”, “the black one teached me not to be afraid easily it showed me empathy”, When I with the horses learned we are unique”, “learned respect good attitude”, and “learned many things about life, respect, uniqueness, attitude towards others, relationships, empathy”. This theme of the horses as active agents of change resonate with Chardonnens (2009) who referred to horses as co-therapists in the case study of a child with severe mental illness. She goes on to suggest that the horse is a source of strong affective communication and that trust and respect in self are built through the simultaneous experience of trust and respect in the horse and this reciprocity allows the creation of authentic positive relationships with others; the earlier described themes identified in this study, relating to attitude and respect are consistent with this viewpoint. Furthermore she found that the interactions with the horses led to a better grasp of the notion of personal space, including intimacy and limit setting within this space, thereby contributing to gains in autonomy. In addition, self-

discovery was facilitated through the requirement of increased patience and positivity towards self in order to gain the respect and trust of the horses.

Within the themes there is evidence that the participants experienced the Eagala intervention as engaging, pleasurable and meaningful indicated by reports such as; “fun and enjoyment whilst learning”, “Glad”, “I found meaning walking with the black big horse”. As was mentioned in the literature review (see Section 2.2), positive psychology aims to help people build pleasant, engaged and meaningful lives in order to experience psychological well-being and flourish (Duckworth et al., 2005). As such the experience of the adolescent participants is suggestive of the potential for the Eagala model to be viewed as a positive psychology intervention. In considering these themes it is noted that there is a consistency with the proposition of Garcia (2014) that participants have a profound experience of heart opening and unconditional love through the horses. The thematic analysis of the effect of the Eagala model intervention on the subjective psychological well-being of the participants revealed that they described the experience of the Eagala model intervention as one that enhanced their psychological well-being. Themes corresponded to those factors in life, such as meaning and purpose in life, positive experiences, and personal agency, that are broadly identified as necessary conditions to enhance eudaimonia and psychological well-being of adolescents (Henderson et al., 2013; Rathi & Rastogi, 2007; Wong, 2015).

5.4 Triangulation of Quantitative and Qualitative Results

The data must be interpreted with caution due to the fact that convenience sampling was used during the course of the study and this also yielded a small sample size. The synthesis of the quantitative and qualitative results highlights that the subjective experience of the participants as expressed through themes indicating psychological well-being mirrors the quantitative findings

that despite a decrease in measured psychological well-being the participants experienced the Eagala model intervention as having a significant effect on increased psychological well-being as compared to the control group. Three specific RSPWB dimensions of psychological well-being were significantly affected namely; purpose in life, positive relations with others and personal growth, as well as overall psychological well-being. Qualitative analysis suggests that in addition to experiencing benefits on the aforementioned RSPWB dimensions the participants also described benefits in the dimensions of self-acceptance and autonomy. Furthermore, it appears that the intervention duration of four to eight sessions played a role on the extent to which the Eagala model had an effect on psychological well-being.

The triangulation of quantitative and qualitative findings are indicative of the potential contribution of the Eagala model to essential elements of eudaimonic well-being such as: personal growth, meaning and purpose in life, social connectedness, self-realisation (Henderson & Knight, 2012; Steger et al., 2008). Eudaimonic well-being is equated to flourishing and living a good life: the key indicators of psychological well-being (Keyes, 2007; Robbins, 2008). Furthermore, these findings corroborate the ideas of Rathi and Rastogi (2007) that a meaningful and purposeful life enhances the psychological well-being of adolescents. Meaning in addition to personal growth, stress resistance and effective coping are consistently identified as necessary conditions for the promotion of psychological well-being in adolescents (Fabry, 1988; Rathi & Rastogi, 2007; Wong, 1998). The results are also consistent with the available literature e.g. Boshoff et al. (2015); Ewing et al. (2007); Klontz et al. (2007); Schultz et al. (2007); Trotter et al. (2008) that suggest that equine-assisted therapeutic interventions have the potential to have a positive effect on the psychological well-being of adolescents.

In respect of the research question it can be concluded that the findings of this study are indicative that the Eagala model has a significant effect on the psychological well-being of a group of adolescents living in the under-resourced urban community of Diepsloot.

5.5 Limitations of the Study

The following is a list of possible limitations associated with this study:

- The method of sampling is convenience sampling hence the results specific to this group of participants cannot be generalised to other groups of adolescents living in other areas.
- The small sample size is another factor that limits the generalisability of the results to other groups of adolescents.
- There was no control for novelty effects which, according to Anestis et al. (2014), equine interventions are especially vulnerable to as interacting with a horse is potentially unusual and exciting for the participants in addition to the outdoor farmyard setting. Hence, it is difficult to construe the effect of the intervention from these and other novel factors.
- Whilst the validity and reliability of the RSPWB was accepted for this study it is noted as a limitation as its validity and reliability have not been well established on multi-cultural populations of adolescents despite its use in this population. More research regarding the validity and reliability of the RSPWB is required within adolescent populations within the South African context. Additionally it is recommended that an alternative measure of psychological well-being that has been standardised in South African adolescent populations be used for future research in this population.

- The self-report questionnaire was only available in English and this could have created challenges in understanding the concepts for those whose first language is not English.
- Despite the use of a manualised intervention programme and the requirement that all the facilitators were currently certified in the Eagala model, there were no integrity or fidelity checks conducted by expert impartial judges to ascertain and maintain fidelity to the intervention (Anestis et al., 2014).
- My lens of viewing the world is biased towards meaning seeking and I am aware this can influence my objectivity. For instance I cannot help but notice how alongside the Ryff (1989b) dimensions of psychological well-being, the Fabry (1988) guideposts to meaning, a major contributor to spiritual well-being; self-discovery, choice, uniqueness, responsibility and self-transcendence are echoed in the participant expressed themes. This bias could result in additional themes being overlooked or certain themes being overemphasized.

5.6 Recommendations

The findings and certain limitations of the study provide the following insights for future research:

- The use of probability sampling and a larger sample size would significantly improve the scientific soundness of results.
- Extending the demographics of the participants to include adolescents from different communities and comparing the results would increase generalisability of results.
- Further work needs to be done to establish the RSPWB as a valid and reliable measure of psychological well-being with adolescents within the South African context.

- Doing correlational analysis to determine the exact impact Eagala model has on constructs of psychological well-being.
- Create additional comparison groups with adolescents interacting with different animals in order to determine if interactions with one type of animal is more beneficial than the other.
- Further work investigating the duration of interventions would significantly increase the practical value of understanding dosage in respect of Eagala model as a treatment and prevention intervention.
- Doing follow up interviews with participants in the future as well as with participants who drop out of interventions could be an interesting and informative area of research regarding efficacy of equine-assisted therapeutic interventions.
- Assessing the validity and reliability of Eagala model sessions using the Eagala Model Measurement Instrument (EMMI) It is recommended that this be used to assist future research with the Eagala model to ensure construct validity of the intervention. Through the use of such an instrument drift of the facilitators or therapists from the recommended standards and facilitation skillsets associated with the Eagala model could be determined thereby ensuring the fidelity of the intervention to the model.

5.7 Conclusion

Chapter 5 presented the discussion and interpretations of the results of the study. Limitations and recommendations stemming from these as well as the results were presented.

In conclusion, the aim of this study was to determine the effect of the EAGALA model to facilitate psychological well-being in a group of Diepsloot adolescents. In so doing this research has contributed to the growing body of research in the field of animal-assisted interventions and

more particularly the field of equine-assisted therapy through the findings that the Eagala model intervention was found to have a meaningful effect on the psychological well-being of adolescents who live in Diepsloot. These effects are attributed to the significant differences found in overall and dimension scores of the RSPWB between the experimental and control groups. This was furthermore confirmed by the themes identified during the thematic analysis.

