AN EVALUATION OF THE IMPACT OF A MENTORING PROGRAMME IN TWO SOWETO BASED SCHOOLS

By

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DECLARATION

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I declare that “AN EVALUATION OF THE IMPACT OF A MENTORING PROGRAMME IN TWO SOWETO BASED SCHOOLS” is my own work and that all sources I have used or quoted have been indicated and acknowledged by means of complete references. I further declare that I have not previously submitted this work, or part of it, for examination at UNISA for another qualification or at any other higher education institution.

___________________________  __________________________
(Sarah Kadzomba)  Date
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LIST OF ABBREVIATIONS

ADM ................................................................. Assessment Data Manager
ASEBA ........................................................... Achenbach System of Empirically Based Assessment
CBC ................................................................. Child Behaviour Check List
ERF ................................................................. Educhange Research Foundation
MKO .............................................................. More Knowledgeable Others
TRF ................................................................. Teacher Report Form
YSR ................................................................. Youth Self Report
NC ................................................................. Not Computed
Abstract

There is increasing reliance on youth mentoring in South Africa to help the young person better negotiate life’s difficulties. Within the framework of Social Cognitive and Social Learning theories, mentoring is viewed as a learning process in which modelling, scaffolding and cooperative dialogue are key to behavioural change and improved academic performance. However, little research has assessed the efficacy of South African mentoring programmes.

This study aimed to examine the effect of the Educhange Research Foundation mentorship programme on the behaviour and academic performance of mentees over a six (6) month period. Mentees in Grades 9 to 12 (n = 18), parents/guardians (n = 18), and mentors (n=19) participated in the study. Parents/guardians reported significantly decreased numbers of behavioural problems (Z = -2.087, p = .037) amongst mentees but academic performance fell significantly (Z-3.661, p=.000). The variability in reports of behavioural change is accounted for by using Social Cognitive and Social Learning constructs including the conditions under which modelling took place as well as expectancy bias and the quality of cooperative dialogue.

Key words

Mentor, Mentee, Protégé, Mentoring, Mentorship, Programme Evaluation, Academic Performance, Behavioural Problem, Adaptive Functioning, Competence
Chapter 1: Introduction

This study focussed on a mentorship programme that is offered to students who reside in a historically disadvantaged community as a means of narrowing the gap (resource availability) between these students and their counterparts in more affluent settings. The aim of this study was to evaluate the impact of mentoring on the students' behaviour and academic outcomes.

Mentoring can be perceived as a helping process (Caruso, 1990); a teaching-learning process (Ardery, 1990); an intentional structural, nurturing, insightful process that develops in stages or rhythms (Roberts, 2000). The principal aim of mentorship programmes is to help participants cope with and manage social norms and expectations, more effectively (DuBois & Karcher, 2005). Mentoring is learning-centred and progresses at a rate determined by the mentor and the mentee (Mentor, 2006).

Within the South African context, formal mentoring programmes have become catalysts for the growth and development of junior employees and people from historically disadvantaged groups (Young & Perrewe, 2004). Students in underdeveloped urban areas could be an example of a specialist group that may benefit from mentorship programmes because they come from a disadvantaged background (Keating, Tomishima, Foster & Alessandri, 2002).

One aspect in which a student from a specialist group could benefit from a mentorship programme is positively increased patterns of behaviour. Patterns of behaviour are acquired and their manifestations are constantly regulated by the interplay between self-
generated and outside sources of influence (Ebel, 1977). Therefore, behaviour both
influences and is influenced by personality and environment, and these two factors
influence each other. The result could be an improvement in various aspects of
behaviour, emotion and cognition. A study by Jekielek, Moore, Hair and Scarupa (2002)
indicates that mentoring enhances cognitive development, self-reliance, social and
emotional development, and judgment and decision-making capabilities. A meta-
analytic study of over 50 evaluations of mentorship programmes found evidence of
benefits for participating youth on a range of emotional, behavioural, social, academic
and career development outcomes (DuBois, Holloway, Valentine & Cooper, 2002). The
growth of the Big Brothers/Big Sisters of America programme and the emergence of
new mentoring agencies are cited as an indication that the value of youth mentoring is
being recognised as crucial to young people’s short and long-term academic successes
and quality of life (DuBois, Holloway, Valentine & Cooper, 2002).

The rest of this chapter provides the background to the study, in which the social and
historical context is described. This is followed by the problem statement, a description
of the mentorship programme evaluated in the study, the research questions and a
summary of the significance of the study. The chapter concludes with a brief description
of each chapter of this dissertation.

1.1 Background

Mentorship programmes, in South Africa, stem from a need that has been generated by
a societal background of a historical system of governance which was characterised by
exclusionary policies implemented by the apartheid government (Badat & Sayed, 2014;
Ndimande, 2012). During the apartheid era there were patterns of systemic inclusion and exclusion and marginalisation of institutions, social classes and specific groups (Fiske & Ladd, 2004). The system of apartheid, which governed prior to 1994, had been designed to enforce racially-based inequality in spatial, social and economic terms (Badat & Sayed, 2014; Goodlad, 1998; Mudzielwana & Maphosa, 2013; Ndimande, 2012). People were confined to selected areas within urban areas based on racial grounds which was implemented through the Group Areas Act (Nel & Binns, 1999). The educational provision within these designated areas closely reflected the entrenched spatial divisions and the obvious bias in facilities and financial expenditure towards schools for white scholars (Ashley-Cooper, & Atmore, 2013; Jansen & Amsterdam, 2006; Nel & Binns, 1999).

The differential education expenditure according to racial group was a defining pillar in the architecture of apartheid (Branson, Kekana & Lam, 2013; Jansen & Amsterdam, 2006; Ndimande, 2006). This was characterised by uneven distribution of material and human resources, with institutions intended for white scholars being better resourced than those intended for black scholars (Archer & Newfield, 2014; Motala, 2006; Ndimande, 2012). As late as 1991, the government per capita expenditure on black scholars was only 28 % of that spent on white scholars (Fiske & Ladd, 2004; Lemon, 1995; Mather & Paterson, 1995). The educational differences between racial groups were further magnified by average class sizes – which were up to three times greater for blacks than whites (Lemon, 1995). One of the consequences of the inequalities described above was the drastic differences in performance levels attained by scholars in their final school-leaving certificates (Ndimande, 2012; Nel, 1997). Pass rates of less
than 50% were common in black schools, compared with the pass rates in white schools which were frequently in excess of 90% (these white schools were also known as Model C schools) (Nel & Binns, 1999).

Education for black scholars within the apartheid system acquired the additional stigma of being so-called 'Bantu (or Black) education' (Ndimande, 2012; Nel & Binns, 1999). This referred to an inferior education system; one geared towards producing a proletarian class at a low cost to the apartheid state (Kallaway 2002; Motala & Vally, 2002; Ndimande, 2012; Nel & Binns, 1999). The difference in systems of education further entrenched racially-based inequalities in education and broader society in general (Hale, 2010; Nel, 1997).

Since 1994, much effort has been made to redress the educational inequalities of the apartheid past (Archer & Newfield 2014; Ashley-Cooper & Atmore, 2013) and to offer equal educational opportunities to all (Branson, Kekana, & Lam, 2013; Demombynes & Ozler, 2005, Nel & Binns, 1999). However, consequences of the legacy of the apartheid system remain apparent in the education system (Archer & Howie, 2013). The experiences of the apartheid era still bare consequences in the township schools which, due to politicisation since the 1980s, are characterised by the so-called 'boycott culture' and, in many cases, are effectively dominated by their local Student Representative Councils (Mampane & Bouwer, 2011; Nel & Binns, 1999; Zulu, Urbani, Van der Merwe & Van der Walt, 2004). The so-called 'boycott culture' has created an undesirable legacy of scholar and teacher non-attendance, boycotts and political power-play between scholars and staff in schools, resulting in demoralised staff and undereducated
scholars, many of whom miss out on large portions of the teaching year (Archer & Howie, 2013; Mouton, 2013; Ndimande, 2012; Nel & Binns, 1999).

Another consequence of the apartheid era is the continuing inequality in school facilities. Schools in former white areas have inherited significantly better facilities than black schools in terms of buildings, grounds, educational equipment, materials and sports provision (Archer & Newfield, 2014; Motala, 2006; Ndimande, 2012; Nel, 1997). Based on official data extracted from the National Department of Basic Education, only 2.1% of students in South Africa were enrolled in former model C schools in 2000 (Fiske & Ladd, 2004). The Western Cape and Gauteng, the wealthier provinces, had higher percentages than the other provinces and the number of students enrolled increased in these provinces between 1995 and 2000 – indicative of how few learners were admitted into schools with better facilities (Fiske & Ladd, 2004; Westaway, 2015).

Administratively, white schools had efficient governing bodies, a feature which, until the 1996 Schools Act, had effectively been foreign to black schools (Fiske & Ladd, 2004; Ndimande, 2012; Nel, 1997). A governing body of a public school is tasked with taking reasonable measures within its means to supplement the resources that are supplied by the State to improve the quality of education provided by the school to all its learners (Bhorat & Oosthuizen, 2008). Given the low socio-economic status of the people who reside in historically disadvantaged communities, meaningful provision beyond what the State offers might not be possible (Amoateng & Richter, 2007; Ndimande, 2006; Ndimande, 2012).
Given the challenges of post-apartheid education, scholars attending historically black schools may still be in an environment that is not conducive to teaching and learning (Ndimande, 2012). Therefore, intervention by way of mentoring may help bridge the gap between them and their counterparts who are being schooled in former model C schools (Badat & Sayed, 2011).

Despite changes in terms of policy, little has changed on the ground for South African children who still attend schools in the racially segregated townships (Amoateng & Richter, 2007; Ndimande, 2012; Smyth, 2002). Educational achievement after the demise of apartheid remains persistently unbalanced (Archer & Newfield, 2014). Many students still attend schools that are overcrowded and under-resourced in terms of finances, material and human resources (Bhorat & Oosthuizen, 2008; Fiske & Ladd, 2004; Ndimande, 2012). Twenty-one years after the formal end to apartheid, formally desegregated schooling appears to have given way to class-based education. Disparities, inequalities and poor academic performance are key features of the contemporary educational order (Archer & Howie, 2013; Badat & Sayed, 2014).

1.2 Statement of the problem

In the United States, it is estimated that two and a half million youths are involved in formal one-on-one mentor-mentee relationships (Mentor, 2006). Much of the popularity of mentorship programmes stems from the belief that it has a considerably positive impact on the affected youths' lives (Rhodes, 2006).

The positive impact of mentorship programmes on the youth involved may include improved outcomes in education, mental health, and delayed involvement in risky
behaviour (DuBois & Silverthorn, 2005). Literature further suggests many other benefits to disadvantaged youth who are participating in formal mentoring programmes (Perez, 1999), such as: learning the potency of making a strong effort (Howard, 1990); becoming acquainted with the values and resources of adults from occupational and social environments that are very different to those the youth may be familiar with (Smink, 1990); and attaining greater self-confidence (Levinson 1978; Miller, 2002). Moreover, positive impact may be in the form of improved academic adjustment or being free from anxiety and depressive conditions (Bowman, 1991; Rhodes 1994).

However, there are conflicting results pertaining to the effectiveness of mentors being able to assist mentees develop positive outcomes (DuBois, Holloway, Valentine, & Cooper, 2002; Langhout, Rhodes, & Osborne, 2004; Rhodes, Grossman, & Resch, 2000; McPartland & Nettles, 1991). These varying results could be attributed to the fact that the mentoring movement is still in its infancy and that research in this field is relatively new (Rhodes, 2006). In particular, little is understood about how specific mentorship programmes set, achieve and evaluate outcomes (Rhodes, 2006). Different mentorship programmes have different goals, philosophies and structures, and programmes vary greatly, making comparison difficult (Philip, 2003). In addition, inconsistent and unclear goals and methods often make results difficult to substantiate (Gándara & Mejorado, 2005).

A strong criticism of the existing research on mentoring is that it is methodologically flawed and limited in its conclusions, relying exclusively on self-report data or using instruments that do not have adequate reliability and validity (Keating, et al., 2002). Prior research has also been limited by a lack of available data upon which to base
conclusions (Karcher, Kuperminc, Portwood, Sipe & Taylor, 2006). Furthermore, because of its multidisciplinary nature and applied interest in mentoring, reports have appeared in the literature of various disciplines while some organizations have published privately (Greene & Puetzer, 2002; Seashore, Louis, Dretzke & Wahlstrom, 2010). As Philip (2003) notes, not only is there a general absence of critical literature on mentorship programmes, but there is also little consensus concerning the definition and meaning of the concept of mentoring. Thus, while mentorship programmes are popular and plentiful, further research on their effectiveness with various youth populations is needed.

Limited literature is available on South African mentorship programmes and specifically on the evaluation or development of such programmes. The research that is available is mostly on the setting up of the programmes (Agumba & Fester, 2010; Page, Loots & Du Toit, 2005; Robinson, 2001), with focus on using mentoring as a tool for organisational development (Brudvig, 1999; Durrheim, 1999; Phasha, 2001) or with an emphasis on the mentoring relationship (Rosmarin, 1998).

It is against this background that further research is needed in order to better understand the potential impact mentoring can have on South African youth. Therefore, this study aimed at assessing the efficacy of the Educhange Research Foundation (ERF) mentorship programme; particularly its impact on young people’s behavioural and academic development as well as factors that significantly affect the impact of the programme on the youth. By doing so, this study may enable the improvement of the delivery strategies applied by current mentoring programmes.
1.3 Context of Study

This study took place in the context of formal mentoring. The ERF owns and runs the mentorship programme studied, in which learners in Grades 9-12 are connected with an adult mentor for a period of 12 months. However, data collection points were 6 months apart. For purposes of this study, the 6-month period will be referred to as the intervention period throughout this research study. The following sections provide an overview of the concepts of formal mentoring and the ERF context in which the study took place.

1.3.1 Formal mentoring context

The relationships that are cultivated through formal mentorship programmes have characteristics that set them apart from informal mentoring relationships, and may result in different functions and outcomes (Ragins & Cotton, 2000). Formal mentoring typically refers to a relationship that is facilitated and supported by an organisation (e.g. a college programme) and children are formally connected with adults (Rhodes, 2006). The type of formal mentoring employed by the ERF is called field-based mentoring (Karcher, et al., 2006). Field-based mentoring refers to programmes in which a sponsoring agency coordinates and supports mentor–mentee matches; it offers the greatest freedom for mentors and mentees to discover shared interests and to explore a range of educational and recreational opportunities (Karcher, et al., 2006).
1.3.2 The ERF

The current study took place within the ERF. The ERF is a non-profit organisation that was established in response to the general crisis that has emerged in the South African public schooling system and the academic difficulties that learners have to cope with. The ERF seeks to be part of all attempts geared towards developing long lasting solutions characterised by improved learning and teaching, revised policy, and improved resourcing of schools (The ERF, 2012). This is achieved through pragmatic involvement at school level with focus on township schools. The ERF’s involvement in facilitating change in schools is conducted through a scholarship programme that has a financial component, and the psycho-social support provided through the mentorship programme. The mentoring programme recruits young professionals, university students or entrepreneurs who are willing to volunteer their time and skills to mentor the learners selected into the scholarship programme (The ERF, 2012). These mentors provide learners with personal attention, while assisting them in the development of their aptitude in English, Mathematics, Accounting, Biology (or Natural Sciences) and the Physical Sciences (ERF, 2013). While the tuition role is critical, it is not the only role the mentors play in the lives of the learners: mentors are also required to teach the learners study skills, aid them in developing learning strategies and provide them with general social support (ERF, 2013). The mentors are meant to be positive role models for the learners and are expected to display professional, moral and empathic behaviour toward the learners and each other (ERF, 2013). Through the mentorship programme the ERF aims to demonstrate to the learners that it is possible to overcome their socio-economic circumstances and achieve success (ERF, 2013).
This particular organisation was selected because it is geared towards generating innovative ideas and tools for improving the quality of education as well as equitable distribution of opportunities and resources to previously disadvantaged communities. With a teaching background, I experienced the challenges children and teachers face in such settings first-hand as a result of being in an education system that was formally biased towards a minority group. In addition there was a pre-existing community engagement relationship between the ERF and Unisa, which facilitated access to the organisation and a link to my supervisor.