In addition, the duration of the intervention, 4 – 8 sessions, was identified to have a moderately large effect on the results reported.

Furthermore, the results are particularly encouraging regarding the potential for Eagala model to be considered within the ambit of positive psychology interventions where youth are actively engaged to develop strengths that build on positive emotions, engagement, as well as meaning and purpose in life; all essential features of psychological well-being (Duckworth et al., 2005; Rathi & Rastogi, 2007).

In the light of the mental health crises and lack of youth friendly mental health interventions in South Africa the Eagala model intervention offers the possibility to look beyond pathology and look towards promoting meaningful engagement with life, encouragement of personal growth, self-efficacy, positive affect and intrinsic motivation in the youth (Bundick, 2011). It is concluded that the Eagala model is worthy of consideration by community mental health service providers as a viable option of youth friendly mental health interventions promoting psychological well-being in adolescents.

REFERENCES

- Abbott, R. A., Ploubidis, G. B., Huppert, F. A., Kuh, D., & Croudace, T. J. (2010). An evaluation of the precision of measurement of Ryff's Psychological Well-Being Scales in a population sample. *Social Indicators Research, 97*(3), 357-373. doi:10.1007/s11205-009-9506-x
- Adams, B. G., Van de Vijvera, F. J. R., & De Bruin, G. P. (2012). Identity in South Africa: Examining self-descriptions across ethnic groups. *International Journal of Intercultural Relations, 36*(3), 377-388. doi:10.1016/j.ijintrel.2011.11.008
- Aisenberg, E., & Herrenkohl, T. (2008). Community violence in context: Risk and resilience in children and families. *Journal of Interpersonal Violence, 23*(3), 296-315. doi:10.1177/0886260507312287
- Anestis, M. D., Anestis, J. C., Zawilinski, L. L., Hopkins, T. A., & Lilienfeld, S. O. (2014). Equine-related treatments for mental disorders lack empirical support: A systematic review of empirical investigations. *Journal of Clinical Psychology, 70*(12), 1115-1132. doi:10.1002/jclp.22113
- Babbie, E. R. (2013). *The basics of social research*. Wadsworth, Great Britain: Cengage Learning.
- Barbarin, O. A., Richter, L., & DeWet, T. (2001). Exposure to violence, coping resources, and psychological adjustment of South African children. *American Journal of Orthopsychiatry, 71*(1), 16-25.
- Barnes, B. R. (2012). Using mixed methods in South African psychological research. *South African Journal of Psychology, 42*(4), 463-475. doi:10.1177/008124631204200402

- Baumgardner, S. R., & Crothers, M. K. (2014). *Positive psychology* (International ed.). Upper Saddle River, N.J.: Pearson Prentice Hall.
- Beck, A. M. (2000). The use of animals to benefit humans: Animal assisted therapy *Animal Assisted therapy* (pp. 21–40). San Diego,, CA: Academic Press.
- Benard, B. (1990). Youth service: From youth as problems to youth as resources. *School K-12*, 6. Retrieved from <http://digitalcommons.unomaha.edu/cgi/viewcontent.cgi?article=1014&context=slcek12>
- Biddle, C., & Schafft, K. A. (2015). Axiology and anomaly in the practice of mixed methods work pragmatism, valuation, and the transformative paradigm. *Journal of Mixed Methods Research*, 9(4), 320-334. doi:10.1177/1558689814533157
- Blair, C., & Raver, C. (2012). Child development in the context of adversity: Experiential canalization of brain and behaviour. *American Psychologist*, 67(4), 309-318. doi:10.1037/a0027493
- Boshoff, C., Grobler, H., & Nienaber, A. (2015). The evaluation of an equine-assisted therapy programme with a group of boys in a youth care facility. *Journal of Psychology in Africa*, 25(1), 86-90. doi:10.1080/14330237.2015.1007611
- Boyce, S. D. (2014). *Logos Equus: Facilitators handbook*. Santaquin, Utah: Equine Assisted Growth and Learning Association.
- Boyce, S. D. (2016). EAGALA model equine-assisted psychotherapy and learning as an innovative psychological assessment technique. In R. Ferreira (Ed.), *Psychological Assessment*.

- Thinking innovatively in contexts of diversity* (pp. 242-261). Cape Town, South Africa: Juta and Company (Pty) Ltd.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa
- Braun, V., Clarke, V., & Terry, G. (2015). Thematic analysis. In P. Rohleder & A. Lyons (Eds.), *Qualitative research in clinical and health psychology* (pp. 95-114). Basingstoke, Hampshire: Palgrave Macmillan.
- Budlender, D. (2008). *Feasibility and appropriateness of attaching behavioural conditions to a social support grant for children aged 15–17 years*. Department of Social Development. Community agency for social enquiry. Johannesburg, South Africa.
- Bundick, M. J. (2011). Extracurricular activities, positive youth development, and the role of meaningfulness of engagement. *The Journal of Positive Psychology*, 6(1), 57-74. doi:10.1080/17439760.2010.536775
- Burgon, H. L. (2011). Queen of the world: experiences of ‘at-risk’ young people participating in equine-assisted learning/therapy. *Journal of Social Work Practice*, 25(2), 165-183. doi:10.1080/02650533.2011.561304
- Carlson, L. A. (2003). Existential theory: Helping school counsellors attend to youth at risk for violence. *Professional School Counselling*, 6(5), 310-315. Retrieved from <http://www.jstor.org/stable/42732448>

- Cawley, R., Cawley, D., & Retter, K. (1994). Therapeutic horseback riding and self-concept in adolescents with special educational needs. *Anthrozoös*, 7(2), 129-134. doi:10.2752/089279394787001934
- Chandler, C. K. (2005). *Animal assisted therapy in counselling*. New York, NY: Routledge.
- Chardonens, E. (2009). The use of animals as co-therapists on a farm: The child—horse bond in person-centered equine-assisted psychotherapy. *Person-Centered & Experiential Psychotherapies*, 8(4), 319-332. doi:10.1080/14779757.2009.9688496
- Cluver, L., Gardner, F., & Operario, D. (2009). Poverty and psychological health among AIDS-orphaned children in Cape Town, South Africa. *AIDS Care*, 21(6), 732-741. doi:10.1080/09540120802511885
- Coetzee, S., & Viviers, R. (2007). An overview of research on positive psychology in South Africa. *South African Journal of Psychology*, 37(3), 470-490. doi:10.1177/008124630703700307
- Cohen, S. P. (2015). Loss of a therapy animal: Assessment and healing In A. H. Fine (Ed.), *Handbook on animal assisted therapy: Foundations and guidelines for animal assisted interventions* (4th ed., pp. 341-355). Oxford, UK: Academic Press.
- Cooke, P. J., Melchert, T. P., & Connor, K. (2016). Measuring well-being: A review of instruments. *The Counselling Psychologist*, 44(5), 730-757. doi:10.1177/0011000016633507
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications, Inc.

- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2 ed.). Thousand Oaks, CA: SAGE Publications Inc.
- Cross, C. (2014). Qualitative assessment of the Diepsloot economy. In S. Mahajan (Ed.), *Economics of South African townships: Special focus on Diepsloot. World Bank studies* (pp. 142-178). Washington, DC: World Bank
- Demo, D. H., & Acock, A. C. (1996). Family structure, family process, and adolescent well-being. *Journal of Research on Adolescence, 6*, 457-488.
- Diener, E., Lucas, R., & Oishi, S. (2005). Subjective well-being: The science of happiness and life satisfaction In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 63-79). New York, NY: Oxford.
- Duckworth, A. L., Steen, T. A., & Seligman, M. P. (2005). Positive psychology in clinical practice. *Annual Review of Clinical Psychology, 1*, 629-651.
doi:10.1146/annurev.clinpsy.1.102803.144154
- Eccles, J. S. (1999). The development of children ages 6 to 14. *Future Child, 9*(2), 30-44.
doi:10.2307/1602703
- Equine Assisted Growth and Learning Association. (2015). *Fundamentals of EAGALA model practice training manual* (8th ed.). Santaquin, Utah: Equine Assisted Growth and Learning Association.

- Esposito, L., McCune, S., Griffin, J. A., & Maholmes, V. (2011). Directions in human-animal interaction research: Child development, health, and therapeutic interventions. *Child Development Perspectives, 5*(3), 205-211. doi:10.1111/j.1750-8606.2011.00175.x
- Ewing, C. A., MacDonald, P. M., Taylor, M., & Bowers, M. J. (2007). Equine-facilitated learning for youths with severe emotional disorders: A quantitative and qualitative study. *Child and Youth Care Forum, 36*(1), 59-72. doi:10.1007/s10566-006-9031-x
- Fabry, J. (1988). *Guideposts to meaning, discovering what really matters*. Oakland, CA: New Harbinger Publications.
- Fernandes, H. M., Vasconcelos-Raposo, J., & Teixeira, C. M. (2010). Preliminary analysis of the psychometric properties of Ryff's scales of psychological well-being in Portuguese adolescents. *The Spanish Journal of Psychology, 13*(2), 1032-1043. doi:10.1017/S1138741600002675
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London, Great Britain: SAGE Publications Ltd.
- Fine, A., Tedeschi, P., & Elvove, E. (2015). Forward thinking: The evolving field of human–animal interactions. In A. Fine (Ed.), *Handbook for animal assisted therapy: Foundations and guidelines for animal assisted interventions* (pp. 21-35). Oxford, UK: Academic Press.
- Fine, A. H. (2015). *Handbook on Animal-Assisted Therapy: Foundations and guidelines for animal-assisted interventions* (4th ed.). Oxford, UK: Academic Press.
- Frankl, V. E. (1969). *The doctor and the soul*. London, Great Britain: Souvenir Press Ltd.

- Frankl, V. E. (Producer). (1972). *Youth in search of meaning* [video clip]. Retrieved from <http://Logotherapy.univie.ac.at/e/clipgallery.html>
- Frankl, V. E. (1988). *Mans search for meaning*. New York, NY: Penguin Group.
- Frewin, K., & Gardiner, B. (2005). New age or old sage? A review of equine assisted psychotherapy. *The Australian Journal of Counselling Psychology*, 6, 13-17.
- Gao, J., & McLellan, R. (2018). Using Ryff's scales of psychological well-being in adolescents in mainland China. *Biomed Central Psychology*, 6(17), 8 pages. Retrieved from <https://bmcp psychology.biomedcentral.com/articles/10.1186/s40359-018-0231-6>
doi:10.1186/s40359-018-0231-6
- Garcia, D. M. (2014). *The paradox of otherness in horse-human connections: A peircean interpretation*. Tijuana, Mexico: CETYS Universidad.
- Gauteng Department of Education. (2005). *Gauteng department of education strategy 2004 - 2010*. Retrieved from www.education.gpg.gov.za
- Gauteng Department of Education. (2014). *Strategic plan 2015 -2020*. Retrieved from <http://www.education.gpg.gov.za/Document5/Documents/GDE%20Strategic%20Plan%2015%20to%202020.pdf>
- González, M., Casas, F., & Coenders, G. (2007). A complexity approach to psychological well-being in adolescence: Major strengths and methodological issues. *Social Indicators Research*, 80(2), 267-295. doi: 10.1007/s11205-005-5073-y

- Gravetter, F. J., & Forzano, L. A. (2012). *Research methods for the behavioral sciences* (4th ed.). Wadsworth, Great Britain: Cengage Learning.
- Guerra, N. G., & Dierkhising, C. (Producer). (2011). The effects of community violence on child development. *Social violence section: Encyclopedia of early child development [online]*. Retrieved from <http://www.child-encyclopedia.com/sites/default/files/textes-experts/en/907/the-effects-of-community-violence-on-child-development.pdf>
- Hameed, N., & Mehrotra, S. (2017). Positive youth development programs for mental health promotion in Indian youth: an underutilized pathway. *International Journal Of Community Medicine And Public Health*, 4(10), 3488-3495. doi:10.18203/2394-6040.ijcmph20174209
- Hasel, T. (2014). *A glimpse inside Johannesburg's Diepsloot slum*. Retrieved from <http://www.dw.com/en/a-glimpse-inside-johannesburgs-diepsloot-slum/a-17720678>
- Hausberger, M., Roche, H., Henry, S., & Visser, E. K. (2008). A review of the human–horse relationship. *Applied Animal Behaviour Science*, 109(1), 1-24. doi:10.1016/j.applanim.2007.04.015
- Health Professionals Council of South Africa. (2008). General ethical guidelines for health researchers. *Guidelines for good practice in the health care professions*. Retrieved from www.hpcsa.co.za/uploads/editor/userfiles/downloads/conduct_ethics/rules/generic_ethical_rules/booklet_6_gen_ethical_guidelines_for_researchers.pdf
- Hefferon, K., & Boniwell, I. (2011). *Positive psychology: Theory, research and applications*. Berkshire, UK: McGraw-Hill Education.

- Henderson, L. W., & Knight, T. (2012). Integrating the hedonic and eudaimonic perspectives to more comprehensively understand wellbeing and pathways to wellbeing. *International Journal of Wellbeing*, 2(3), 196-221. doi:10.5502/ijw.v2i3.3
- Henderson, L. W., Knight, T., & Richardson, B. (2013). An exploration of well-being benefits of hedonic and eudaimonic behaviour. *The Journal of Positive Psychology*, 8(4), 322-336. doi:10.1080/17439760.2013.803596
- Henn, C., Hill, C., & Jorgensen, L. (2016). An investigation into the factor structure of the Ryff Scales of Psychological Well-Being. *SA Journal of Industrial Psychology*, 42(1), 12 pages. doi:10.4102/sajip.v42i1.1275
- Heyvaert, M., Hannes, K., Maes, B., & Onghena, P. (2013). Critical appraisal of mixed methods studies. *Journal of Mixed Methods Research*, 7(4), 302-327. doi:10.1177/1558689813479449
- Hill, N. R. (2007). Wilderness therapy as a treatment modality for at-risk youth: A primer for mental health counselors. *Journal of Mental Health Counseling*, 29(4), 338-349. doi:10.17744/mehc.29.4.c6121j162j143178
- Hill, P. L., Burrow, A. L., O'Dell, A. C., & Thornton, M. A. (2010). Classifying adolescents' conceptions of purpose in life. *The Journal of Positive Psychology*, 5(6), 466-473. doi:10.1080/17439760.2010.534488
- Hoagwood, K. E., Acri, M., Morrissey, M., & Peth-Pierce, R. (2016). Animal-assisted therapies for youth with or at risk for mental health problems: A systematic review. *Applied Developmental Science*, 21(1), 1-13. doi:10.1080/10888691.2015.1134267