There have been attempts to evaluate the effects of mentorship programmes on young people (Allen, 2003; Allen, Eby, Poteet, Lenz, & Lima, 2004; Dappen & Isernhagen, 2006; DuBois & Silverthorn, 2005; Eby, de Tormes, Allen, Hoffman, Baranik, Sauer, Baldwin, Morrison, Kinkade, Maher, Curtis, Evans, 2013; Eby, Allen, Evans, Ng & DuBois, 2008; Keating et al., 2002; Keller, 2007; Klasen & Clutterbuck, 2002; Masten, Best & Garmezy, 1990; Ragins & Cotton, 2000; Scandura & Williams, 2002; Tierney & Grossman 1995). Even with these studies to guide the process, it is important to evaluate the impact of each individual programme on its target in terms of its goals because the programmes that work in one area or with one population of at-risk adolescents may not be successful under other circumstances (Armitage, 2003). This study contributes to the process of improving mentorship programmes by evaluating the ERF mentorship programme within the specific context in which it operates.
1.4 Aim, research questions and hypotheses

The aim of the study was to investigate the effect mentorship has on high school learners’ academic performance and behaviour. The following research questions were raised:

1. What is the difference in the mentees’ behaviour and academic performance scores before and 6 months into mentoring?

The preceding research question is unpacked into the following sub-questions:

1. What changes are noted in behaviour problems of participants after 6 months in the mentorship programme?

2. What impact does the ERF Mentoring Programme have on high school learners’ adaptive functioning and competence?

3. How does participants’ academic performance change after 6 months in the mentorship programme?

Based on the research questions, the hypotheses are:

- Null hypothesis 1 Behaviour (Domains): ERF mentees’ behavioural problems scores pre-test will not differ from scores post-test ($H_0$: Median difference $= 0$).
- Alternative hypothesis: Participants’ behavioural problems pre-test and post-test scores will differ significantly ($H_1$: Median difference $\neq 0$; $\alpha=0.05$)
• Null hypothesis: Competence scores pre-test will not differ from scores post-test (H₀: Median difference = 0).

• Alternative hypothesis: Competence pre-test and post-test scores will differ significantly (H₁: Median difference ≠ 0; α=0.05)

• Null hypothesis: Adaptive functioning scores pre-test will not differ from scores post-test (H₀: Median difference = 0).

• Alternative hypothesis: Adaptive functioning pre-test and post-test scores will differ significantly (H₁: Median difference ≠ 0; α=0.05)

Null hypothesis 2 Academic Performance: ERF mentees’ academic performance scores will not change over 6 months of mentoring (H₀: Median difference = 0)

• Alternative hypothesis: Academic performance pre-test and post-test scores will differ significantly (H₂: Median difference ≠ 0; α=0.05)

1.5 Significance of the study

The last few years have provided the field of education with a number of studies that have looked at the benefits of student mentorship (Allen & Day, 2002; Maughan, 2006; Underhill, 2005). This study is particularly significant, as it provides information to parents, educators and stakeholders involved in mentorship programmes for adolescent learners in Soweto, South Africa. Mentorship programmes are deemed most successful when they are designed to help develop the 'whole child' socially and academically (Da Costa, Klak & Schinke, 2000, p.14). Hence, learning how mentoring and mentorship
programmes affect behaviour will assist parents, educators and education departments in establishing better programmes, policies and approaches for the academic and behavioural development of vulnerable youth.

The study will add to the existing body of mentoring research by examining a population with little and conflicting existing research. The study will help identify what is beneficial in a mentoring relationship with youths and subsequently provide information that may assist mentorship programme designers to best address the needs of those affected. The complexity of the mentoring concept calls for close examination of the available literature.

1.6 Summary

The purpose of this chapter was to introduce the background to the study, the problem statement, the context of study, the aim, research questions and hypotheses as well as the significance of the study. The study is set against a backdrop of historical disadvantage where black schools and communities were deliberately discriminated against. The use of mentoring in this context is to address the access gaps to resources and social capital. Mixed results on the effect of mentoring on youth have been obtained with some studies finding positive impact while other have yielded negative results and others no change at all. Given these conflicting results, further investigation is desirable to better understand the possible impact of mentoring on youth. The study took place in an organisational setting as formal mentoring through which mentees are connected with mentors. The study aimed at investigating the effect mentorship has on high school learners’ academic performance and behaviour. To achieve this, questions of whether
or not behaviour and academic performance would change after participation in mentoring had to be explored. It was hypothesised that mentee behavioural scores pre-test would not differ from scores post-test and that academic performance scores would not change over the study period of six months. Given the complexity and scarcity of mentoring literature, it is believed that this study will add to the available mentoring research by examining a population with little and conflicting existing research.

1.7 Outline of the dissertation

In chapter two, the theoretical framework for mentoring will be explored. Two theories, the Social Learning Theory and Social Cognitive Theory proposed to explain mentoring will be discussed. This will be followed by a review of mentoring literature, the history and origin of mentoring, and mentorship along with relevant definitions in chapter 3. Chapter 4 describes the research and sampling procedures. Discussion of data collection methods and instruments are also constituted in this chapter. In addition, the instruments’ reliability and validity as well as data analysis procedures employed in the study are described. The chapter closes with some ethical considerations for the participants. The research results are presented in chapter 5. An overview of the findings and results of this research study is described first. The chapter proceeds to describe academic performance, each of the behaviour domains; behavioural problems, competence and adaptive functioning then presents analysis of the behaviour and academic performance data. Results of the data analysis and limitations to the study are discussed in chapter 6. The chapter closes by putting forward suggestions for future research. The proceeding chapter will explore the theories underpinning the mentoring
phenomenon and how the theories are applicable to mentoring in an educational context. This will be followed by further review of literature pertaining to mentoring.
Chapter 2: Theoretical framework

2.1. Introduction

Chapter two examines two of the theories and conceptual models that have been proposed to explain the mentoring phenomenon. Specifically, the chapter reviews the Social Learning Theory and Social Cognitive Theory to explain how mentoring is operationalised.

2.2. A Theoretical framework for mentoring

Mentoring is a growing phenomenon in practically all aspects of human service and enterprise (Allen & Eby, 2007b; Allen & Eby, 2010; Allen, Finkelstein & Poteet, 2009) but questions about whether it works by mere coincidence, why it works and what theoretical framework underpins its action arise. The Social Learning and Social Cognitive theories have been applied as frameworks to evaluate and explain the effectiveness of mentorship programmes (Akers & Jennings, 2009; Haynes, 2004).

The Social Learning and Social Cognitive theories have contributed to our understanding of how social contexts and social interactions impact knowledge acquisition, attitude change and perceptions (Bandura, 1989; Merriam & Caffarella, 1999; Vygotsky, 1978). These theories indicate that by investigating the learning process in specific developmental contexts and related relationships in learning situations, researchers can gain insights into the mechanisms that are responsible for successful mentoring (Allen & Eby, 2007b; Kozulin, Gindis, Ageyev & Miller, 2003). A
critical examination of the theories is provided hereafter in an effort to explain their relevance to this study.

2.2.1 Social learning theory

The mentoring relationship between the mentor and mentee can be explored through the prominent learning philosophy of social learning. According to Bandura (1977), the Social Learning Theory seeks to explain how patterns of behaviour are acquired and how their expression is continuously regulated by the interplay between self-generated and external sources of influence. Morrison, Ross and Kemp (2007, p.349) suggest that learning is the result of an external event or process – learning is brought about by stimuli outside the person. In the relationship between the mentor and mentee, for example, the assumption is made that the mentee lacks certain knowledge and behaviours necessary to perform a task. The mentee therefore learns by observing the mentor who functions as the stimulus to bring about the learning. Moreover, Ebel (1977) posits that behaviour both influences and is influenced by personality and environment, and that these two influence each other. This simply suggests that the social context is the environment within which behaviour is observed or changed and that the personalities of both the mentor and the mentee influence the context.

Learning that takes place within a social context and that is influenced by the personalities of both mentor and mentee may be referred to as social learning. As such, mentoring, as a form of social learning, is investigated in terms of how the behaviour is acquired (Bandura, 1977) through modelling and how this behaviour is maintained (e.g. by rewarding acceptable behaviour and / or punishing undesired behaviour). In the ERF
mentoring programme protégé behaviour is rewarded at the end of each term through the awards system which is based on the Social Learning Theory (ERF, 2013). Hezlett (2005) concurs as she noted that individuals learn by observing the consequences others experience as a result of their behaviours, and protégés may speed up their learning through observing their mentors' behaviours and through the reinforcements or punishments that stem from mentors' behaviours.

The potential of an effective mentor’s influence on the behaviour of a protégé is readily apparent and coalesce with the Social Learning Theory to form an analytical lens through which to view the impact of the mentoring relationship on a mentee. From the foregoing discussion, modelling appears to be central to the Social Learning Theory and the theory can further be explored by reviewing the Social Cognitive Theory. Modelling will be discussed and the Social Cognitive Theory will also be explored in the next section.

**2.2.1.1 Modelling Behaviour**

A key aspect of the Social Learning Theory is that of modelling. A model is a pattern or example that is set for a student to illustrate how he or she should or could behave – i.e., observational learning (Bandura, 1977; Kahle-Piasecki, 2011). The mentor is therefore expected to play the role of the model in the relationship environment and the mentee learns by observing the mentor.

Children repeatedly observe and learn standards and behaviour patterns, not only from their parents but also from their siblings, peers and other adults (Kahle-Piasecki, 2011). After observation, performance may follow, developing a pattern of behaviour different
from the original model (Bahn, 2001). Modelling is considered a powerful means of transmitting values, attitudes and even patterns of thought and behaviour (Bandura, 1977; Gelman, 2009). This sort of imitative learning is highly likely to occur when the role model (i.e. mentor) is relevant, credible and knowledgeable, and if the behaviour is rewarded by others (Eby, Lockwood & Butts, 2005).

Furthermore, when applying the principles of social learning to mentoring, one can suggest that if the mentor is admired and bares similarities to the mentee, maybe in work ethic, career interests and educational background, the mentee is more likely to adopt the mentor’s behaviours, especially if the mentee notices that the mentor’s behaviour is met with positive results that the mentee wants to achieve. While a positive mentoring relationship for the mentee may be perceived if the mentor exhibits positive behaviour, the theory could also generate negative results. For instance, if the mentor exhibits unethical behaviour and the mentee observes this, yet the mentor continues to achieve positive outcomes and praise from within an organisation, the mentee could adopt the same unethical behaviour, as there are no negative consequences. It has been argued, however, that the latter is rare (Kahle-Piasecki, 2011).

The presence of appropriate role models and sources of positive identification in young people’s environments may reduce the likelihood of their involvement in unbecoming behaviour (Lipschitz-Elhawi & Itzhaky, 2005) and contribute to resiliency (Barrow, Armstrong, Vargo & Boothroyd, 2007). Commenting on juvenile delinquency, Dannerbeck (2005) suggests that its development may be attributable to the lack of appropriate role models within a young person’s environment. On the other hand, mentors can influence youth positively in an effort to develop socially appropriate
behaviour and reduce delinquent behaviour (Dannerbeck, 2005). The Social Learning Theory contends that development is achieved through observing and modelling the behaviours and attitudes of others (Ormund, 1999). Social learning emphasises the importance of observing and modelling the behaviours, attitudes and emotional reactions of others (Kahle-Piasecki, 2011). The notion of role modelling is consistent with Bahn’s (2001) suggestion that substantial socialisation occurs in specially constructed learning environments. The expectation is that observing the model will impact the youth’s perceptions and understandings about the subject (Lefrancois, 1982), something that has been supported by research in face-to-face settings (Hill, Song & West, 2009).

Within social learning, modelling is viewed as an important aspect of internal mental processing and thought for influencing behaviour. Bandura (1977, p.22) expounds on this point in the following quote:

“Learning would be laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behaviour is learned observationally through modelling: from observing others one forms an idea of how new behaviours are performed, and on later occasions this coded information serves as a guide for action.”

Bandura (1977) proposed that such observational learning consists of four phases: (1) attention – learners pay attention to a model, usually someone they consider important; (2) retention – having observed the model, the learner must repeat the behaviour by mental rehearsal or practice to remember it; (3) production – extending initial attempts
to retain the behaviour, the learner now tries to replicate the model’s level of expertise; and (4) motivation – reinforcement is needed to sustain motivation to repeat the behaviour.

According to Kearsley (2008), the principles of social learning are that: (a) the highest level of observational learning is achieved by organising and rehearsing the modelled behaviour symbolically and then enacting it overtly; (b) individuals are more likely to adopt a modelled behaviour if it results in outcomes they value; and (c) individuals are more likely to adopt a modelled behaviour if the model is similar to the observer and has admired status. In the context of this study for instance, learners interact with mentors who have achieved a certain level of success academically and professionally. The learners observe, rehearse and organise the modelled behaviours of working hard and striving to achieve the highest level of success. Building on Kearsley (2008), the Vygotskian (1978) approach emphasises the importance of sociocultural forces in shaping the situation of a child’s development and learning, and points to the crucial roles played by parents, teachers, peers and the community in defining the types of interactions that take place between children and their environments. It may be necessary to take into account the sociocultural influence in the lives of the learners in this study, although these factors have not been directly studied here.

In summary, the Social Learning Theory states that people learn from one another through observational learning, imitation and modelling. The Social Learning Theory helps explain human behaviour in terms of continuous reciprocal interaction between cognitive, behavioural and environmental influences (Bandura, 1977; Brauer & Tittle, 2012). Bandura’s version of Social Learning Theory is unique in that it presents a
sophisticated take on behaviourism by adopting a truly cognitive-behaviourist approach that addresses the interaction between how we think and how we act (Bahn, 2001).

2.2.2 Social cognitive theory

The Social Cognitive Theory builds upon the Social Learning Theory and posits that knowledge acquisition could be directly related to observing others within the context of social interactions, experiences and outside media influences as active participants (Bandura, 1988; Williams & Snipper, 1990; Woolfolk, 2005; Vygotsky, 1978). In this regard what distinguishes Social Cognitive Theory from the Social Learning Theory is that knowledge is constructed while individuals are engaging in activities, receiving feedback and participating in other forms of human interaction in public, social contexts (Henning, 2004). This theory further evolves with the suggestion that, if there is a close identification between the observer and the model and if the observer has a good deal of self-efficacy, learning will most likely occur (Bandura, 1989). Identification allows the observer to feel a one-to-one connection with the individual being imitated and the observer will be more likely to achieve those imitations if he or she feels that he or she has the ability to follow through with the imitated action (Bandura, 1988). The characteristics of Social Cognitive Theory are inherent within an effective mentoring relationship, which looks to match protégé and mentor based on similar interests and backgrounds.