- Hodgson, R., Abbasi, T., & Clarkson, J. (1996). Effective mental health promotion: A literature review. *Health Education Journal*, 55(1), 55-74. doi:10.1177/001789699605500106
- Hoffman, M. A., Levy-Shiff, R., Sohlberg, S. C., & Zarizki, J. (1992). The impact of stress and coping: Developmental changes in the transition to adolescence. *Journal of Youth and Adolescence*, 21(4), 451-469. doi:10.1007/BF01537897
- Joffe, H. (2012). Thematic analysis. In D. Harper & A. Thompson (Eds.), *Qualitative research methods in mental health and psychotherapy: A guide for students and practitioners* (pp. 209-223). Chichester, Great Britain: Wiley-Blackwell.
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed method research. *Journal of Mixed Methods Research*, 1(2), 112-133. doi:10.1177/1558689806298224
- Jones, B. (1983). Just crazy about horses: The fact behind the fiction. In A. Katcher & A. Beck (Eds.), *New perspectives on our lives with companion animals* (pp. 87-111). Philadelphia, PA: University of Pennsylvania Press.
- Jooste, K., & Maritz, J. (2014). Youths' experience of trauma: Personal transformation through self-leadership and self-coaching. *African Journal for Physical Health Education, Recreation and Dance : Health, physical activity and sport in South Africa : issues and challenges : Supplement 2*, 20(4), 393-408.
- Jooste, K., & Maritz, J. (2015). Health care professionals and family perspectives of youth's trauma: Suggestions for coaching and self-leadership. *The Open Family Studies Journal*, 7(Suppl 1: M7), 48-57. Retrieved from <http://hdl.handle.net/10566/1467>

- Josselyn, I. M. (1961). Review of identity and the life cycle: Selected papers. *American Journal of Orthopsychiatry*, 31(2), 435-438.
- Kafka, G. J., & Kozma, A. (2002). The construct validity of Ryff's scales of psychological well-being (SPWB) and their relationship to measures of subjective well-being. *Social Indicators Research*, 57(2), 171-190. doi:10.1023/A:1014451725204
- Kaminer, D., Du Plessis, B., Hardy, A., & Benjamin, A. (2013). Exposure to violence across multiple sites among young South African adolescents. *Peace and Conflict: Journal of Peace Psychology*, 19(2), 112-124. doi:10.1037/a0032487
- Kazdin, A. E. (2015). Methodological standards and strategies for establishing the evidence base of animal-assisted therapies. In A. H. Fine (Ed.), *Handbook on animal assisted therapy: Foundations and guidelines for animal assisted interventions* (4th ed., pp. 377-390). Oxford, UK: Academic Press
- Kehler, J. (2001). Women and poverty: The South African experience. *Journal of International Women's Studies*, 3(1), 41-53. Retrieved from <https://vc.bridgew.edu/jiws/vol3/iss1/3>
- Kelenka, P. (2009). *The horse in human history*. New York, NY: Cambridge University Press.
- Kemp, K., Signal, T., Botros, H., Taylor, N., & Prentice, K. (2014). Equine facilitated therapy with children and adolescents who have been sexually abused: A program evaluation study. *Journal of Child and Family Studies*, 23, 558-566. doi:10.1007/s10826-013-9718-1
- Kendall, E., Maujean, A., Pepping, C. A., Downes, M., Lakhani, A., Byrne, J., & Macfarlane, K. (2015). A systematic review of the efficacy of equine-assisted interventions on

- psychological outcomes. *European Journal of Psychotherapy & Counselling*, 17(1), 57-79.
doi:10.1080/13642537.2014.996169
- Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., . . . Angermeyer, M. (2010). Childhood adversities and adult psychopathology in the WHO World Mental Health Surveys. *The British Journal of Psychiatry*, 197(5), 378-385.
doi:10.1192/bjp.bp.110.080499
- Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of health and social behavior*, 43(2), 207-222. doi:10.2307/3090197
- Keyes, C. L. (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist*, 62(2), 95-108.
doi:10.1037/0003-066X.62.2.95
- Klontz, B., Bivens, A., Leinart, D., & Klontz, T. (2007). The effectiveness of equine-assisted experiential therapy: Results of an open clinical trial. *Society & Animals*, 15(3), 257-267.
doi:10.1163/156853007x217195
- Kruger, K. A., & Serpell, J. A. (2010). Animal-assisted interventions in mental health: Definitions and theoretical foundations. In A. Fine (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (Vol. 3, pp. 33-48). Oxford, UK: Academic Press.
- Latella, D., & Abrams, B. N. (2015). The role of the equine in animal-assisted interactions. In A. H. Fine (Ed.), *Handbook on animal assisted therapy: Foundations and guidelines for animal assisted interventions* (4th ed., pp. 115-137). Oxford, UK: Academic Press.

- Lee, P. T., Dakin, E., & McLure, M. (2016). Narrative synthesis of equine - assisted psychotherapy literature: Current knowledge and future research directions. *Health and Social Care in the Community*, 24(3), 225-246. doi:10.1111/hsc.12201
- Leibowitz-Lee, S. (2006). The psychosocial impact of violence on children: Soul city literature review rough draft. Retrieved from www.soulcity.org.za/projects/soul-buddyz/soul-buddyz-series-4/literature-review/the-psychosocial-impact-of-violence-on-children
- Lentini, J. A., & Knox, M. (2009). A qualitative and quantitative review of equine facilitated psychotherapy (EFP) with children and adolescents. *The Open Complementary Medicine Journal*, 1, 51-57. doi:10.2174/1876391X00901010051
- Lerner, R. M. (1981). Adolescent development: Scientific study in the 1980s. *Youth & Society*, 12(3), 251-275. doi:10.1177/0044118X8101200301
- Lerner, R. M. (2005). *Promoting positive youth development: Theoretical and empirical bases*. Paper presented at the Workshop on the science of adolescent health and development, National Research Council / Institute of Medicine, Washington, DC. <http://ase.tufts.edu/iaryd/documents/pubpromotingpositive.pdf>
- Lerner, R. M., Almerigi, J. B., Theokas, C., & Lerner, J. V. (2005). Positive youth development. *Journal of Early Adolescence*, 25(1), 10-16. doi:10.1177/0272431604273211
- Lerner, R. M., & Galambos, N. L. (1998). Adolescent development: Challenges and opportunities for research, programs and policies. *Annual Review of Psychology*, 49, 413-446. doi:10.1146/annurev.psych.49.1.413

- Linley, A. P., Stephen, J., Harrington, S., & Wood, A. M. (2006). Positive psychology: Past, present, and (possible) future. *The Journal of Positive Psychology*, *1*(1), 3-16. doi:10.1080/17439760500372796
- Linton, M., Dieppe, P., & Medina-Lara, A. (2016). Review of 99 self-report measures for assessing well-being in adults: Exploring dimensions of well-being and developments over time. *British Medical Journal Open*, *6*(7), 16 pages. Retrieved from <http://bmjopen.bmj.com/content/bmjopen/6/7/e010641.full.pdf> doi:10.1136/bmjopen-2015-010641
- Luby, J., Belden, A., Botteron, K., Marrus, N., Harms, M., Babb, C., . . . Barch, D. (2013). The effects of poverty on childhood brain development. The mediating effect of caregiving and stressful life events. *Journal of American Medical Association Paediatrics*, *167*(12), 1135-1142. doi:10.1001/jamapediatrics.2013.3139
- Lund, C., Kleintjes, S., Kakuma, R., Flisher, A., & JMHaPP Research Programme Consortium. (2010). Public sector mental health systems in South Africa: Inter-provincial comparisons and policy implications. *Social Psychiatric Epidemiology*, *45*(3), 393-404. doi:10.1007/s00127-009-0078-5
- Macauley, B. L. (2006). Animal-assisted therapy for persons with aphasia: A pilot study. *Journal of Rehabilitation Research and Development*, *43*(3), 357-366. doi:10.1682/JRRD.2005.01.0027
- Mahajan, S. (2014). *Economics of South African townships: Special focus on Diepsloot* doi:10.1596/978-1-4648-0301-7

- Makwela, M. (2015). Diepsloot *Diepsloot online*. Retrieved from <http://www.diepsloot.com/>
- Malan, M. (2016). Diepsloot: Where men think its their right to rape. Retrieved from <http://bhekisisa.org/article/2015-10-01-diepsloot-where-men-think-its-their-right-to-rape>
- Manase, I. (2014). Everyday experiences and aspirations in selected lower class townships of Johannesburg. *Journal of Human Ecology*, 47(1), 65-72. doi:10.1080/09709274.2014.11906739
- Masini, A. (2010). Equine-assisted psychotherapy in clinical practice. *Journal of Psychosocial Nursing and Mental Health Services*, 48(10), 30-34. doi:10.3928/02793695-20100831-08
- Mathews, I., Griggs, R., & Caine, G. (1999). *The experience review of interventions and programmes dealing with youth violence in urban schools in South Africa*. Retrieved from www.ipt.co.za
- May, R. (1953). *Man's search for himself*. New York, NY: W.W. Norton & Company, Inc.
- May, R. (1983). *The discovery of being*. New York, USA: W.W. Norton & Company.
- McCormick, A. R., & McCormick, M. D. (1997). *Horse sense and the human heart: What horses can teach us about trust, bonding, creativity and spirituality*. Deerfield Beach, Florida: Health Communications Inc.
- McGreevy, P., & McLean, A. (2010). *Equitation science*. London, UK: Wiley-Blackwell.
- Melson, G. F., & Fine, A. H. (2015). Animals in the lives of children. In A. Fine (Ed.), *Handbook of animal assisted therapy: Foundations and guidelines for animal assisted interventions* (4th ed., pp. 179-194). Oxford, UK: Academy Press.

- Morrison, M. L. (2007). Health benefits of animal-assisted interventions. *Complementary Health Practice Review, 12*(1), 51-62. doi:10.1177/1533210107302397
- Mueller, M. K. (2014). Is human-animal interaction (HAI) linked to positive youth development? Initial answers. *Applied Developmental Science, 18*(1), 5-16. doi:10.1080/10888691.2014.864205
- Mueller, M. K., Fine, A. H., & O'Haire, M. E. (2015). Understanding the role of human–animal interaction in the family context. In A. H. Fine (Ed.), *Handbook on animal assisted therapy: Foundations and guidelines for animal assisted interventions* (4th ed., pp. 237-248). Oxford, UK: Academic Press.
- Nakamura, J. (2009). Developmental psychology. In S. J. Lopez (Ed.), *Encyclopedia of positive psychology* (Vol. 1, pp. 277-280). West Sussex, Great Britain: Blackwell Publishing Ltd.
- Norrish, J. M., & Vella-Brodrick, D. A. (2009). Positive psychology and adolescents: Where are we now? Where to from here? *Australian Psychologist, 44*(4), 270-278. doi:10.1080/00050060902914103
- Notgrass, C. G., & Pettinelli, J. D. (2014). Equine assisted psychotherapy: The Equine Assisted Growth and Learning Association's model overview of equine-based modalities. *Journal of Experiential Education, 38*(2), 162-174. doi:10.1177/1053825914528472
- Osofsky, J. D. (1999). The impact of violence on children. *The future of children, 33*-49. doi:10.2307/1602780

- Overton, W. F. (2010). Life-span development: Concepts and issues. In W. F. Overton (Ed.), *Cognition, biology, and methods across the lifespan* (Vol. 1, pp. 1-29). Hoboken, NJ: Wiley.
- Pallant, J. (2016). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (6th ed.). Berkshire, UK: Open University Press.
- Park, N. (2004). The role of subjective well-being in positive youth development. *The Annals of the American Academy of Political and Social Science*, *591*(1), 25-39.
doi:10.1177/0002716203260078
- Park, N., & Peterson, C. (2008). Positive psychology and character strengths: Application to strengths-based school counseling. *Professional School Counseling*, *12*(2), 85-92.
doi:10.5330/PSC.n.2010-12.85
- Patel, V., Flisher, A., Hetrick, S., & McGorry, P. (2007). Mental health of young people: A global public-health challenge. *The Lancet*, *369*, 1302-1313. doi:10.1016/S0140-6736(07)60368-7
- Pawelski, J. O. (2016a). Defining the 'positive' in positive psychology: Part I. A descriptive analysis. *The Journal of Positive Psychology*, *11*(4), 339-356.
doi:10.1080/17439760.2015.1137627
- Pawelski, J. O. (2016b). Defining the 'positive' in positive psychology: Part II. A normative analysis. *The Journal of Positive Psychology*, *11*(4), 357-365.
doi:10.1080/17439760.2015.1137628

- Pendry, P., & Roeter, S. (2013). Experimental trial demonstrates positive effects of equine facilitated therapy. *Human-Animal Interaction Bulletin*, 1(1), 1-19. Retrieved from <https://www.kreac.nl/media/onderzoek15.pdf>
- Pendry, P., Smith, A. N., & Roeter, S. M. (2014). Randomized trial examines effects of equine facilitated learning on adolescents basal cortison levels. *Human-Animal Interaction Bulletin*, 2(1), 80-95. Retrieved from https://www.academia.edu/8724977/Randomized_Trial_Examines_Effects_of_Equine_Facilitated_Learning_on_Adolescents_Basal_Cortisol_Levels_Direct_correspondence_to
- Petersen, A. C. (1988). Adolescent development. *Annual Review of Psychology*, 39(1), 583-607. doi:10.1146/annurev.ps.39.020188.003055
- Peterson, C. (2013). *Pursuing the good life: 100 reflections on positive psychology*. New York, NY: Oxford University Press.
- Phillips, A. (2015). The human–animal relationship in context of the juvenile and criminal justice systems. In A. H. Fine (Ed.), *Handbook on animal assisted therapy: Foundations and guidelines for animal assisted interventions* (4th ed., pp. 295-303). Oxford, UK: Academic Press.
- Pillay, A. L., & Lockhat, M. R. (1997). Developing community mental health services for children in South Africa. *Social Science & Medicine*, 45(10), 1493-1501. doi:[http://dx.doi.org/10.1016/S0277-9536\(97\)00079-8](http://dx.doi.org/10.1016/S0277-9536(97)00079-8)

- Ratele, K. (2007). Poverty and inequality. In M. Moleko & A. Visser (Eds.), *Community psychology in South Africa* (2nd ed., pp. 267-284). Pretoria, South Africa: Van Schaik Publishers.
- Rathi, N., & Rastogi, R. (2007). Meaning in life and psychological well-being in pre-adolescents and adolescents. *Journal of the Indian Academy of Applied Psychology*, 33(1), 31-38. Retrieved from <http://medind.nic.in/jak/t07/i1/jakt07i1p31.pdf>
- Reddy, S. P., James, S., Sewpaul, R., Koopman, F., Funani, N. I., Sifunda, S., . . . Kambaran. (2010). Umthente uhlaba usamila. *The South African youth risk behaviour survey 2008*. Cape Town, South Africa: South African Medical Research Council.
- Richter, L. M., Dawes, A., & Higson-Smith, C. (2004). *Sexual abuse of young children in Southern Africa*. Cape Town, South Africa: HSRC Press.
- Robbins, B. D. (2008). What is the good life? Positive psychology and the renaissance of humanistic psychology. *The Humanistic Psychologist*, 36(2), 96-112. doi:10.1080/08873260802110988
- Roisman, G. I., Masten, A. S., Coatsworth, J. D., & Tellegen, A. (2004). Salient and emerging developmental tasks in the transition to adulthood. *Child development*, 75(1), 123-133. doi:10.1111/j.1467-8624.2004.00658.x
- Rothe, E. Q., Vega, B. J., Torres, R. M., Soler, S. M., & Pazos, R. M. (2005). *From kids and horses: Equine facilitated psychotherapy for children*. *International Journal of Clinical and Health Psychology*. Retrieved from http://www.marleysmission.com/pdf/from_kids.pdf