The Social Cognitive Theory uses a model of causation involving triadic determinism (De Wolff, Drenth & Henk, 2013). Further expounding on this model, Bandura (1989) explains that the three determining factors: (a) behaviour; (b) cognition; and (c) other
personal factors, including environmental influences, all conspire to act as interacting determinisms that influence each other. Environmental influences therefore partly determine the types of behaviour that observers develop and activate (Bandura, 1989; Latham, Millma & Miedema, 2013). Many of these determinants include age-graded social influences that are provided by custom within familial, educational and other institutional systems (Bandura, 1989).

The role of the mentor and the willingness of the mentee are crucial in the context of mentorship (Crow, 2001). According to Crow (2001), mentors are responsible for creating a climate in which learning is valued and mentoring is a communal responsibility. Therefore, mentoring can be viewed as a form of social learning. What makes mentoring important is the fact that it facilitates reciprocal determinism, making it possible for both the mentor and mentee to learn from each other through, inter alia, modelling (Ebel, 1977).

Social resources are particularly important during formative years of development when preferences and personal standards are in a state of flux, and there are many conflicting sources of influence with which to contend (Bandura, 1989). The Social Cognitive Theory suggests that developing adolescents need social supports to offer incentive, meaning and worth to what they do (Bandura, 1988; Lent, Brown & Hackett, 1994). Those individuals that feature predominantly in children’s lives serve as indispensable sources of knowledge that contribute to what and how children think (Bandura, 1988; Hilmert, Kulik & Christenfeld, 2006). Guided instruction and modelling that effectively convey abstract rules of reasoning promote cognitive development in children (Bandura, 1988). Socially guided learning also encourages self-directed learning by providing
children with the conceptual tools needed to gain new knowledge and to deal intelligently with the varied situations they encounter in their everyday lives (Bandura, 1989; Lent & Brown, 2006).

Thus, Social Cognitive Theory helps explain humans’ advanced capacity for observational learning that enables them to expand their knowledge and skills on the basis of information conveyed through modelling influences. Bandura (1989) suggests that schools represent the places where children develop cognitive competencies and acquire the knowledge and problem-solving skills essential for participating effectively in society. Bandura (1989) further states that, in Social Cognitive Theory, the adoption of values, standards and attributes is governed by a much broader and dynamic social reality. Juxtaposed with this theory is the belief that people tend to select activities and associates from the varying range of possibilities in terms of their acquired preference competencies (Bandura, 1989). Put differently, people may be selective in how they express themselves socially. The same conduct may, therefore, produce varied effects depending on when and where it is performed and those toward whom it is directed.

Furthermore, Vygotsky’s (1978) theory of cognitive development states that mental functions that are beyond an individual’s current level must be performed in collaboration with other people before they are achieved independently. This is known as scaffolding, another important feature of this theory (Fieldman, 2008; The Vygotsky Project, 2005). The concept of scaffolding along with apprenticeship grew out of Vygotsky’s original meditational model, which stipulates that the development of a child’s higher mental processes depends on the presence of mediating agents in the child’s interaction with the environment (Kozulin, et al., 2003; Wood, 1999). However,
Vygotsky himself primarily emphasised symbolic tools – mediators – appropriated by children in the context of particular sociocultural activities, formal education being what he considers the most important (Kozulin, et al., 2003).

In education, scaffolding is symbolic of a structure that is put in place to help learners reach their goals and is removed bit by bit as it is no longer needed; much like a physical scaffold is placed around a building that is under construction and removed as the building nears completion (McLoughlin, 2002). Whereas some believe this is an appropriate metaphor for providing support during instruction that can be removed as the learner no longer needs it, Brown, Collins and Duguid (1989) and Duffy and Cunningham (1996, p. 183) find this metaphor “unfortunate” because “it suggests a guiding and teaching of the learner toward some well-defined (structural) end” and is teacher-centred. In practice, however, scaffolding is a learner-centred strategy whose success is dependent on its adaptability to the learner’s needs. Additionally, scaffolding is much more than physical support in a learning context, addressing student learning of concepts, procedures, strategies and metacognitive skills (McLoughlin, 2002).

Scaffolding has been described as either directive or supportive, depending on where the impetus for the support originates (Lenski & Nierstheimer, 2002). Directive scaffolding is part of a more teacher-centred approach in which the instructor devises skills and strategies to teach specified content (Lenski & Nierstheimer, 2002). Supportive scaffolding, in contrast, is learner-centred and occurs as the learner co-constructs knowledge with others (Lenski & Nierstheimer, 2002). In practice, the former may be manifest as a teacher providing learners with strategies that have been employed by successful students, whereas the latter would involve instruction tailored to
specific learner needs based on current ability and interest (Lenski & Nierstheimer, 2002). Mentoring can therefore be equated to supportive scaffolding and occurs as mentees co-construct knowledge with their mentors.

Rogoff (1990) discusses scaffolding in terms of adult structure of children’s learning activities. Adults provide children with metacognitive support by breaking down tasks from those that are beyond the child (learner’s) abilities into smaller, more manageable ones that are within the child’s grasp (Rogoff, 1990). Within this method it is important to ensure that the learner’s participation is still meaningful and clearly contributes to the overall goal; tasks should not be broken down and segmented to the extent that learners no longer feel like participants in the overall process or cannot see how their work contributes to the end result (Rogoff, 1990). The mentor (instructor) becomes a supportive tool for the learner and the characteristics of an ideal mentor are those of a scaffold: providing support; functioning as a tool; extending the range of the worker; allowing accomplishing a task otherwise impossible and using it selectively, when needed (The Vygotsky Project, 2005). For example, a learner who wants to become an engineer will be guided from subject choice, through exam preparation to obtaining good grades that enable them to enrol at a tertiary institution to study engineering. This progression of different levels of help is scaffolding, a support for construction of new material (the skill/information to be learnt) and then removed once the building is complete (the skill/information has been learnt).

The results of learning through mediation (scaffolding) include learners having heightened awareness of their own mental abilities and more control over their thought processes (Ormrod, 2004). Supported exploration through social and cognitive
interaction with someone more experienced in relation to a task with a level of difficulty within the mentee’s ‘zone of proximal development’, remains a theoretical cornerstone of mentor assisted learning (Goodlad, 1998). Thus, using the rationale of Vygotsky’s (1978) mediation of the more knowledgeable other (MKO), one could predict mentorship having a positive impact on youth’s academic and behavioural outcomes in this study.

Despite scaffolding and mentoring not being equivalent constructs, scaffolding may represent some level of interaction experienced during the mentoring activity (Bearman, Blake-Beard, Hunt & Crosby, 2007; Dennen, 2004). However, in mentoring, scaffolding occurs as mentee and mentor develop a shared mental process that over time allows the mentee to integrate the mentor’s cognitive structure into his or her own (Bearman, et al., 2007). As a result of sharing of vocabulary, conceptual structures and common practices, according to Rogoff (1990), mentees begin to see the world in a way that is consistent with the domain in which they are being mentored.

Mentorship programmes initiated within an educational context and which employ the strategies of an effective mentorship programme have the potential to greatly influence the behaviour and academic performance of mentees as described by the Social Cognitive Theory (Underhill, 2005). Social Cognitive Theory helps explain why some school-based mentorship programmes may have been successful in promoting career awareness and advancement (Underhill, 2005).

According to Vygotsky (1978) social interaction and cooperative dialogues between children and more knowledgeable others or members of society play a fundamental role in children acquiring ways of thinking and behaviour. According to him adults and MKO
help children master culturally meaningful activities (Berk, 2003; Vygotsky, 1978). In other words, children learn primarily by attempting to model someone who is more competent than themselves (Ormrod, 2008). Learning is therefore viewed as a process that occurs through social interaction with a more competent other during participation in culturally meaningful, productive activities (Rueda & Monzo, 2000). Learning and knowing are shaped by the kinds of interactions a student has with others, and the context within which these interactions occur. Furthermore, the length of these interactions may be short and brief or long and sustained (Hill, Song & West, 2009). In the context of this study the MKO are young professionals, university students or entrepreneurs who are willing to volunteer their time and skills to tutor the learners selected into the mentorship programme.

2.3. Summary

This chapter focussed on the Social Learning Theory and Social Cognitive Theory, two of the theories that have been proposed to explain the mentoring phenomenon. From the discussion, learning occurs by observing other people, which is the essence of the Social Learning Theory. Learners (mentees) learn and acquire practical skills from mentors through instruction and observation. In other words, mentoring as a practice of social learning is investigated in terms of how behaviour is acquired through modelling and how this behaviour is sustained. The Social Cognitive Theory expounds upon the Social Learning Theory and suggests that knowledge can be acquired through directly observing others. Central to the Social Cognitive Theory is scaffolding, an important feature of the theory that constitutes execution of mental functions that are beyond an individual’s current level in partnership with other people before they are achieved
independently. In concluding the examination of Social Learning Theory and Social Cognitive Theory it is beneficial to review the following quote provided by Bandura (1989, p.75):

“Humans have an unparalleled capability to become many things. The qualities that are cultivated and the life paths that realistically become open to them are partly determined by the nature of the cultural agencies to which their development is entrusted. Social systems that cultivate generalisable competencies, create opportunity structures, provide aidful resources, and allow room for self-directedness, increase the chances that people will realize what they wish to become.”

The preceding quote helps illuminate the importance of social systems and cultural influences on the decision-making ability of individuals. As the researcher aims to examine the impact mentorship programmes may have on the behaviour and academic performance of learners, it is essential that the researcher consider Social Learning Theory and Social Cognitive Theory as frameworks underpinning mentoring. Their emphasis on social interaction, environmental influences, and modelled behaviour are useful in helping to explore behaviour and academic performance changes post-intervention. From the above discussion on the nature and purpose of mentoring, the researcher argues that there is a link between mentoring and social learning. This link is reflected in the fact that mentoring is an intentional process designed to support the process of self-learning and learning through self-actualisation. What follows is a review of the literature concerning mentoring and related activities, challenges to mentoring as well as evaluation of mentorship programmes.
Chapter 3: Literature review

This chapter reviews the literature pertaining to mentoring – approaches to, models of and challenges to mentoring as well as assessment of mentorship programmes. In an effort to provide a conceptual rationale of mentoring and mentorship, a brief overview pertaining to the history and origin of mentoring and mentorship is provided along with relevant definitions.

3.1 History and origin of mentoring and mentorship

In both professional and popular literature, mentoring has earned the reputation of being a panacea for all developmental relationship ills, professional development and career advancement (Colwill, 1990; Jowers & Herr, 1990). Although numerous studies have provided conclusions that mentoring creates success in career advancement, these conclusions are not substantiated by comparative and experimental studies (Underhill, 2005). Despite this methodological mishap, the field still experienced an influx of scholarly literature pertaining to the benefits of mentorship. It has been reported that during the 1990s, some 500 articles were published in popular and academic journals about the study and benefits of mentorship (Hansman, 2002).

There is an intuitive belief that, not only does everyone who makes it have a mentor, but everyone needs a mentor, from marginalised elementary school children to professors and Fortune 500 CEOs (Allen & Eby, 2007b; Mertz, 2004). Mentoring has also made its way into popular culture; it is depicted in sitcoms, reality television shows, and features in media stories (Allen & Eby, 2010). Despite long standing interest in mentoring as a means to influence children’s lives, a solid theory and empirical literature addressing
important issues involved in youth mentoring has only recently begun to emerge (Allen & Eby, 2010).

Within the context of this study, mentoring involves regular dyadic meetings between a young person and a mature person who provides guidance, support, attention and caring over an extended period of time, as suggested by Karcher (2005). The ERF Mentoring Programme aims to facilitate the secure attachment of a young person to an individual who easily transitions from one stage of life to another and prompts adaptation (Karcher, 2005). According to Zimmerman, Bigenheimer and Notaro (2002), young people thus often attribute their safe passage through the tumultuous years of adolescence to the influence of significant non-parental adults (or MKOs), such as teachers, extended family members or neighbours, who play a vital role in adolescent development (Levinson, 1978). Mentoring has therefore emerged as the prime form of assistance, rooted in a helping relationship that provides visiting, guiding and counselling (Savickas, 2007).

3.2 Definition of terms

Mentoring is used both contextually and inconsistently to describe a wide range of relationships resulting in a conundrum in which researchers themselves are unable to agree on who or what a mentor is (Allen & Eby, 2007b). As a result many definitions abound. The different fields in which mentoring occurs have different goals and methods by which they define a mentoring relationship and it is for this reason that a universal definition is unattainable (Crisp & Cruz, 2009; Kartje, 1996). Definitions are socially constructed and contextually bound, and it is important to find a definition that
will be most appropriate for a specific study (McKimm, Jollie & Hatter, 2007). The researcher must therefore define mentoring within the field and context the study is being developed and in a way that adequately encompasses the context within which the study is set. A number of definitions will now be considered and a working definition will be constructed.

### 3.2.1 Mentoring

Mentoring is derived from a Greek word that means enduring and as such can be defined as a one-to-one relationship between a pair of unrelated individuals, usually of different ages that is developmental in nature (Freedman, 1993). It is an intentional, nurturing process of interaction between at least two individuals that fosters the growth and development of the mentee (Kram, 1983). From Kram’s (1983) definition as a nurturing process, mentoring can also be defined as a sustained relationship between two people or between a youth and an adult. A youth can be defined as an adolescent and can be used in the context of this study to refer to the learner participants.

Much mentoring research has been related to work. Typically, one of the people in the relationship is more experienced than the other; and mentoring can be defined as an activity in which an individual with advanced knowledge/experience actively provides assistance and support to enhance the career development of one with less knowledge and experience (Niehoff, 2006). It is believed to be a personal helping relationship between a mentor and mentee/protégé that includes professional development and growth with varying degrees of support (Ehrich, Tennent & Hansford, 2004). Another definition is a process through which an experienced, highly regarded, empathic person
(the mentor) guides another individual (the mentee) in the development and re-examination of his/her own ideas, learning and personal and professional development (Ehrich, Tennent & Hansford, 2004). One aspect that clearly stands out as central to any mentoring process is that mentoring is essentially a learning process – “a particular mode of learning” (Smith, 2007, p. 278). The mentor, who often but not necessarily works in the same organisation or field as the mentee, achieves this mode of learning by listening and talking in confidence to the mentee (Oxley, 1998). In other words, mentoring is a professional relationship, support for professional development, personal support, a partnership lasting over a fixed time scale and a significant process during an individual’s life (Bould, 1996).

Mentoring is defined by Cook and Adonisi (1994) as the spontaneous development of a relationship between an older and wiser manager and a young and promising person. This definition does not explain the concept mentoring because it fails to highlight the events preceding the development of a relationship. Instead it suggests something occurring once a relationship has been established. The notion of spontaneity within the development of a relationship in the definition may not necessarily be the case. A closer look at an illustration of the origin of the term shows the relationship not to have been spontaneous. When Odysseus went to fight in the Trojan War he left his old and trusted friend (Mentor) in charge of his son Telemachus to raise him to succeed his father as a wise leader (Allen & Eby, 2010; Friday & Friday, 2002; Friday, Friday & Green, 2004). Odysseus, a third party, actually initiated the mentoring relationship. Hence more could be added to the definition.
Mentoring is a voluntary, intense, committed, extended, dynamic, interactive, supportive and trusting relationship between two people – one experienced (more knowledgeable) person and the other a new-comer, and is characterised by mutuality (Hayes, 1998). It is also a form of professional socialisation in which a more experienced (usually older) individual acts as a guide for growth and learning, role model, teacher and patron to a less experienced (often younger) protégé (Hobson & Sharp, 2005; Levinson, Darrow, Klein, Levinson & McKee, 1978).