- Ryff, C. D. (1989a). Beyond Ponce de Leon and life satisfaction: New directions in quest of successful ageing. *International journal of behavioral development*, 12(1), 35-55. doi:10.1177/016502548901200102
- Ryff, C. D. (1989b). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of personality and social psychology*, 57(6), 1069-1081. doi:10.1037/0022-3514.57.6.1069
- Ryff, C. D. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science*, 4(4), 99-104. doi:10.1111/1467-8721.ep10772395
- Ryff, C. D. (2014). Psychological well-being revisited: Advances in the science and practice of eudaimonia. *Psychotherapy and psychosomatics*, 83(1), 10-28. doi:10.1159/000353263
- Ryff, C. D., & Keyes, C. L. (1995). The structure of psychological well-being revisited. *Journal of personality and social psychology*, 69(4), 719-727. doi:10.1037/0022-3514.69.4.719
- Ryff, C. D., & Singer, B. (2006). Best news yet on the six-factor model of well-being. *Social Science Research*, 35 1103-1119. doi:10.1016/j.ssresearch.2006.01.002
- Ryff, C. D., & Singer, B. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being *Journal of happiness studies*, 9, 13-39. doi:10.1007/s10902-006-9019-0
- Schonert-Reichl, K. (2000). *Children and youth at risk: Some conceptual considerations*. Retrieved from <https://www.researchgate.net/publication/237308266>

- Schultz, P. N., Remick-Barlow, G. A., & Robbins, L. (2007). Equine-assisted psychotherapy: A mental health promotion/intervention modality for children who have experienced intra-family violence. *Health and Social Care in the Community*, 15(3), 265-271. doi:10.1111/j.1365-2524.2006.00684.x
- Seedat, M., Van Niekerk, A., Jewkes, R., Suffla, S., & Ratele, K. (2009). Violence and injuries in South Africa: Prioritising an agenda for prevention. *The Lancet*, 374(9694), 1011-1022. doi:10.1016/S0140-6736(09)60948-X
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5-14. doi:10.1037//0033-066X.55.1.5
- Shamos, J. L. (2011). "Each one teach one": Mental health awareness and suicide, a South African perspective. Retrieved from <https://www.inter-disciplinary.net/wp-content/uploads/2011/10/shamospaper.pdf>
- Shultz, B. N. (2005). *The effects of equine-assisted therapy on the psychosocial functioning of at-risk adolescents ages 12 - 18*. (Counselling), Denver Seminary. Retrieved from <https://www.kreac.nl/media/onderzoek1.pdf>
- Shumbashaba Community Trust. (2014). *Horse welfare policy*. Johannesburg, South Africa.
- Siddique, C. M., & D'Arcy, C. (1984). Adolescence, stress, and psychological well-being. *Journal of Youth and Adolescence*, 13(6), 459-473. doi:10.1007/BF02088593

- Silbereisen, R. K., & Lerner, R. M. (2007). *Approaches to positive youth development*.
doi:<http://dx.doi.org/10.4135/9781446213803.n1>
- Skipper, L. (2005). *Let horses be horses: The horse owner's guide to ethical training and management*. London, Great Britain: J.A. Allen.
- Smith-Osborne, A., & Selby, A. (2010). Implications of the literature on equine-assisted activities for use as a complementary intervention in social work practice with children and adolescents. *Child and Adolescent Social Work Journal*, 27(4), 291-307.
doi:10.1007/s10560-010-0201-1
- Snyder, C. R., Lopez, S. J., & Pedrotti, J. T. (2011). *Positive psychology: The scientific and practical explorations of human strengths* (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.
- South African Human Rights Commission, & United Nations Children's Fund. (2014). *Poverty traps and social exclusion among children in South Africa*. Retrieved from <https://www.sahrc.org.za/home/21/files/Poverty%20Traps%20Report.pdf>
- Stats SA. (2012). *Census 2011, statistical release (Revised)* Pretoria: Statistics, South Africa
Retrieved from <http://www.statssa.gov.za/Publications>
- Steger, M. F., Todd, B., & Kashdan, B. (2008). Being good by doing good: Daily eudaimonic activity and well-being. *Journal of Research in Personality*, 42, 22-42.
doi:10.1016/j.jrp.2007.03.004

- Swanzen, R., & Stay, B. (2015). Logotherapeutic transitions in child and youth care [Press release]. Retrieved from <https://research.monash.edu/en/publications/logotherapeutic-transitions-in-child-and-youth-care>
- Sweeney, A., Greenwood, K. E., Williams, S., Wykes, T., & Rose, D. S. (2013). Hearing the voices of service user researchers in collaborative qualitative data analysis: the case for multiple coding. *Health Expectations*, *16*(4), 89-99. doi:10.1111/j.1369-7625.2012.00810.x
- Tashakkori, A., & Teddlie, C. (2010). Putting the human back in “Human Research Methodology”: The researcher in mixed methods research. *Journal of Mixed Methods Research*, *4*(4), 271-277. doi:10.1177/1558689810382532
- Teddlie, C., & Tashakkori, A. (2006). A general typology of research designs featuring mixed methods. *Research in the Schools*, *13*(1), 12-28. Retrieved from <https://psycnet.apa.org/record/2007-09345-002>
- Thomaes, S., Sedikides, C., Van den Bos, N., Hutteman, R., & Reijntjes, A. (2017). Happy to be “me?”: Authenticity, psychological need satisfaction, and subjective well-being in adolescence. *Child development*, *88*(4), 1045-1056. doi:10.1111/cdev.12867
- Thomas, L., & DiGiacomo, M. (2010). *Eagala model equine assisted psychotherapy presentation to APA*. Santaquin, Utah: Equine Assisted Growth and Learning Association.
- Thomas, L., & DiGiacomo, M. (2011). *An introduction to the Eagala model*. Paper presented at the Eagala 12th Annual Conference, Layton, Utah.

- Trotter, K. S. (2012). *Harnessing the power of equine assisted counselling: Adding animal assisted therapy to your practice*. New York, NY: Routledge.
- Trotter, K. S., Chandler, C. K., Goodwin-Bond, D., & Casey, J. (2008). A comparative study of the efficacy of group equine assisted counseling with at-risk children and adolescents. *Journal of Creativity in Mental Health*, 3(3), 254-284. doi:10.1080/15401380802356880
- University of the Witwatersrand (Producer). (2016). Levels of violence against women in Diepsloot represent a state of emergency. Retrieved from www.wits.ac.za/news/latest-news/general-news/2016/2016-11/levels-of-violence-against-women-in-diepsloot-represent-a-state-of-emergency.html
- Van Dierendonck, D. (2005). The construct validity of Ryff's Scales of psychological well-being and its extension with spiritual well-being. *Personality and individual differences*, 36(3), 629-643. doi:10.1016/S0191-8869(03)00122-3
- Van Schalkwyk, I., & Wissing, M. (2010). Psychosocial well-being in a group of South African adolescents. *Journal of Psychology in Africa*, 20(1), 53-60. doi:10.1080/14330237.2010.10820342
- VanFleet, R., & Faa-Thompson, T. (2010). The case for using animal assisted play therapy. *British Journal of Play Therapy*, 6, 4-18. Retrieved from http://www.play-therapy.com/playfulpooch/images_resources/Case4AAPT.BJPTWinter10_4-18.pdf
- VanFleet, R., Fine, A. H., O'Callaghan, D., Mackintosh, T., & Gimeno, J. (2015). Application of animal-assisted intervention in professional settings: An overview of alternatives In A. H.

- Fine (Ed.), *Handbook on animal assisted therapy: Foundations and guidelines for animal assisted interventions*. Oxford, UK: Academy Press.
- Visser, M., & Routledge, L. (2007). Substance abuse and psychological well-being of South African adolescents. *South African Journal of Psychology*, 37(3), 595-615. doi:10.1177/008124630703700313
- White, V. E., & Murray, M. A. (2002). Passing notes: The use of therapeutic letter writing in counseling adolescents. *Journal of Mental Health Counseling*, 24(2), 166-176.
- Whittlesey-Jerome, W. K. (2014). Adding equine assisted psychotherapy to conventional treatments: A pilot study exploring ways to increase adult female self-efficacy among victims of interpersonal violence. *The Practitioner Scholar: Journal of Counseling and Professional Psychology*, 3, 82-101.
- Wilkinson, R. B., & Walford, W. A. (1998). The measurement of adolescent psychological health: One or two dimensions? *Journal of Youth and Adolescence*, 27(4), 443-455. doi:10.1023/A:102284800
- Wong, P. (1998). The human quest for meaning: Meaning-centred counseling. In P. Wong & P. Fry (Eds.), *Theories of psychopathology and personality* (1st ed., pp. 395-435). Mahwah, NJ: Erlbaum.
- Wong, P. (2012). From logotherapy to meaning-centered counseling and therapy. In P. Wong (Ed.), *The human quest for meaning: Theories, research, and applications* (pp. 619-647). New York, NY: Routledge.

- Wong, P. (2015). Meaning therapy: Assessments and interventions *Existential Analysis: Journal of the Society for Existential Analysis* (Vol. 26, pp. 154-167).
- Wong, P. T. (2006). Existential and humanistic theories. In J. C. Thomas, D. L. Segal, & M. Hersen (Eds.), *Comprehensive handbook of personality and psychopathology: Personality and everyday functioning* (Vol. 1, pp. 192-211). Hoboken, NJ: John Wiley & Sons Inc.
- World Health Organisation. (2002a). *Prevention and promotion in mental health* Retrieved from https://www.who.int/mental_health/media/en/545.pdf
- World Health Organisation. (2002b). World report on violence and health. *World Health Organisation*. Retrieved from <https://hsbiblio.uni-tuebingen.de>
- World Health Organisation. (2004). Promoting mental health: Concepts, emerging evidence, practice: Summary report. Retrieved from https://www.who.int/mental_health/evidence/en/promoting_mhh.pdf
- World Health Organisation. (2007). Breaking the vicious cycle between mental ill-health and poverty. Retrieved from http://www.who.int/mental_health/policy/development/en/index.html
- World Health Organisation. (2014). Health for the world's adolescents: A second chance in the second decade(27/10/2016). Retrieved from <http://apps.who.int/adolescent/second-decade/section2/page1/recognizing-adolescence.html>

Yeager, D. S., & Bundick, M. J. (2009). The role of purposeful work goals in promoting meaning in life and in schoolwork during adolescence. *Journal of Adolescent Research, 24*(4), 423-452. doi:10.1177/0743558409336749

Yorke, J., Nugent, W., Strand, E., Bolen, R., New, J., & Davis, C. (2013). Equine-assisted therapy and its impact on cortisol levels of children and horses: A pilot study and meta-analysis. *Early child development and care, 183*(7), 874-894. doi:10.1080/03004430.2012.693486

APPENDICES

APPENDIX 1: SHUMBASHABA PERMISSION LETTER

SHUMBASHABA COMMUNITY TRUST IT196/2013
PBO 930044412 | 147-433 NPO
P.O. Box 3252
Dainfern Valley
2174
Tel: 084 300 0672
E-mail: accounts@shumbashebe.co.za
Website: www.shumbashebe.co.za
Blog: www.blog-shumbashebe.co.za
Facebook: www.facebook.com/shumbashebe



31/08/2016

To whom it may concern,

Authorisation to conduct research at Shumbashaba Community Trust

This letter serves to confirm that Sharon Boyce (ID No. 6603130042083) has been granted permission to conduct research at Shumbashaba Community Trust. It is understood that the purpose of the study is to determine the potential of the Equine Assisted Growth and Learning Association (EAGALA) model of equine assisted counselling, to facilitate psychological well-being in a group of Diepsloot adolescents.

Shumbashaba Community Trust will be responsible for identifying and selecting the participants, implementing the 8 week EAGALA model intervention known as Logos Equus in addition to providing the participants with lunch and return transport on the days of the programme.

Should you require any further information please don't hesitate to contact me.

Yours faithfully,

P Armugam

Preean Armugam
Trustee and Treasurer

APPENDIX 2: CONSENT FORM

02 June 2017

Dear Parent or Guardian

Research on how a horse assisted counselling programme impacts the psychological well-being of teenagers

Sharon Boyce together with Shumbashaba Community Trust is conducting research on the effect of a counselling programme that uses horses on the psychological well-being of teenagers who live in Diepsloot. We invite your child or ward to participate in the study. Please read through the information about the study. If you give permission for them to participate, please sign the attached form and return to either Sharon or Caroline.

Title: Effect of Equine Assisted Growth and Learning Association (EAGALA) model on psychological well-being of adolescents: A mixed methods approach.

Purpose of the research: To determine if a horse assisted counselling programme can change the psychological well-being of teenagers.

Procedures: The staff at Shumbashaba Community Trust will ask your child / ward a list of questions about their experiences and well-being the week before the horse programme begins. This will take about 1 hour. Thereafter, the children will be randomly allocated to join one of two groups. One group will participate in the horse programme that starts the next week and the second group will be waitlisted to start the programme in the next school term. The sessions will occur once a week, for 8-weeks, after school and will be 90 minutes long. Shumbashaba Community Trust will arrange return transport to school for all participants as well as lunch. At the end of the first programme your child / ward will be asked to complete the same list of questions they

answered before the programme started. The wait list group will start the programme the following school term.

Rights: It is your choice if you want your child / ward to participate or not. You can stop their participation at any time without any penalty. If you stop your child or ward participating in the research they will be able to carry on in the Shumbashaba programme.

Benefits: Your child or ward will be joining a counselling programme where they may learn life skills that could help them cope better with life and improve their psychological well-being.

Risks: There are some risks to being around horses on the ground, as they are large animals that can move very fast. The horses of the Shumbashaba work with people in horse programmes almost on a daily basis. Shumbashaba takes measures to ensure the horses are suitable to do this work; they are selected for their good nature and are used to this work. Nobody is forced to make contact with the horses, if you are worried about being with the horses you can talk to one of the Shumbashaba facilitators.

Confidentiality: Your child / ward's answers on the questions as well as information they share during the horse programme will not be shared and all papers will be kept in a locked store room at the University of Pretoria for 15 years. The findings of the research might be published and presented at conferences in the future. Additionally the findings may be used for future research. Whenever the findings are used nobody will know who you or child / ward are and their answers will be destroyed should they withdraw from the study. The information will not be used in any way that will hurt you and your child / ward and you are free to refuse.

If you need clarity or more details of the study, you can contact: Sharon Boyce at Department of Psychology (084 500 0672) or Caroline Erdman at Shumbashaba Community Trust (071 403 1286).

Yours faithfully,



Sharon Boyce



Research participant parental consent form

I (Name and surname) parent / guardian of (Name and surname) have received information about the equine assisted counselling programme. It was explained to me. I want my child / ward to participate in the study by answering questions about how they feel and by participating in the eight session equine (horse) assisted counselling programme.

Parent / Guardian Name:

Parent / Guardian Signature:

Date:



APPENDIX 3: ASSENT FORM

02 June 2017

Dear Participant

Research on the effects of equine (horse) assisted counselling on the psychological well-being of adolescents

Sharon Boyce in conjunction with Shumbashaba Community Trust is conducting research on the effect of equine (horse) assisted counselling on the psychological well-being of adolescents living in Diepsloot. We invite you to participate in the study. Please read through the information about the study. If you want to participate, please sign the attached form.