The aim of the relationship is the further development and reinforcement of the protégé’s skills, abilities and understanding (Moore & Amey 1988). From the preceding definitions mentoring appears to have the following essential attributes.

1. It is a relationship that learners have with older and more experienced individuals such as parents, extended family members, neighbours, teachers, insisters and others with whom they have regular contact.

2. It is built while focussing on achievement and with emotional support as a key element.

3. It is a process that involves emotional (friendship, acceptance, support) and instrumental (information, coaching, advocacy, sponsorship) functions (Jacobi, 1991; Kram, 1985).

Mentoring is an intentional process, and is also a nurturing and insightful process in which the wisdom of the mentor is acquired and applied by the beneficiary (Wong, 2007).
Mentoring is therefore a voluntary, committed and supportive relationship that develops between a senior (university student, professional or entrepreneur) as mentor and a high school learner as mentee/protégé (Haynes, 2004). While a single universal definition of mentoring is futile primarily because mentoring is a social relationship that "always occurs in a social milieu and among specific people with different individual attributes" (Bearman, Blake-Beard, Hunt & Crosby, 2007, p. 376), a working definition for this research was considered important in guiding the researcher.

Against this background, a working definition of mentoring for this study could be: Mentoring is a formalized process. Within this process a more knowledgeable and experienced person (mentor) is nominated to assume a supportive role of overseeing and encouraging reflection and learning within a less experienced and knowledgeable person (mentee or protégé). The mentee/protégé is expected to take responsibility for his or her learning and the organisation, success, and on-going development of the relationship (adapted from Roberts, 2000). The next few paragraphs deal with defining the terms mentor and mentee.

### 3.2.2 Mentor and mentee/protégé

Mentors are traditionally seen as individuals with wisdom, advanced experience, knowledge, skills and influence who provide support to and promote the career development of their mentees at the student or professional level through an interactive relationship (Allen & Eby, 2007a; D'Abate & Eddy, 2008; Fawcett, 2002; Kram, 1985; Rhodes, 2002a; Wilkes, 2006). Phrased slightly differently, a mentor may be a more experienced person who seeks to further the development of the character and
competence in another person by guiding the latter in acquiring mastery of progressively more complex skills and tasks in which the mentor is already proficient (DuBois & Karcher, 2005). The guidance is accomplished through demonstration, instruction, challenge and encouragement on a more/less regular basis over an extended period of time (DuBois & Karcher, 2005). In the course of this process, the mentor and the mentee are assumed to develop a special bond of mutual commitment. In addition, the young person’s relationship to the mentor takes on the emotional characteristics of respect, loyalty and identification (DuBois & Karcher, 2005). Essentially, experience, wisdom, knowledge and trust are key characteristics for the mentor who will be dealing with a less knowledgeable other.

Successful mentees are committed individuals or professionals (or learners) who are willing to take responsibility for and diligently work towards developing their success. Mentee attributes include: a desire to work towards a professional goal; a desire to learn and develop; a willingness to confront challenges; an ability to accept help and act upon it; a willingness to accept different points of view; good communication skills (including listening) an ability to give and receive feedback; discretion; honesty; self-awareness; positive attitude/enthusiasm; independent; willingness to work hard; and juggle several tasks at once (Allen & Eby, 2010; Rhodes, 2005). For this study, mentoring involved a formalised relationship between professionals or graduates as the mentors and learners as the mentees. It is therefore imperative that approaches to mentoring be discussed in the next section to put the study into context.
3.2 Types of or approaches to mentoring

Mentoring can be mandatory or voluntary, take place in groups or in pairs, function between peers or hierarchically, occur within a single organisation or spread across organisations, include multiple mentors, and even occur at a distance (D’Abate & Eddy, 2008; DuBois & Karcher, 2005). In general, the phenomenon creates an opportunity for increased support, on-going conversation and collaborative problem-solving capacity (Bullough, Young, Birrell, Clark, Egan & Erickson, 2003). Different types of mentoring are described in literature, including planned or formal mentoring and traditional or informal mentoring. A brief description is provided for each type to contextualise the study further.

3.2.1 Planned/formal mentoring

Planned mentoring, also known as the developmental approach, is a two-way learning partnership and owes its origins to European experience (Philip, 2003). It occurs via deliberately structured programmes wherein mentors and mentees are selected and matched through formal processes and stages, based on the compatibility of the mentee’s needs and goals with the mentor’s expertise and abilities (Steuart Watson & Skinner, 2004). Within a youth context, mentorship programmes are established to provide social, emotional and educational support to students with the aim of enhancing professional conduct (Block, Claffey, Korow & McCaffrey, 2005; Milner & Bossers, 2005; Roser, Rice, Campbell & Jack, 2004).

Formal mentorship programmes have become increasingly popular (Thompson & Kelly-Vance, 2001). Research on formal mentoring programmes has shown mixed results but
there is evidence that successful formal mentoring programmes add value to the organisation and the lives of the mentor and mentee. Cunningham (1993) describes formal mentorship programmes as those in which the organisation assigns or matches mentors and mentees, provides them with top management support, an extensive orientation programme, clearly stated responsibilities for each party, established duration and contact, and emphasises realistic expectations regarding the relationship.

The formal mentorship programmes are managed and sanctioned by the organisation (Chao & Walz, 1992). In formal programmes, the initiation of the relationship is externally directed and the mentor and mentee are paired up by a third party; programmes are contracted for a specific amount of time; the predetermined frequency and location of meetings are set; and the goals are set at the beginning of the relationship (Blake-Beard, 2001; Niehoff, 2006; Tyler, 2004). While some programmes have been designed to cater for career development and attainment of academic success among students at risk of failure/attrition (Allerd, Dodd & Peralez, 1987), other programmes have placed students in the mentor role in the hope that the experience will promote their development and reinforce their commitment to higher education (Humm & Riesman, 1988). Formal mentor-mentee relationships tend to focus on short-term goals, and mentees participating in formal mentorship programmes may not perceive a commitment to them as individuals on the part of the mentor, but rather to the programme (Agumba & Fester, 2010). Mentors in formal programmes may perceive that their mentees are low performers who have been assigned to a mentor in order to improve their work performance (McDowall-Long, 2004). When mentors hold this perception, the degree of mutual disclosure, authenticity and empowerment in formal
relationships may be markedly reduced from that inspired by informal relationships (Agumba & Fester, 2010).

The relationships that are cultivated through formal mentorship programmes have characteristics (structured activities, assisted matching and mentor training) that set them apart from informal mentoring relationships, and may result in different functions and outcomes (Ragins & Cotton, 2000; Ragins, Cotton, & Miller, 2000; Ragins & Kram, 2007). For example, while research on both formal and informally initiated mentoring relationships has emphasised the associated benefits, there is an increasing recognition of the potential that formal mentoring relationships have for becoming dysfunctional relationships (Scandura, 1998; Scandura & Williams, 2002).

Dysfunctional mentoring relationships would be the ones in which mentees report having dissimilar attitudes, values and beliefs to their mentors in assigned mentoring relationships. The relationships may also be characterised by disgruntlement, annoyance, resentment, disruption, deception or harassment (Scandura & Williams, 2002). Another down side of the development of formal, facilitated mentoring programmes may involve considerable time, effort and cost on the part of the organisation (Seibert, 1999). Despite the potential for dysfunction in formal mentoring relationships, literature indicates that the process can work effectively for mentees and mentors (Klasen & Clutterbuck, 2002; Scandura & Williams, 2002).

### 3.2.2 Traditional/informal mentoring

Most mentoring relationships develop naturally through unstructured social interaction, and are known as informal mentoring relationships (Philips-Jones, 1983; Wanberg,
Kammeyer-Mueller & Marchese, 2006). That is, the relationship develops because of shared interests, admiration or job demands that require the skills of two or more persons (Wanberg, Kammeyer-Mueller & Marchese, 2006). In informal mentoring relationships, discussions between the mentor and mentee usually go beyond career-related issues to more in-depth personal sharing of interests, needs and values (Steuart Watson & Skinner, 2004). Mentoring occurs via friendship, collegiality, teaching, coaching and counselling. Thus it therefore occurs without planning and pre-established timelines (Steuart Watson & Skinner, 2004). It is characterised by its direct, hands-on approach and involves the use of specific resources to help the mentee achieve clear and specific goals; such goals are often academic or professional in nature (Roche, 1979).

Informal mentorship is volitional, with no structured guidelines for directing the relationship (Chao & Walz, 1992). Mentees and mentors are involved in mutual selection; mutual adjustment throughout the relationship with goals and expectations evolving over time to adapt to the specific protégé needs (Niehoff, 2006). They arise from the mentor’s desire to help the mentee and the mentee’s willingness to be open to advice and assistance (Chao & Walz, 1992). Some of the drawbacks of informal mentoring include its heavy reliance on the altruism of the mentor, which could strain the relationship. On the other hand, informal mentoring relationships tend to become more emotionally involved than formal mentoring relationships; to the benefit or the detriment of the parties (Erich & Hansford, 1999)

While the formal and informal mentoring approaches share some characteristics, the formal mentoring approach speaks to this particular study. For further description of the
mentorship context of the ERF, the reader is referred back to Chapter 1. In order to understand the dynamics of mentoring, an overview of the current popular models explaining mentoring is required. A brief outline of four such models is provided in the following section.

3.3 Models of mentoring

The study of mentoring as a human enterprise is, at best, very complicated and sometimes very confusing. In an effort to better understand the phenomenon and the mechanisms involved in its practice, researchers have embarked on a journey to probe more deeply into the intricacies of relationship dynamics to determine how and when a mentoring relationship deteriorates or thrives and what can be done to increase mentoring relationship effectiveness (Allen & Eby, 2007a; Fletcher & Ragins, 2007; Kalbfleisch, 2007). This has resulted in models being crafted to better explain mentoring. Hence the causal model, social exchange theory, the investment model and the mentoring enactment theory have been put forward and these will be briefly discussed.

3.3.1 The causal model

The causal model, the brainchild of Rhodes (2002b, 2005) addresses the social skills, emotional well-being, cognitive skills and identity/self-concept of youth. Rhodes’ model focusses on the influence of mentoring on youth, particularly disadvantaged youth. In addition, the model seems to perceive mentoring as a cause-and-effect relationship which might not always be the case. It suggests that mentoring achieves its positive outcomes through three interrelated processes, which can be viewed as the main
principles of this model. First, good mentoring enhances the social skills of the mentee, which in turn augments emotional well-being. Second, good mentoring enhances cognitive skills of the mentee. Third, good mentoring contributes to identity development such that the mentee’s self-concepts change over the course of the mentoring relationship (Bearman, et al., 2007). Thus not only is the causal model concerned about academic and general behavioural impact but it focusses on the total development of the mentee socially, emotionally, cognitively and as a person (Bearman, et al., 2007).

While the causal model depicts mentoring as making a contribution to a mentee’s development, the way mentoring is typically conducted does not always meet the mentee at this point which he is or she is developmentally. The reason for this discrepancy between the effect of mentoring and the mentee’s stage of development could be because a notion of the ‘where’ of development (developmental level) is absent in the mentor (Bearman, et al., 2007). The mentor may also not be aware of his or her own present developmental level.

3.3.2 Social exchange model

Some research in mentoring (Ensher & Murphy, 1997; Ensher & Murphy, 2005; Ensher, Thomas & Murphy, 2001; Foa & Foa, 1974; Homans, 1961; Ugrin, Odom & Pearson, 2008) suggests that the social exchange theory provides a reasonable explanation for understanding the mentoring processes. The social exchange theory suggests that mentors provide certain resources to a protégé which could include their connections, skills, feedback or any number of instrumental or psychosocial dimensions (Ensher & Murphy, 2005). Mentors may then expect something in return from their mentees which
could be appreciation, a new skill, or a fresh perspective (Ragins, 1997; Ragins & Scandura, 1994). In other words, all parties benefit from the relationship by contributing to it (Fouché & Lunt, 2010). In sum, what mentors and mentees give and receive might be very different but all must be seen as valuable by both parties.

The theory seemingly emphasises benefits between mentors and mentees when in fact the organisation as a whole that contains the mentor and mentee also benefits from the interaction (Ingersoll & Strong, 2011). The mentor-mentee relationship might not always be reciprocal in nature as there are bound to be differences in expectations that may negatively influence the relationship. From a bureaucratic standpoint and exchange perspective according to Majiros (2013), the more seasoned mentor offers inside historical knowledge, career guidance and technical tutelage to the inexperienced mentee who is limited in reciprocal resources. Tragically, the mentee’s only recourse might be to offer loyalty, praise and prestige in return (Majiros, 2013).

3.3.3 The Mentoring investment model

Eby (2007) extends the ideas of social exchange and provides a comprehensive review of relational problems in mentoring by providing an investment model of mentoring. The investment model suggests that both mentors and mentees evaluate their perceived costs and benefits of being in the relationship with each other (Allen & Eby, 2007a). When the perceived benefits (new skills learnt) outweigh the costs (time invested) of being in the relationship, then the relationship will flourish (Allen & Eby, 2007b). In turn these perceptions of costs and benefits will continue to impact their episodic interactions and subsequent satisfactions with the relationship as well as their desires to commit to
the relationship long-term. Allen and Eby (2007b) also suggest that the ability of both mentors and mentees to access other relationship alternatives (i.e., another mentor in the organisation) has an important influence on the relationship dynamics. The investment model of mentoring emphasises the importance of mentors determining that their investment into the relationship is worth the effort (Allen & Eby, 2007a).

3.3.4 The Mentoring enactment theory

Another relevant theory derived from literature on close relationships and communication is the mentoring enactment theory (Kalbfleisch, 2007). The theory suggests that mentors and mentees engage in an on-going series of relational challenges in the form of communication strategies and conversational goals that impact their relationships (Kalbfleisch, 2007). This theory is particularly useful as it provides recommendations for the initiation as well as on-going maintenance and improvement of the mentoring relationship. For example, mentoring enactment theory suggests that it is more effective to request help from a mentor on a specific task initially rather than ask them to commit up front to being a mentor (Kalbfleisch, 2007). Mentors can get to know mentees and then as rapport and trust build, the relationships will develop into mentoring over time (Kalbfleisch, 2007).

When considered together, both mentoring investment and mentoring enactment theories suggest that mentors may not commit to a mentor-mentee relationship immediately (Enscher & Murphy, 2005). Instead, mentors may pose a series of relational challenges to mentees to determine how well they perform initially and as the relationship moves forward. Although relational challenges can be posed by the mentor,
or the mentee, the types of challenges posed are different (Ensher & Murphy, 2005). Assuming the mentee meets the relational challenges appropriately, then the mentor will be more likely to invest more into the relationship and provide greater benefits to the mentee resulting in greater mutual satisfaction and relationship effectiveness (Ensher & Murphy, 2005).

This study aimed to evaluate the effect mentoring has on the youth in a disadvantaged community. This is in line with the causal model that focusses on the influence of mentoring on youth, particularly disadvantaged youth. The social exchange theory, the investment model and the mentoring enactment theory depict mentors as providing certain resources to mentees. Mentees then express appreciation, displaying a new skill learnt, or posing a fresh perspective. Both mentors and mentees count the costs and make decisions (Bearman, et al., 2007).