Title: Effect of Equine Assisted Growth and Learning Association (EAGALA) model on psychological well-being of adolescents: A mixed methods approach.

Purpose of the research: To determine the potential of the EAGALA model to facilitate psychological well-being in a group of Diepsloot adolescents.

Procedures: The staff at Shumbashaba Community Trust will ask you a list of questions about your experiences and well-being the week before the horse assisted counselling programme begins. This will take about 1 hour. Thereafter, you will be randomly allocated to join one of two groups; one group will participate in the 8 week horse assisted counselling programme starting the following week and the second group will be waitlisted to participate in the programme starting in the next school term. The horse assisted counselling sessions will occur once a week after school and will be 90 minutes long. Shumbashaba Community Trust will arrange return transport to school for you as well as lunch. At the end of the first programme you will be asked to complete

the same list of questions you answered before the programme started. The wait list group will be allowed to attend the programme the following school term.

Rights: It is your choice if you want to participate or not. You can stop participation at any time without any negative consequences. If you stop participating in the research you will be able to continue in the Shumbashaba programme.

Benefits: You will be joining a counselling programme where you may learn life skills that could help you cope better with life and improve your psychological well-being.

Risks: It is acknowledged that there are inherent risks working with horses on the ground, as horses are large animals that can move very fast. The horses of the Shumbashaba Community Trust work with people in horse assisted counselling ground based programmes almost on a daily basis. Shumbashaba takes measures to ensure the horses are suitable to do this work; they are selected for their good temperaments and are used to this work. Nobody is forced to make contact with the horses, if you are concerned about being with the horses you can talk to one of the Shumbashaba facilitators.

Confidentiality: Your answers on the questions as well as information you share during the horse assisted counselling programme will not be shared and all papers will be kept in a locked store room at the University of Pretoria. The findings of the research might be published and presented at conferences in the future. Additionally the findings may be used for future research. You will not be identifiable and your answers will be destroyed should you withdraw from the study. It will not be used in any way that will hurt you and you are free to refuse.

If you need clarity or more details of the study, you can contact: Sharon Boyce at Department of Psychology (084 500 0672) or Caroline Erdman at Shumbashaba Community Trust (071 403 1286).

Yours faithfully,



Sharon Boyce



Research participant assent form

I(Name and surname) have received information about the equine-assisted counselling programme. It was explained to me in a way I understand. I want to participate in the study by answering questions about how I feel and by participating in the eight session equine (horse) assisted counselling programme.

Participant Name:

Participant Signature:

Date:



APPENDIX 4: RESEARCH PROJECT PLAN

Research Project Plan				
Title: Effect of EAGALA model on psychological well-being of adolescents				
Primary Researcher: Sharon Boyce				
Shumbashaba contact: Caroline Erdmann				
Phase	Research activity	Date	Responsibility	Venue
Phase 1 Identify participants	Informed consent : info giving meeting & consent forms	Week 1	Shumbashaba & Researcher	Shumbashaba to determine venue in Diepsloot
Phase 2 QUAN data collection	Pre - test Ryff scale of psychological well being & Randomization	Week 2	Shumbashaba & Researcher	Shumbashaba to determine venue in Diepsloot
Phase 3 EAGALA model intervention	Facilitation of Logos Equus	Week 3 - Week 10 (1 x 90min per week)	Shumbashaba	Shumbashaba horse facility in Diepsloot
Phase 4 QUAN data collection	Writing activity	Week 10	Shumbashaba	Shumbashaba horse facility in Diepsloot
Phase 5 QUAN data collection	Post - test Ryff scale of psychological well being	Week 11	Shumbashaba & Researcher	Shumbashaba to determine venue in Diepsloot
Phase 6 Data Analysis	QUAL - SPSS Version 23®	Week 12 - Week 14	Researcher	UP / Home of researcher
	QUAN - Inductive thematic analysis	Week 15- Week 17	Researcher + multiple coders = peer + supervisor	UP / Home of researcher
Phase 7 Data Integration & interpretation	QUAL + QUAN	Week 18 - Week 20	Researcher	UP / Home of researcher
Phase 8 Final Results and Conclusion	Write up of Results and Conclusion	Week 21 - Week 23	Researcher	UP / Home of researcher
Phase 9 Storage of data	Prepare data for storing & place in storage	Before end of 2017	Researcher	UP Humanities HSB 11-24
Phase 10 Wait list group begin EAGALA intervention	Facilitation of Logos Equus	Term 3 of 2017	Shumbashaba	Shumbashaba horse facility in Diepsloot
Notes:				
1	Shumbashaba Community Trust will appoint a research assistant who will be responsible for communicating with the primary researcher, the participants and the facilitators of the EAGALA intervention			
2	The research assistant will distribute research information letters to all potential participants and arrange for the primary researcher to conduct information giving meeting with participants and parents or guardians. Research assistant will collect signed informed assent and consent forms and return to the researcher			
3	Research assistant will randomly assign participants to control and experimental groups			
4	Shumbashaba Community Trust will be responsible for arranging the return transport of the participants from Diepsloot to the Shumbashaba horse facility. Shumbashaba will also be responsible for providing participants with lunch on the days of the Logos Equus intervention.			

APPENDIX 5: EAGALA CODE OF ETHICS



EAGALA
PO Box 993
Santaquin, Utah 84655
www.eagala.org

EAGALA CODE OF ETHICS

This code serves as a standard of ethics and professionalism for all associates of the Equine Assisted Growth and Learning Association and for the field of Equine Assisted Psychotherapy and Learning. The code delineates basic philosophies to guide professional practitioners in the conduct of business and practice. High standards of ethics and professionalism are established to instill confidence in clients, professionals, and their communities. The ethics code is based on the fundamental values of overall safety and well-being of clients, foremost above all other considerations.

Ethical decisions and conduct should be consistent in the letter and spirit of the code. Failure to act in accordance with the code may result in loss of association or certification with EAGALA. It is our quest to build the emerging fields of Equine Assisted Psychotherapy and Learning as a valid, professional, safe, and respected instrument for growth and learning. It is therefore required that all practitioners maintain the utmost standards of ethics, professionalism, and integrity.

1. The EAGALA associate will provide the highest quality of service and care in supporting and assisting clients in personal growth and learning.
2. The EAGALA associate will respect and honor the value and dignity of all and protect the safety, welfare, and best interests of clients and horses.
3. The EAGALA associate will always consider physical and emotional safety concerns. This includes safety utilizing horses and the maintenance of a safe facility. Therapeutic and learning approaches are to be implemented in a respectful manner, maintaining the privacy and rights of confidentiality of all clients, and never abusing power through sexual or inappropriate relationships with clients.
4. The EAGALA associate will continually evaluate the progress of clients and will promptly refer them to other professional services if and when this is in the best interest of the client.
5. The EAGALA associate will treat other associates and professionals courteously and respect their views, ideas, and opinions.
6. The EAGALA associate will share information, experiences, and ideas that will benefit, strengthen, and improve the effectiveness of Equine Assisted Psychotherapy and Learning.
7. The EAGALA associate will regularly evaluate his/her own professional strengths and limitations and will seek to improve self and profession through ongoing education and training.
8. The EAGALA associate will not misrepresent by claiming or implying professional qualifications, education, experience, or affiliations not possessed by the associate.
9. The EAGALA associate will follow all state/country laws and guidelines pertaining to the scope of his/her practice and limitations of business.
10. The EAGALA associate will not participate in, condone or be associated with dishonesty, fraud, deceit, illegal activities, or misrepresentation.
11. The EAGALA associate will not engage in personal conduct which adversely affects the quality of professional services rendered or cause harm to the reputation of the profession.
12. The EAGALA associate will maintain the highest standards of professional integrity.