The causal model and the social exchange model have links to social learning as it addresses aspects of modelling and valued outcomes. Mentoring as a form of social learning is explained in Hamilton (2006, p.728) as an ecology of mentoring contexts, when he claims that

“Learning and development are facilitated by the participation of the developing person in progressively more complex patterns of reciprocal activity with someone with whom that person has developed a strong and enduring emotional attachment and when the balance of power gradually shifts in favour of the developing person.”
In the above paragraph mention of development by participants has been made. This is development that has been influenced by the mentor, by displaying appropriate behaviour worthy of being copied and modelled and will endure over time.

### 3.4 Benefits of mentoring

Mentoring has been seen as valuable for specialist groups with unique situations; an individual and pragmatic experience such as with particular gifted and talented students (Foster, 2001; Goff & Torrance, 1991), and with academically focussed mentoring situations (Frierson, 1998; Kerry & Mayes, 1995). A range of benefits of mentoring for the mentor, mentee and the organisation have been identified (Bedini, 2003; Greene & Puetzer, 2002) but the emphasis of this literature review will remain on the benefits for youth mentees and their mentors.

Potential benefits of a close, enduring relationship with a mentor include children and adolescents, who feel a sense of connection with a supportive adult, engaging in fewer health-risk behaviours (DuBois & Silverthorn, 2005). Similarly, studies consistently find that youth who show healthy adjustment despite environmental adversity have the reliable presence and support of at least one caring adult (Masten, Best & Garmezezey, 1990).

Support for youth mentoring as an intervention has been proven by rigorous evaluations that demonstrate improvements in youth competencies and reduction in problem behaviours (Tierney, Grossman & Resch, 1995), and by meta-analytic results that substantiate the general effectiveness of mentoring across a range of programmes and studies (DuBois, Holloway, Valentine & Cooper, 2002). However, research also points
to the potentially harmful consequences of short lived mentoring relationships that are characterised by conflict and disappointment, and power and manipulation (Grossman & Rhodes, 2002; Rhodes, 2002b). Mentoring plays a powerful role in fulfilling the human need to belong and serves as an effective tool for personal growth and development (Allen & Eby, 2007a; Allen & Eby, 2007b). For a mentorship to be successful, both the mentor and the mentee should derive benefits from the relationship (Miller, 2002; Noe, Greenberger & Wang, 2002; Wanberg, et al. 2006).

While some positive outcomes of participation in mentoring have been recorded, research on the impact of mentoring on the academic achievement of youth has been conducted and conflicting results have been achieved (McPartland & Nettles, 1991; Slicker & Palmer, 1993)

### 3.4.1 Mentee benefits

For the mentee, benefits may include improved competence, self-confidence and self-esteem, a sense of security, decreased stress, expanded networks, leadership development and insight in times of uncertainty, non-academic competencies and characteristics that ultimately support academic learning (Hall, 2003; Galbraith, 2003). Mentors support mentees in managing their own learning; by challenging assumptions, ideas and behaviours; providing guidance and advice; and being a credible role model (Klasen & Clutterbuck, 2002). They also provide an opportunity to articulate questions and concerns in a safe and conducive environment (Speckman, 2007). These functions all benefit the mentee by providing much needed emotional support and confidence.
There are specific benefits within specialised contexts too. A full review of all these benefits in the various contexts is, however, beyond the scope of this study. However, research on the benefits within an academic setting reveals that the student mentee may acquire increased self-esteem, self-respect and self-confidence, greater determination and motivation to succeed, as well as achieve greater independence in terms of increased decision-making, organisation, planning and problem-solving skills (Megginson & Clutterbuck, 1999). The positive long-term outcomes of improved academic self-concept and performance are far reaching, allowing greater access to educational and occupational opportunities during and after high school (Cummings, 2010).

Early support for young people to overcome problems has been recorded as having a statistically significant effect in improving their developmental outcomes in all domains – behavioural and academic (Portwood, Ayers, Kinnison, Waris & Wise, 2005). A mentoring relationship may provide youth with benefits in several areas of their development, including positive changes in: academic performance; perceived academic competence; and school attendance (DuBois & Silverthorn, 2005; Langhout, Rhodes & Osborne, 2004); interpersonal relationships and social outcomes (Langhout, Rhodes, & Osborne, 2004; Rhodes, Contreras & Mangelsdorf, 1994; Sipe, 2002); psychological well-being (DuBois & Silverthorn, 2005); risk-taking (DuBois & Silverthorn, 2005), drug abuse knowledge; attitudes and behaviour (Langhout, Rhodes & Osborne, 2004; LoSciuto, Rajala, Townsend, & Taylor, 1996); alcohol consumption (Rhodes, Gingiss & Smith, 1994); internalising and externalising behaviours (Jackson, 2002;
Keating, *et al.*, 2002); and depression and anxiety (Rhodes, Contreras, & Mangelsdorf, 1994).

### 3.4.2 Mentor benefits

Mentors’ benefits may include enhanced self-fulfilment, increased job satisfaction and feeling valued and satisfied from sharing their knowledge and experience, having a mentee succeed and eventually become a colleague, increased learning, personal growth, and leadership skills (Galbraith, 2003). Mentors report a renewed sense of commitment and excitement to their professions and organisations as well as a sense of satisfaction at being part of the development and growth of their mentee (Allen, *et al.*, 2004; Allen, Lentz & Day, 2006; Noe, Greenberger & Wang, 2002). Mentoring provides learning benefits on the part of mentors as well as a way for them to redirect their energies, gain respect and even fulfil generativity needs, which may in itself be rewarding (Scandura, Manuel, Werther & Lankau, 1996).

Furthermore, the mentor derives benefits of personal contentment attributable to the enhancement of human resources management skills in a new forum; development of new professional skills (e.g. counselling) that can be used directly in their day-to-day work; increased understanding of self, others and organisations; fresh ideas or perspectives; plus cutting edge information from a professional working in a different field; an incentive to keep up-to-date with professional developments; enhanced professional network; career enhancement (an addition to the CV); and an opportunity to give something back to the profession (Allen & Eby, 2010; DuBois & Karcher, 2005).
3.5 Challenges in mentoring in educational contexts

Although mentoring can be highly useful it is not always beneficial to all individuals. Various factors influence the nature and quality of the mentoring relationship. Some of these factors are external to the mentoring relationship, such as the objectives of the formal mentoring programme and time issues. Time issues relate to potential limitations that may result from work and life demands, costs or simply scheduling problems (Klasen & Clutterbuck, 2002). For the context of this study, mentees and mentors are required to meet for a minimum of five hours a month and for some this may be inadequate in meeting the objective. Other factors are internal to the relationship, such as personality, gender, the personal style of the mentor and the needs of the mentee (Klasen & Clutterbuck, 2002). The quality of mentoring relationships can vary dramatically and a bad mentor may indeed be worse than none at all (Ragins, Cotton & Miller, 2000; Ragins & Kram, 2007).

Researchers have investigated the negative aspects and have identified specific toxic mentoring behaviours. These include bullying, jealousy, abuse, neglect and credit-stealing (Eby, Durley, Evans & Ragins, 2008). Mentees can also be responsible for relationship problems by betraying trust, damaging the mentors’ reputations or simply ignoring the mentors or showing no gratitude for all that the mentors are investing into their lives (Eby & Allen, 2002). Youth mentees differ in their levels of learning, maturity, self-esteem and the alternative resources they can call upon (Miller, 2002). Similarly, different cultures demand different approaches to mentoring. It is often assumed that participants in mentoring programmes share the same understanding of a programme’s
goals and processes. In very informal programmes, or programmes with poor clarity of purpose, resentment from people not included is common. So, too, is gossip, especially regarding cross-gender pairs (Fitzpatrick, *et al*., 2006). Openness about the programme and why it targets particular groups of people helps to overcome such problems.

It would be simplistic to assume that mentoring relationships are either completely good or completely bad. Instead, like other types of close relationships, most mentoring relationships have both positive and negative aspects. Mentoring relationships may flow through times that vary in the satisfaction they provide and their effectiveness (Fletcher & Ragins, 2007). Mentors sometimes fail to establish an appropriate balance between being directive and exercising a laissez-faire approach (Fitzpatrick, *et al*., 2006). Indeed, a core skill for a mentor is recognising when to lead and when to enable the mentee to lead discussions (Fitzpatrick, *et al*., 2006). One of the most common complaints by mentees is that the mentor talks at them, rather than engaging with them in reflective dialogue. Less common, but equally dysfunctional, is the mentor who never gives advice and is unable to adapt his or her style to the mentee’s needs at the time (Fitzpatrick, *et al*., 2006). There is also the challenge of ensuring that formal mentors do not become overly dominant, causing the mentees to lose their sense of self-sufficiency (Rigsby, *et al*, 1998). Caution needs to be taken in instances where mentees put the needs of their mentor ahead of their own as a career strategy (Scandura, *et al*., 1996). Mentoring relationships can according to Scandura & Williams (2002) become dysfunctional in terms of overdependence, resentment, deception or harassment. Traditionalists may see staff development in terms of group activities led by a trainer and question the long-term time commitment involved in mentoring (Fletcher & Ragins,
Some potential mentors see limited benefits for themselves in the whole process as they perceive mentoring to be time consuming and that they have not been trained to fulfil or expect a mentor role. Those who have not experienced the benefits of mentorship may not be willing to put themselves forward as mentors.

3.6 Assessment/evaluation

Evidence that mentorship programmes are effective or have the intended effect is difficult to establish, although there is agreement that mentoring adds value (Block, Claffey, Korow & McCaffrey, 2005; Milner & Bossers, 2005). Previous research carried out on mentoring and actual success has relied mostly on retrospective, correlational designs, and data collected at a single point in time with a limited sample (Burke, 1984; Erkut & Mokros, 1989; Roche, 1979). Evaluation of the effectiveness of a mentoring programme may also be limited by attrition (Grossman & Tierney, 1998). Some participants may decide to withdraw during a period of evaluation. Others may fail to meet criteria for minimum levels of contact and if they are not excluded from analysis the result may be an unduly positive assessment of the benefits that can be realistically expected for all youth referred to a given mentoring programme (Grossman & Tierney, 1998). Even in relationships where the primary objective is for the mentee simply to have an occasional sounding board, one or both parties are likely to feel dissatisfied unless that is explicitly agreed upon (Spencer, 2006). The current study was conducted by collecting data at two different points in time (pre- and post-participation) and the use of a group that is fairly stable. However, lack of resources and time restricted the study to a relatively small sample.
Evaluations of mentoring programmes have not generally identified any single feature or characteristic responsible for positive outcomes. They do, however, emphasise how theory and empirically-based best practices and specific strategies may be especially important for achieving desired results (Brudney, 1999). The features include on-going training for mentors, structured activities for mentors and mentees, as well as expectations of the frequency of contact, mechanisms for support and involvement of parents, and monitoring of overall programme implementation (Rhodes, Reddy & Grossman, 2005). Durlak and Weissberg (2007) concur as they posit that a mentoring programme is more likely to be effective if: mentors who have previous, relevant experience are selected because not everyone is a good mentor; mentors commit for at least 12 months; mentors are carefully trained and supported; and mentors help structure their activities with their mentees. Programme implementation needs to be monitored and challenges should be anticipated (Durlak & Weissberg, 2007). Parental involvement should be ensured, bearing in mind that if not done carefully, mentoring can harm the participating youth. Programmes should be evaluated and changes made as needed (Durlak & Weissberg, 2007).

There is firm evidence that well-run mentoring programmes can change a youth’s life trajectory, reduce drug and alcohol use, and improve academic behaviours. The international research evidence is overwhelmingly positive (Barnett & O’Mahony, 2008; Costello & Thomson, 2011; Hamlin & Sage, 2007). Few studies have been undertaken in South Africa particularly on the assessment of mentorship programmes. It is therefore crucial that we undertake studies such as the current study to build a body of knowledge on mentorship programmes in South Africa.
3.7 Summary

Mentoring has evolved over time with varied meanings in different contexts. However, empirical work addressing important issues involved in youth mentoring has only recently begun to materialise. From the literature mentoring can be described as a process through which a relationship develops between a knowledgeable person (the mentor), and another individual (the mentee). Mentoring in some contexts can be formal while in others it can be informal. The formal and informal approaches to mentoring were discussed in detail and explored through four models of mentoring: the causal model; social exchange theory; the investment model; and the mentoring enactment theory. Mentoring can yield benefits for both the mentor and the mentee. However, challenges are inevitable. Systematic evaluation of mentoring programmes is constrained because there is little consensus concerning the meaning and definition of the concept of mentoring (Philip, 2003) and because mentoring programmes differ considerably in their focus and impact. Seemingly there is confusion on what exactly is being measured when assessing a mentorship programme and no clear indication of ingredients of a successful mentorship programme. Therefore, while mentorship programmes may have clear objectives and established approaches to youth concerns, the efficacy of these programmes remains in question. Although some research emphasises the positive effects mentorship programmes have on youth (Grossman & Garry, 1997; Slicker & Palmer, 1993; Tierney, Grossman & Resch, 1995), a comprehensive meta-analysis of a range of programmes suggests that knowledge about the effects of mentorship programmes still requires much work. This chapter has provided a good outline for the framework for discussing the practicalities and
challenges of assessing the impact of a mentorship programme. The next chapter outlines the research method employed to execute the study.
Chapter 4: Research method

The purpose of this study was to examine the impact of the ERF mentorship programme on high school learners from disadvantaged backgrounds in terms of academic performance and behaviour. This chapter will discuss the research method, followed by the sampling process and the choice of participants, as well as ethical considerations. Data collection methods and instruments will also be discussed including the instruments’ reliability and validity. Furthermore, the data analysis procedures employed are also described.

4.1 Research design

This study involved a pre-test/post-test exploratory quantitative design. An exploratory design explores or tests relations between variables (Creswell, 2013; De Vos, Strydom, Fouche & Delport, 2011). In this case, the study explored or tested the relations between mentoring and behaviour as well as the relations between mentoring and academic performance. Exploratory designs are amongst the most useful (and appropriate) research designs for projects that address a subject for which there are high levels of uncertainty, and when the problem is not very well explored in the literature (De Vos, Strydom, Fouche & Delport, 2011). In the context of the current study, there is not much existing research on the evaluation of mentorship programmes.

4.2 Procedure

After obtaining clearance from the University of South Africa’s Department of Psychology for the use of human subjects, permission to gain access into the ERF was
sought in writing from the director. The director and I met for further discussion and clarification and a pre-contact letter was circulated electronically to the mentors who, in turn, communicated with the mentees. The director communicated with the parents on my behalf and explained that research activities formed part of the scholarship programme's operational needs. The interested parents then signed consent forms on behalf of the learners and themselves.

The study was explained to the mentees during a meeting and those that already had guardian consent and who were interested in participating were requested to complete the assent form. The mentors were also approached for their consent.

Thereafter, the first data collection exercise (pre-test) was carried out at the start of the study and the second one (post-test) was done six months after the start of mentoring activities. Post-test data was collected after 6 months because any collection later would have disrupted some of the participants' preparations for exams.

4.3 Sampling

The selection of the sample was based on the purposive sampling strategy. Purposive sampling is the selection of a sample based on the researcher's judgement regarding appropriate characteristics required of the sample parts. It involves strategically and purposefully selecting information-rich cases for in-depth understanding rather than empirical generalisations (Patton, 1990; Punch, 2005). The sample was drawn from a mentorship programme involving two schools in Soweto, in southern Johannesburg, South Africa.
The participants were 20 mentors, 18 parents/guardians and 18 high school learners (mentees) within the age range of 14-18 years (Grades 9-12), who were all part of the ERF mentorship programme. These learners were recipients of the ERF scholarship, which automatically places them into the mentorship programme. Scholarships are awarded based on an application process that examines performance at school (as reflected in school reports), an ERF entrance examination and interviews where necessary (ERF, 2012).

The selected mentees' parents/guardians and mentors were also recruited and their questionnaires analysed because the use of research instruments that elicit self-reported responses from participants can be limiting (Morgan, Gliner & Harmon, 2006). Such instruments are subjective by their very nature and consequently raise questions about the reliability and external validation of respondents' revelations (Cohen, Manion & Morrison, 2007). The triangulation of data using multiple scales or indices focussed on the same construct can minimise such problems. Triangulation enables the researcher to obtain multiple perspectives because self-report measures are subject to reporting bias and based on perceptions of abilities rather than concrete measurement of those abilities (Achenbach & Rescorla, 2004; Rosette & Ciarrochi, 2005). The mentees data was compared to the parents/guardians and mentors data to explore any biases.

4.4 Data collection

Two types of data were collected: academic performance and behavioural data. All data were collected at the beginning of the mentoring period (pre-test), two months after the
actual commencement of the mentoring activities as stipulated in the questionnaire manual (Achenbach & Rescorla, 2001). The second (post-test) data collection was done six months later. Although the mentorship programme duration is a year, the post-test data collection could not take place after August as this is the period during which trial/mock examinations are scheduled for the Grade 12s. In order to avoid disruption to this important event, data was collected prior to the examinations. On both occasions forms were completed by the learners and mentors at the mentoring site, while the parents/guardian forms were sent to them in envelopes that were numbered instead of bearing the learners’ names. The latter were returned to the researcher in envelopes that the parents/guardians sealed after completing the questionnaires for purposes of maintaining confidentiality.

The academic performance data was sourced from the ERF. Academic performance scores comprised marks from five learning areas, namely English, Mathematics, Accounting, Biology (or Natural Sciences) and Physical Sciences offered in the programme. Mentors responsible for the subjects offered in the programme set, administered and evaluated grade specific examinations according to the Department of Education’s assessment requirements. Mentors provided the average marks of each mentee, in addition to completing the necessary questionnaires.

Data on behaviour was collected using the Achenbach System of Empirically Based Assessment (ASEBA) School Age Forms (Check Lists), which were administered pre- and post-intervention (See Table 1.) The ASEBA comprises an integrated system of multi-informant assessment forms for assessing competence, adaptive functioning and behavioural problems in easy and cost-effective ways (Achenbach & Rescorla, 2011;
Siddons & Lancaster, 2004). The competence sub-scale comprises questions about activities such as sports, non-sports activities and jobs the learners do; social aspects (organisations they are involved in, number of friends they have and behaviour with others or alone) and school issues relating to performance in academic subjects, whether they are in a special class, have repeated a grade, and other academic problems. The activities, social and school scales were summed up to yield a total competence score. The adaptive functioning scale assesses performance in selected academic subjects as well as four adaptive characteristics: how hard the learner is working; how appropriately he/she is behaving; how much he/she is learning; and how happy he/she is. The behavioural problems scale comprises behavioural problems that the learner may be experiencing.

By using ASEBA forms, the researcher could quickly obtain standardised data on a broad spectrum of competencies, adaptive functioning and problems (Achenbach & Rescorla, 2011). Unlike many standardised forms, ASEBA forms also obtain individualised descriptions, plus open-ended reports of the best things and greatest concerns about the assessed learners (Achenbach & Rescorla, 2011). ASEBA forms are used for epidemiological surveys, clinical assessment, outcome evaluations research and for other purposes in many cultures (Achenbach & Rescorla, 2011). They have also been used in the assessment of the effectiveness of intervention programmes in South Africa and are available in some local languages (Cluver, Gardner & Operario, 2008; Cortina, et al., 2013; Nöthling, Martin, Laughton, Cotton & Seedat, 2013).

The ASEBA group of tests consists of the Child Behaviour Checklist for Children (CBC) aged 6-18, Youth Self-Report (YSR) for ages 11-18 and the Teacher’s Report Form
(TRF) for ages 6-18 (Achenbach & Rescorla, 2001 & 2007). The three are parallel forms designed to be self-administered by respondents who have at least fifth grade reading skills and each of the scales takes approximately 15-20 minutes to complete (Achenbach & Rescorla, 2011). In addition, the Assessment Data Manager (ADM) Software Module for ages 6-18 with Multicultural Options was used for scoring. The ADM Software Module is accompanied by the ASEBA School-Age Manual (electronic transmission) for interpretation.

Table 1: List of Instruments used in the study, their focal points and participant groups that completed them

<table>
<thead>
<tr>
<th>Instrument(s)</th>
<th>Function</th>
<th>Informant/User</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBCL/6-18 (ASEBA combined Question Booklet &amp; Answer Sheet)</td>
<td>Obtains reports regarding learners’ competencies and behavioural/emotional problems from a parental viewpoint.</td>
<td>Parent/Guardian</td>
</tr>
<tr>
<td>YSR-11-18 (ASEBA combined Question Booklet &amp; Answer Sheet)</td>
<td>Obtains reports regarding learners’ competencies and behavioural problems from the youth’s own viewpoint.</td>
<td>Youth 11-18 years of age</td>
</tr>
<tr>
<td>TRF/6-18 (ASEBA combined Question Booklet &amp; Answer Sheet)</td>
<td>Obtains reports regarding children’s adaptive functioning and behavioural problems from the teacher's viewpoint.</td>
<td>Teacher/Mentor</td>
</tr>
</tbody>
</table>

4.4.1 Reliability of the ASEBA school age forms

A questionnaire, test, observation or any measurement procedure is considered reliable if it accurately and consistently produces the same results on repeated trials (Miller, 1956; Wells & Wollack, 2003). Item analysis is conducted to assess the reliability of the different dimensions or constructs in a questionnaire via Cronbach’s alpha values ranging from 0 to 1.00, with values close to 1.00 indicating high consistency (Wells &
Wollack, 2003). An item with Cronbach’s alpha above 0.8 is said to have good reliability, Cronbach’s alpha value between 0.6 and 0.8 denoted acceptable reliability, although some authorities use a cut-off of 0.7 for acceptable reliability (Nunally, 1978).

The 2001 editions of the CBC/6-18, TRF and YSR questionnaires were derived from a combination of exploratory and confirmatory factor analyses to determine whether ratings of problems in different societies would fit the syndromes derived mainly from North American samples (Achenbach, Becker, et al., 2008; Ivanova, et al., 2007). Subsequent studies from other societies have analysed numerous CBCs from 31 societies, TRFs from 21 societies, and YSRs from 24 societies in Asia, Africa, Australia, the Caribbean, Eastern-, Western-, Southern- and Northern Europe, and the Middle East (Rescorla, et al., 2007a, b, and c).

The alphas for the competence scales were reported to be moderately high, ranging from 0.63 to 0.79 for the CBC and from 0.75 to 0.89 for the YSR. Alpha values of 0.90 were recorded on the TRF total adaptive scale. For the empirically-based problem scales, the alphas ranged from 0.78 to 0.97 on the CBC, 0.71 to 0.95 on the YSR, and 0.72 to 0.95 on the TRF. The inter-interviewer and test-retest reliabilities of the CBC item scores were supported by interclass correlations of 0.93 to 1.00 for the mean item scores obtained by different interviewers and for reports by parents on two occasions seven days apart. The test-retest reliability of ASEBA school-age scales was supported by mean test-retest reliability scores of 0.90 for the CBC competence and empirically-based problem scales, as well as for the TRF adaptive and problem scales. For the YSR, the means were 0.88 for the competence scales and 0.82 for the empirically-

Findings averaged over the CBC, TRF and YSR samples from 33 societies (including societies from Africa) on which the 2007 multicultural norms were based, produced mean alphas of 0.94 for total problems and 0.87 for internalising and externalising behaviour (Achenbach, *et al.*, 2007; Behrens & Satterfield, 2006; Ivanova, *et al.*, 2007; Rescorla, *et al.* 2007a, b, c). These were within acceptable Cronbach’s alpha values above 0.80.

4.4.2 Validity of the ASEBA school age forms

Validity of a measure entails the extent to which the instrument measures what it purports to measure (Field, 2006; Miller, 1956). ASEBA instruments are the most widely used empirically-based instruments in the world, with translations in 69 languages and over 5,000 published studies by over 8,000 authors who report use of ASEBA instruments in 62 cultures (Achenbach & Rescorla, 2004). These scales have been validated extensively with diverse populations (Achenbach, *et al.*, 2007; Ivanova, *et al.*, 2007; Rescorla, *et al.* 2007a, b, c).

4.4.2.1 Content validity of the ASEBA school age forms

Content validity refers to whether an instrument’s items represent what the instrument is intended to assess (Postlethwaite, 2005). The problem items of the CBC, TRF and YSR were formulated to tap a broad spectrum of problems that can be spontaneously reported by parents, teachers and children with minimum inference and no need for
highly trained interviewers. They also tap a wide range of problems that discriminate significantly between children considered needing mental health and related services versus demographically similar children who are not considered to need such services (Achenbach & Rescorla, 2004). The content validity of the competence, adaptive functioning and problem item scores has been supported by four decades of research, consultation, feedback and revision, as well as by findings that all items discriminated significantly ($p<.01$) between demographically matched referred and non-referred children (Rescorla, et al., 2007a, b, c).

4.4.2.2 Criterion related validity of the ASEBA school age forms

Criterion-related validity refers to whether a particular measure agrees with external criteria that are more direct indicators of the target characteristics. The criterion-related validity of the CBC, YSR and TRF scales is supported by multiple regressions, odds ratios, and discriminant analyses all of which have shown significant ($p<.01$) discrimination between referred and non-referred children (Achenbach & Rescorla, 2004).

Many kinds of analyses have supported the criterion-related validity of ASEBA scales in several societies. For example, in analyses of covariance, multiple regressions and other kinds of analyses scores on the syndromes, DSM-oriented scales, internalising, externalising, and total problems have been significantly higher for clinically referred than non-referred children; after controlling for demographic variables such as age, gender, SES and ethnicity in samples from the demographically matched referred and non-referred children, with numbers ranging from 1,059 to 4,220 (Achenbach, 1991;
Achenbach & Rescorla, 2001 & 2007a). Similar findings have been obtained in societies such as Denmark, Finland, Chile, Germany and the Netherlands (Bilenberg, 1999; Helstela, Sourander & Bergroth, 2001; Schmeck, et al., 2001; Verhulst, Akkerhuis & Althaus, 1985).

Categorical analyses have been done to test the criterion-related validity of ASEBA scale scores that are in the normal range versus combined borderline and clinical ranges for discriminating between referred (children identified as needing mental health and related services and referred) and non-referred (children who are not considered to need such services) children. Odds ratios and chi squares have shown that significantly more referred than non-referred children obtained scores in the borderline and clinical range on all ASEBA problem scales (Achenbach & Rescorla, 2001 & 2007a). In a different type of categorical analysis, discriminant functions were computed to test the ability of ASEBA scale scores to correctly classify children as being referred versus non-referred. After cross-validated correction for shrinkage via ‘holdone-out’ procedures, the CBC, TRF and YSR scales correctly classified large percentages of children as referred versus non-referred (Achenbach & Rescorla, 2001 & 2007a). Significant point-biserial correlations have also been found between DSM-IV clinical diagnoses and scores on the DSM-oriented scales (Achenbach & Rescorla, 2001 & 2007a).

4.4.2.3 Construct validity of the ASEBA school age forms

One kind of evidence for construct validity is agreement between a particular assessment procedure and other procedures for assessing similar constructs (Cluver, Gardner & Operario, 2008). Even if their conceptual basis differs, high correlations
between different assessment procedures mean that they measure similar phenomena. Correlations from 0.71 to 0.89 have been found between corresponding scales of the ASEBA and Conners instruments for clinically referred children rated by parents and teachers (Achenbach & Rescorla, 2001). Correlations averaging 0.69 have been found between corresponding scales of the ASEBA and the Behaviour Assessment System for Children (BASC; Reynolds & Kamphaus, 1992) completed separately by mothers, fathers and teachers in a different clinical sample (Achenbach, 1991; Achenbach & Rescorla, 2001; Achenbach, et al., 2007; Ivanova, et al., 2007; Rescorla, et al. 2007a, b, c). The instruments have also received the Assessment Rating of "A – Reliability and Validity Demonstrated" based on the published, peer-reviewed research available (Nakamura, Ebesutani, Bernstein & Chorpita, 2009). The three school age forms: the Child Behaviour Checklist; Teacher Report Form; and Youth Self-Report will be discussed in detail in the following sections.

4.5 The Child Behaviour Checklist (CBC)

The CBC for children aged 6-18 years is a comprehensive questionnaire that consists of general questions regarding the child’s behaviour, interaction, well-being and academic aspects from a parental viewpoint, all of which could contribute to the current circumstances the child is facing in daily activities (Achenbach & Rescorla, 2001). The CBC obtains reports from parents, other close relatives and/or guardians regarding children’s competencies and behavioural/emotional problems.

Behavioural problems are measured in eight domains namely, emotionally reactive, anxious/depressed, somatic symptoms, withdrawn behaviour, sleep problems,
common/non-specific problems, attention problems and aggressive behaviour (Achenbach & Rescorla, 2001). The first four domains are viewed as internalising behaviour problems (a broad class of behaviours in which children direct feelings and emotions inward) while the last two domains are viewed as externalising behaviour problems (the expression of feelings and emotional responses into behaviours that are directed outward). Problems that mainly involve conflict with other people and with the expectations of the child are viewed as total behaviour problems (Achenbach & Rescorla, 2001 & 2007; Dodge, Pettit, McClaskey & Brown, 1986; Fombonne, et al., 2001; Hinshaw & Lee, 2003; Lewinsohn, Rohde, Seeley, Klein & Gotlib, 2003; Rubin, Bream & Rose-Kasnor, 1991).

The first page of the CBC/6-18 requests demographic information about the child and asks respondents to indicate their name and relationship to the child, such as mother, father, foster parent or other relationship. The respondent then completes the competence items on pages 1 and 2, followed by open-ended items for describing the child’s illness and disabilities, what concerns the respondent most about the child, and the best things about the child. Pages 3 and 4 request ratings of behavioural, emotional and social problems. The respondent rates each problem as 0=not true, 1=somewhat or sometimes true, and 2=very true or often true, based on the preceding six months. Several items request respondents to describe the problems. Furthermore, item 56h on page 3 requests respondents to describe and rate any additional physical problems. Item 113 on page 4 requests respondents to describe and rate problems of any kind that were not previously listed (Achenbach & Rescorla, 2001 & 2007).
4.5.1 Description and scoring of the CBC

The CBCL (Achenbach & Rescorla, 2001) obtains reports from parent/guardians regarding children’s competencies and behavioural problems. Parents provide information for 20 competence items covering their child’s activities, social relations and school performance. The CBC has 113 items that describe specific behavioural and emotional problems, plus two open-ended items for reporting additional problems. Parents/guardians rate their child for how true each item is now or within the past 6 months using the following scale: 0=not true (as far as you know); 1=somewhat or sometimes true; 2=very true or often true (Achenbach & Rescorla, 2001 & 2007). The data is either scanned or manually entered into The Assessment Data Manager (ADM), a computerised scoring programme.

4.5.2 Reliability of the CBC

The CBC is a widely used behavioural checklist with good reliability and validity in a variety of cultural and language settings (Barkley, et al, 2000; Calkins & Dedmon, 2000; Gross, Fogg & Young, 2006; Mesman, Bongers & Koot, 2001). Systematic research that demonstrates that an instrument performs similarly across many societies in terms of features such as reliability, internal consistency, factor structure, scale scores, and associations of scores has been carried out (Geisinger, 1994). To assess the reliability of the CBC, item scores we computed by interclass correlation coefficient (ICC) from the one-way analysis of variance (Bartko, 1976). The overall ICC was 1.00 for the 20 competence items and 0.95 for the 118 specific problem items (both p< .001). This indicates very high test-retest reliability in scores obtained for each item relative to
scores obtained for each item (Achenbach & Rescorla, 2001, Achenbach, et al., 2007; Ivanova, et al., 2007).

Furthermore, to test the CBC’s multicultural robustness, data sets from 31 societies from Western and Eastern Europe, Asia, Africa, the Middle East, the Caribbean, Australia and the United States of America were analysed. Averaged across the analyses for each of the 31 societies, mean alphas for total problems, internalising, competence items and externalising were 0.93, 0.83 and 0.87, respectively. For each of the 31 societies, alphas for total problems were ≥ 0.90, while the alphas for internalising and externalising were ≥ 0.72 and ≥ 0.80, respectively (Ivanova, et al., 2007; Rescorla, et al., 2007a, b, c).

4.6 The Youth Self-Report (YSR)

The YSR is normed for and completed by 11 to 18-year-olds to describe their own functioning. It is used to provide standardised descriptions of eight areas of problem behaviour in children 11 to 18 years of age, including: anxious/depressed; withdrawn/depressed; somatic complaints; rule-breaking behaviour; aggressive behaviour; social problems; thought problems; and attention problems (Achenbach & Rescorla, 2001 & 2007). This measure comprises 112 items aimed at measuring these eight dimensions.

Students are asked to consider the degree to which feelings or behaviours are accurate for them currently or in the past 6 months, responding on a 3-point Likert scale. To assess behaviour, only competence items and data from the following three sub-scales were analysed in the current study: anxious/depressed; withdrawn/depressed; and
somatic complaints. These three sub-scales form the internalising symptoms composite. Additionally, externalising psychopathology (i.e., rule-breaking behaviour and aggressive behaviour sub-scales) and total problems were analysed.

Page 1 of the YSR requests demographic information, plus responses to competence items similar to those of the CBC/6-18. Page 2 of the YSR also has items similar to those of the CBC. However, youths are not asked to report on special educational services or grade repetition, because they may not be able or willing to provide accurate information (Achenbach & Rescorla, 2001; Cortina, et al., 2013). Page 3 and 4 of the YSR request respondents to rate behavioural, emotional and social problems in two response formats: 3-point Likert-type scale: 0=not true, 1=somewhat or sometimes true and 2=very true or often true; and open-ended (fill-in-the-blank questions) in the first person (Achenbach & Rescorla, 2001 & 2007).

4.6.1 Description and scoring of the YSR

The YSR obtains reports from the 11-18 year olds regarding their competencies and behavioural or emotional problems. They provide information for competence items covering their activities, social relations and school performance. The YSR has 112 items that describe specific behavioural and emotional problems. The respondents rate themselves on how true each item is now or has been within the past six months using the following scale: 0 = not true (as far as you know); 1 = somewhat or sometimes true; 2 = very true or often true (Achenbach & Rescorla, 2001 & 2007).

Youth responses are particularly important in providing the most accurate assessments of mentorship programmes, although they only serve as one of the many perspectives
that are sought in advancing these programmes to a higher level (Rescorla, et al., 2007).

### 4.6.2 Validity of the YSR

Evidence of the YSR’s construct validity regarding symptoms of internalising problems has been demonstrated via correlations with checklists of diagnostic categories of the DSM-IV ($r = .37$ to $.51$) (Achenbach & Rescorla, 2001) and correlations with sub-scales of the BASC ($r = .38$ to $.80$) (Achenbach & Rescorla, 2001). Additionally, the YSR has demonstrated high test-retest reliability at 8-days on the internalising problems, with coefficient alphas ranging from 0.67 to 0.76 (Achenbach & Rescorla, 2001; Ivanova, et al., 2007; Rescorla, et al., 2007).

Confirmatory factor analyses (CFAs) were performed on the Youth Self-Report (Achenbach & Rescorla, 2001) completed by 30,243 youths 11–18 years old from 23 societies. Findings were consistent with those for the parent-completed CBC (Achenbach & Rescorla, 2001) and the teacher-completed Teacher’s Report Form (Achenbach & Rescorla, 2001; Rescorla, et al., 2007) in many societies.

Although it is normed on a mixed-ethnicity American population, the YSR has been used in many different contexts, including southern Africa (Barbarin, Richter & De Wet, 2001). It has good reliability and validity even when the sub-scales are used separately (Lambert, et al., 2003; Rescorla, et al., 2007).
4.7 The Teacher’s Report Form (TRF)

The TRF is a parallel form to the CBC completed by the caretaker, and the YSR completed by youths. It is designed for use in conjunction with these measures to provide an overall understanding of the child’s functioning in multiple environments (Achenbach & Rescorla, 2001 & 2007). It is a report measure that assesses problem behaviour, academic performance and adaptive functioning. The Teacher’s report Form consists of 113 items that examine the same eight dimensions of psychopathology as the YSR and CBCL. This measure is completed by teachers and other school personnel who are familiar with children’s functioning in a school setting, such as teacher aides, counsellors, administrators and special educators (Achenbach & Rescorla, 2001 & 2007).

The first page of the TRF requests demographic information about the learner to provide perspectives on the respondent and the context in which the learner is seen. Respondents are asked to indicate their role, how long they have known the learner, how well they know the learner, how much time the learner spends in their class or service, and what kind of class or service it is (Achenbach & Rescorla, 2001 & 2008). Respondents are also requested to indicate whether the learner has ever been referred for special class placement, services or tutoring, and whether the learner has repeated any grades (Achenbach & Rescorla, 2001 & 2008). Descriptive information provided in response to these questions can improve users’ understanding of the quantitative item and scale item and scale scores. To evaluate learners’ adaptive functioning, respondents are asked to rate performance in academic subjects and the following adaptive characteristics: how hard he/she is working, how appropriate he/she is
behaving, how much he/she is learning as well as how happy he/she is. Thereafter the respondents are asked to provide scores from achievement and ability tests followed by information about the learner’s illness, disabilities, what concerns the respondent most about the learner, the best things about the learner and any other comments (Achenbach & Rescorla, 2001 & 2008).

Pages 3 and 4 of the TRF request respondents to rate behavioural, emotional and social problems in two response formats: 3-point Likert-type scale: 0=not true, 1=somewhat or sometimes true, and 2=very true or often true and open-ended (fill-in-the-blank questions), like the ratings of the CBCL. Like the CBC, the TRF requests descriptions of several problem items and requests respondents to report additional physical problems and any other problems that were not previously listed. Behavioural problems are measured in eight domains namely, emotionally reactive, anxious/depressed, somatic symptoms, withdrawn behaviour, sleep problems, common/non-specific problems, attention problems and aggressive behaviour. The first four domains are viewed as internalising behaviour problems (problems that are mainly within the self), the last two domains are viewed as externalising behaviour problems (problems that mainly involve conflict with other people and with their expectations for the child) (Achenbach & Rescorla, 2001 & 2007).

4.7.1 Description and scoring of the TRF

The TRF (Achenbach & Rescorla, 2001) obtains reports from teachers and/other school personnel regarding children’s adaptive functioning and behavioural/emotional problems. They provide information for adaptive functioning items covering how long
and how well they know the child, type of service and time the child spends in the service, social interaction and school performance. The TRF has 113 items that describe specific behavioural and emotional problems, plus two open-ended items for reporting additional problems. Respondents rate the child for how true each item is now or has been within the past six months using the following scale: 0=not true (as far as you know); 1=somewhat or sometimes true; 2=very true or often true (Achenbach & Rescorla, 2001). Data is either scanned or manually entered into The Assessment Data Manager (ADM), a computerised scoring programme.

4.7.2 Reliability of the TRF

The TRF has demonstrated test-retest reliability at 16 days with coefficient alphas ranging from 0.93 to 0.95. It has been compared to the Conners Rating Scale for Teachers-Revised (Conners, 1997) to yield high convergent validity of 0.81 (Achenbach & Rescorla, 2001 & 2007). All reliability was reported for Scaled Scores with a Test-Retest Pearson’s r of 0.96 and Cronbach’s alpha 0.97 both of which are high (Achenbach & Rescorla, 2001; Ivanova, et al., 2007; Rescorla, et al., 2007).

4.7.3 Validity of the TRF

Currently, all the items discriminate between referred and non-referred demographically similar children (p<.01). Applicable to clinical and non-clinical diverse samples, the measure has been used in major studies (Achenbach & Rescorla, 2001; Bérub & Achenbach, 2005; Rescorla, et al., 2007).
4.8 Assessment Data Manager (ADM) Software Module for Ages 6-18 with multicultural options

A software programme, ADM was also obtained and used for scoring and interpreting the results. The software compares scores for empirically-based and DSM-oriented scales on any combination of up to eight CBC, YSR and TRF forms per child. The ADM 7.0 Ages 6-18 module provides options for displaying CBC/6-18, TRF and YSR problem scale scores in relation to norms for different societies (Achenbach, 2010).

Paper format data for all three forms (or more, up to eight) are captured into the system. The data for all the forms is verified before it can be saved. The forms are scored simultaneously and reports are generated. The software systematically compares problems reported by each respondent and the systematic comparisons reveal similarities among and the differences between problems reported by each respondent.

4.9 Data collection procedure

The data collection was done on a mentoring session day just before the start of classes for the mentees and during the session for the mentors who were free at the time. The nature of the study was explained and so was the voluntary nature of participation. All participants were reassured that the study was not in any way linked to the organisation’s rewards and that all measures to maintain confidentiality and anonymity would be put in place. Questionnaires were completed in about 20 minutes and collected soon after completion. The questionnaires for the parents/guidance were sent to them in coded envelopes and they were returned in sealed envelopes.
approximately a week later. Follow-ups were done through the director without whose assistance the parent/guardian forms would have had a very low response rate.

4.10 Data analysis

Data analysis was done using the ADM software, which is aligned with the Achenbach System of Empirically Based Assessment that frames the behaviour checklists used to gather data (Achenbach, 2010) and SPSS. Data entered into the ADM is processed by entering commands on the catalogue screen. Data from the three checklists were captured into the ADM software and forms were coded P001 to P020 for pre-test and Pt001 to Pt020 for post-test data. After the first entry, information had to be verified by going through the capturing process a second time after which it could be saved. All three forms (up to eight forms can be scored) (Achenbach & Rescorla, 2007; Achenbach, 2010) per participant were scored.

Raw scores were used to derive scores for the three competence scales (activities, social and school performance) for the CBC and YSR scales and adaptive functioning scales for the TRF and total behavioural problems. Where there was insufficient data the score was not computed (NC). Differences in total N will be noted in the results chapter. The total score for each scale is rounded to the nearest 0.5. Scores can also be derived for six DSM-oriented scales: Affective problems; anxiety problems; somatic problems; Attention Deficit/Hyperactivity problems; oppositional defiant problems; and conduct problems (Achenbach, 2010). For the purposes of this study however, competence items for the YSR and CBC, adaptive functioning for the TRF and items that assess externalising psychopathology (i.e., rule-breaking behaviour and aggressive
behaviour sub-scales), internalising (anxious/depressed, withdrawn/depressed, somatic complaints, social problems) as total problems were analysed for the pre- and post-test data.

Biographical data, total competence, adaptive functioning and total problem scores from the ADM were exported to SPSS. Analysis of differences between pre- and post-test scores was done using non-parametric statistics because the sample was relatively small \((N = 20)\) and therefore would not meet the conditions of at least 30 subjects for the use of parametric tests (Howell, 2005; Maree, 2007). Non-parametric statistics uses data that is often ordinal, meaning it does not rely on actual scores but rather a ranking or order of difference between pre- and post-test scores, (Field, 2009; Maree, 2007). Non-parametric tests are sometimes known as assumption-free tests because they make fewer assumptions about the type of data on which they can be used than their parametric counterparts and so are useful when the data violate the assumptions of parametric data (Field, 2009). Due to the violation of parametric assumptions [Normally distributed data, data measured at least at the interval level and scores that are independent (Field, 2009)] in the current study, I utilised the Wilcoxon Signed-Rank test.

The Wilcoxon Signed-Rank test for related groups is based on the Wilcoxon rank sum statistic \(W\), defined as the smaller of \(W^+\) and \(W^-\), which are the sums of the positive and negative ranks, respectively. This test is the most useful non-parametric significance test that compares two distributions to assess whether one has systematically larger values than the other (Hannagan, 1986). It is similar to a t-test in which two variables are compared in a single sample. In this instance I used it to test whether there had been an improvement in behaviour and academic performance after mentoring. The
differences in academic performance, problem behaviour, competence and adaptive functioning were then ranked and used to compute the Wilcoxon rank sum statistic (Field, 2009). The level of significance for the study was set at $\alpha = 0.05$.

4.11 Ethics and human subjects issues

Informed consent was obtained from parents and the mentors while assent was sought from learners. The researcher undertook to clearly explain the aims as well as purposes of the research in detail to all the respondents at the first contact. Since learners were required to complete a self-report questionnaire, consent had to be signed by parents/guardians and learners had to then provide their assent before any testing could take place. Mentors also gave their informed consent.

Maintaining the confidentiality of all personal information and questionnaire data is of paramount importance in obtaining positive and accurate responses to the questionnaires, as well as upholding ethical research standards. Confidentiality for this study was ensured by assigning a code number to each participant, separating cover sheets containing names from all surveys, and entering only code numbers into the database. Learners’ individual responses were not disseminated and the ERF has no access to the data. The voluntary nature of participation was also made clear to the participants and it was explained that they were free to withdraw if at any point they felt they no longer wanted to take part in the research, with no consequences. Furthermore, the data would be reported without any direct association to the participants and despite the outcome none of the participants will be identifiable with the outcome or will be affected in any way.
4.12 Summary

This chapter outlined how the research was conducted including the design, data collection procedure and instruments as well as analysis. The study design is a quantitative pre-test/post-test non-control group design testing the effect of a mentoring intervention on mentees’ behaviour (in terms of the three domains: behavioural problems; adaptive functioning; and competence) and academic performance as tested by the ASEBA School Age Forms as well as academic tests from the ERF mentorship programme. After being granted clearance for the use of human subjects from the University of South Africa’s Department of Psychology, permission to gain access into the ERF was sought in writing from the director. Twenty mentees, recipients of the ERF scholarship and in Grades 9-12, their parents/guardians and mentors were involved too. They were each required to complete the relevant questionnaires on two separate occasions (pre-mentoring and six months later). The data that was collected using ASEBA School Age Forms were initially analysed using the ADM. Three parallel forms the CBC, YSR and TRF were used to obtain information. Informed consent and assent were accordingly sought and obtained from parents, the mentors and the learners. Other ethical considerations were also taken into account to ensure no harm befell the participants. The results of the analysis are presented in the following chapter.
Chapter 5: Research results

5.1 Chapter overview

This chapter describes the findings and results of this research study. The study examined the impact of the ERF mentoring programme on high school learners' behaviour and academic performance. Data were collected using the ASEBA system at the start of the programme (pre-test) and six months later (post-test) and were analysed using the ADM and SPSS. Data were collected from the learners, their parent/guardians and the mentors. The data collected focussed on three behaviour dimensions, namely behavioural problems (as reported by all three respondent groups), competence (as reported by the parents/guardians on the CBC and learner participants on the YSR) and adaptive functioning (as reported by the mentors on the TRF). The academic performance of the learners was also assessed based on marks from five learning areas namely English, Mathematics, Accounting, Biology (or Natural Sciences) and Physical Sciences offered in the programme. The tests were administered within the ERF and mentors filled in the marks on the questionnaire as discussed earlier in Chapter 4.

To evaluate the effectiveness of the intervention programme and to determine the statistical significance of the differences between the pre- and post-intervention questionnaire responses, the Wilcoxon Signed-Rank test for related groups was employed. The test is discussed in more detail in Chapter 4.

It was the intention of the researcher to involve 20 learner participants (mentees), their parents/guardians and mentors. However, one mentee only took part in the post-test
data collection while another one only took part in the pre-test data collection. The latter was deemed to have voluntarily withdrawn from the study. Data for the participants who only took part in either the pre- or post-test was not included in the analysis. The final participant groups in the study therefore consisted of 18 mentees, their parents/guardians and mentors. However, insufficient data resulted in some dimensions not being computed for some participants as indicated in the previous chapter. As a result, the number of participants (N) will be less than 18 in some instances.

To address the question of whether or not there were differences in the mentees’ behaviour and academic performance pre- and post-intervention, learner behaviour was assessed on the basis of the dimensions of behavioural problems, competence (using the CBC and YSR) and adaptive functioning (using the TRF), while academic marks of learners pre- and post-test were used as a reflection of their academic performance and were compared using the Wilcoxon rank sum statistic. An overview of the sample and its demographic characteristics are presented first then the results of the data analysis.

5.1.1 Hypotheses

- Null hypothesis 1 (Behaviour): ERF mentees’ Behavioural problems scores pre-test will not differ from scores post-test (H₀: Median difference = 0).
- Alternative hypothesis: Participants’ Behavioural problems pre-test and post-test scores will differ significantly (H₁: Median difference ≠ 0; α=0.05)
- Null hypothesis: Competence scores pre-test will not differ from scores post-test (H₀: Median difference = 0).
• Alternative hypothesis: Competence pre-test and post-test scores will differ significantly (H₁: Median difference ≠ 0; α=0.05)

• Null hypothesis: Adaptive functioning scores pre-test will not differ from scores post-test (H₀: Median difference = 0).

• Alternative hypothesis: Adaptive functioning pre-test and post-test scores will differ significantly (H₁: Median difference ≠ 0; α=0.05)

Null hypothesis 2 (Academic Performance): ERF mentees’ academic performance scores will not change over six months of mentoring (H₀: Median difference = 0)

• Alternative hypothesis 2: Academic performance pre-test and post-test scores will differ significantly (H₂: Median difference ≠ 0; α=0.05)

The Wilcoxon Signed-Rank test was conducted in SPSS to determine whether there was a difference in behaviour and academic performance after participating in the mentorship programme, in comparison to before the mentorship programme. If the null hypothesis is true, we expect to see similar numbers of lower and higher ranks that are both positive and negative (i.e., the sums of W⁺ and W⁻ would be similar). If the alternative hypothesis is true we expect to see more positive or negative ranks. For example, if there were more mentees with substantial improvement in competency after intervention as compared to before, then we would see that the number of W⁺ will be greater than W⁻.

The test statistic for the Wilcoxon Signed-Rank Test is W, defined as the smaller of W⁺ and W⁻, which are the sums of the positive and negative ranks, respectively. The decision rule is as follows: Reject H₀ if W ≤ critical value. In other words, if the critical
value of $W$ is determined to be less than or equal to the critical value, we reject $H_0$ in favour of $H_1$, and if the observed value of $W$ exceeds the critical value, we do not reject $H_0$. A critical value for the sample size ($n = 18$) and two-sided level of significance $\alpha=0.05$ is 40. The decision rule is therefore as follows: Reject $H_0$ if $W \leq 40$.

It is worth noting that, in some cases, participants did not complete all sections of the ASEBA test battery. The implication of this is that we will have less viable cases to report on ($n < 18$) for some domains and the critical value will change accordingly. The decision was made to report on the complete cases per domain, rather than exclude every incomplete case in totality. The rationale for this decision is that the sample is very small and the removal of even one case would negatively impact the analysis.

5.2 Description of the sample

A total of 20 high school learners from Grades 9 to 12, recipients of the ERF scholarship were included in the study. Of the 20 participants, two completed only one part of the data collection exercise. However, the analysis requires two data points for every mentee, therefore only 18 participants’ data were used for the study’s data analysis.

5.2.1 Biographical information

Biographical information relating to gender, grade level, age and relationship to each child such as mother, father, foster parent, mentor or other relationship was collected. A summary of this data is presented in Table 2. A response rate of 90% ($n = 18$) was calculated for both the mentees and parents/guardians, respectively. Of the 18 learner participants 12 were female and six male. Furthermore, equal frequencies were
observed among the Grade 9 and Grade 12 categories, comprising six students each, five in Grade 10, while only one learner participant was recorded as being in Grade 11. The majority of the learners 44.44% (n = 8) were between the ages of 16-17 years (M = 16.8, SD = .768), and frequencies of 38.89% (n=7) and 16.67% (n = 3) were observed in the 14-15 and 18 years old categories, respectively. With regard to the ‘relationship-to-child’ status, the majority of learners indicated that the guardians who took part in the study were biological parents (72%; n = 13), while three were step-parents.

**Table 2: Summary of participant biographical information**

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<thead>
<tr>
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<th>N</th>
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<tbody>
<tr>
<td><strong>Gender</strong></td>
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<td>33%</td>
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<tr>
<td>Female</td>
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<td>67%</td>
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<tr>
<td><strong>Grade Level</strong></td>
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<tr>
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<td>6%</td>
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<tr>
<td>Grade 12</td>
<td>6</td>
<td>33%</td>
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<tr>
<td>Total learners</td>
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<td><strong>Age Grouping (Years)</strong></td>
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<tr>
<td>14-15</td>
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<td>38.89%</td>
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<td>16-17</td>
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<td>3</td>
<td>16.67%</td>
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<tr>
<td>Total learners</td>
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<tr>
<td><strong>Relationship to child:</strong></td>
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<tr>
<td>Parent/Guardian</td>
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<tr>
<td>Biological parents</td>
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<td>72%</td>
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<tr>
<td>Step parents</td>
<td>3</td>
<td>17%</td>
</tr>
<tr>
<td>Other - Aunts</td>
<td>2</td>
<td>11%</td>
</tr>
<tr>
<td>Total guardians</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td><strong>Mentors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>7</td>
<td>35%</td>
</tr>
<tr>
<td>Males</td>
<td>13</td>
<td>65%</td>
</tr>
<tr>
<td>Total mentors</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>
5.3 Results for the behaviour and academic performance data analysis

The Wilcoxon Signed-Rank test for related groups based on the Wilcoxon rank sum statistic was used to analyse the data. Both mean and median will be reported for clearer representation because the sample was small and only data pertaining to differences between pre- and post-intervention results were used. Before a detailed analysis is described I will provide a summary of academic performance and each of the behaviour domains: behavioural problems; competence; and adaptive functioning, first as they were used in this research. The summary includes the descriptive statistics of each domain based on pre- and post-test data. Descriptive statistics for the differences between pre- and post-test total scores will, however, be used as the basis for analysis.

**Behavioural problems**

The mean total on behavioural problems according to the parent/guardians was higher pre-test ($M = 30.24$) than post-test ($M = 21.94$). The median score was also higher pre-test ($Mdn = 25.00$) than post-test ($Mdn = 17.00$). Similarly, learner respondents’ pre-test mean total behavioural problems was higher ($M = 51.89$) than the post-test ($M = 47.11$). The median score was higher pre-test ($Mdn = 54.00$) than post-test ($Mdn = 40.50$). The mentors’ mean score pre-test was lower ($M = 8.44$) than the post-test mean ($M = 10.94$). The median pre-test was also lower ($Mdn = 4.00$) than the post-test ($Mdn = 9.00$). These results are presented in Table 3.1 below.
Table 3.1: Summary of behavioural problems descriptive statistics (Mean, Median, Standard Deviation)

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Median</td>
<td>Range</td>
<td>Min</td>
<td>Max</td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>N</td>
<td>Median</td>
<td>Range</td>
<td>Min</td>
<td>Max</td>
</tr>
<tr>
<td>CBC</td>
<td>17</td>
<td>25.00</td>
<td>78</td>
<td>7</td>
<td>85</td>
<td>30.24</td>
<td>19.671</td>
<td>17</td>
<td>17.00</td>
<td>50</td>
<td>4</td>
<td>54</td>
</tr>
<tr>
<td>YSR</td>
<td>18</td>
<td>54.00</td>
<td>69</td>
<td>24</td>
<td>93</td>
<td>51.89</td>
<td>18.404</td>
<td>18</td>
<td>40.50</td>
<td>84</td>
<td>26</td>
<td>110</td>
</tr>
<tr>
<td>TRF</td>
<td>18</td>
<td>4.00</td>
<td>54</td>
<td>0</td>
<td>54</td>
<td>8.44</td>
<td>12.849</td>
<td>18</td>
<td>9.00</td>
<td>42</td>
<td>0</td>
<td>42</td>
</tr>
</tbody>
</table>

*Decrease of mean indicates the improvement of behaviours

Competence

Competence pre-test mean according to the parents/guardians was lower ($M = 19.5$) than the post-test mean ($M = 20.86$). Likewise the median pre-test was lower ($Mdn = 20.00$) than the post-test ($Mdn = 21.50$). For the learner respondent group, the mean pre-test was lower ($M = 17.56$) than the post-test mean (18.28). Median was lower pre-test ($Mdn = 16.50$) than the post-test median ($Mdn = 18.00$). The descriptive statistics summary is presented below in Table 3.2.

Table 3.2: Summary of competence pre- and post-test descriptive statistics (Mean, Median, Standard Deviation)

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Median</td>
<td>Range</td>
<td>Min</td>
<td>Max</td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>N</td>
<td>Median</td>
<td>Range</td>
<td>Min</td>
<td>Max</td>
<td>Mean</td>
</tr>
<tr>
<td>CB</td>
<td>14</td>
<td>20.00</td>
<td>17</td>
<td>10</td>
<td>27</td>
<td>19.5</td>
<td>4.735</td>
<td>14</td>
<td>21.50</td>
<td>18</td>
<td>10</td>
<td>28</td>
<td>20.86</td>
</tr>
<tr>
<td>YSR</td>
<td>18</td>
<td>16.50</td>
<td>13</td>
<td>12</td>
<td>25</td>
<td>17.56</td>
<td>3.989</td>
<td>18</td>
<td>18.00</td>
<td>13</td>
<td>13</td>
<td>26</td>
<td>18.28</td>
</tr>
</tbody>
</table>
Adaptive functioning

The Adaptive functioning mean score pre-test was lower ($M = 19.41$) than post-test ($M = 20.35$). The median score was also lower pre-test ($Mdn = 20$) than post-test ($Mdn = 21$). A summary of the adaptive functioning descriptive statistics is presented in Table 3.3 below.

Table 3.3: Summary of adaptive functioning pre- and post-test descriptive statistics (Mean, Median, Standard Deviation)

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th></th>
<th>Post-test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$N$</td>
<td>Median</td>
<td>Range</td>
<td>Min</td>
</tr>
<tr>
<td>TRF</td>
<td>17</td>
<td>20</td>
<td>10</td>
<td>16</td>
</tr>
</tbody>
</table>

Academic performance

The academic performance mean score was higher pre-test ($M = 65.17$) than post-test ($M = 57.06$) and the median score was higher pre-test ($Mdn = 64.50$) than post-test ($Mdn = 56.50$). See Table 3.4 below.

Table 3.4: Summary of academic performance pre- and post-test descriptive statistics (Mean, Median, Standard Deviation)

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th></th>
<th>Post-test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$N$</td>
<td>Median</td>
<td>Range</td>
<td>Min</td>
</tr>
<tr>
<td>Academic performance</td>
<td>18</td>
<td>64.50</td>
<td>24</td>
<td>58</td>
</tr>
</tbody>
</table>

To address the question of whether or not there were differences in the mentees’ behaviour and academic performance scores pre- and post-intervention, learner behaviour was assessed on the basis of the dimensions of behavioural problems,
competence domain (using the CBC and YSR) and adaptive functioning (using the TRF). Academic marks of learners pre- and post-test were used as a reflection of their academic performance and were compared using the Wilcoxon rank sum statistic.

5.3.1 Changes in behaviour

Within the current study, the researcher had intended to examine to what extent the behaviour of participants changed after six months participation in the mentorship programme. Three behaviour dimensions were measured before participation and after a 6-month period. The Wilcoxon Signed-Rank was used to determine the effect participation in the mentoring intervention programme had on the high school learners.

5.3.1.1 The behavioural problems domain

Total behavioural problem scores pre- and post-test were recorded and differences between the two scores computed for each participant according to how mentees (YSR) perceived themselves corroborated by how their parents/guardians (CBC) and mentors (TRF) perceived the mentees. The computation was done to determine whether there was a difference in total number of behavioural problems after participation in the mentorship programme in comparison to before. As mentioned in section 4.10, the differences were computed by subtracting the pre-intervention scores from post-intervention scores; negative differences indicate improvement in behaviour and positive differences indicate increases in behavioural problems even after intervention. As mentioned in previous sections, where there was insufficient behavioural problems data, scores were not computed (NC, e.g., for participant 12, CBC post-test was not computed due to insufficient data). The data are shown in Table 4 below.
Table 4: Behavioural problems domain: pre- and post-intervention

<table>
<thead>
<tr>
<th>Participants</th>
<th>Behavioural Problems (CBC)</th>
<th>Behavioural Problems (YSR)</th>
<th>Behavioural Problems (TRF)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
<td>Difference</td>
</tr>
<tr>
<td>1</td>
<td>18</td>
<td>30</td>
<td>-12</td>
</tr>
<tr>
<td>2</td>
<td>31</td>
<td>24</td>
<td>-7</td>
</tr>
<tr>
<td>3</td>
<td>59</td>
<td>9</td>
<td>-50</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>36</td>
<td>-4</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>27</td>
<td>16</td>
<td>-11</td>
</tr>
<tr>
<td>7</td>
<td>25</td>
<td>23</td>
<td>-2</td>
</tr>
<tr>
<td>8</td>
<td>15</td>
<td>9</td>
<td>-6</td>
</tr>
<tr>
<td>9</td>
<td>47</td>
<td>35</td>
<td>-12</td>
</tr>
<tr>
<td>10</td>
<td>85</td>
<td>51</td>
<td>-34</td>
</tr>
<tr>
<td>11</td>
<td>14</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>33</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>13</td>
<td>22</td>
<td>9</td>
<td>-13</td>
</tr>
<tr>
<td>14</td>
<td>32</td>
<td>21</td>
<td>-11</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>4</td>
<td>-12</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>8</td>
<td>-8</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>14</td>
<td>-4</td>
</tr>
<tr>
<td>18</td>
<td>42</td>
<td>54</td>
<td>12</td>
</tr>
</tbody>
</table>

One of the aims of the study was to test whether there is a statistically significant difference between the behavioural problems domain scores pre-intervention and post-intervention. The difference in scores for each participant were computed and the data are shown in Table 4.

The absolute values of the difference in scores were then ordered making a note of the sign of the difference (i.e., positive or negative) and potential ranks were assigned, 1 being the smallest through to the largest absolute value of the difference scores (Field, 2009). The reason for referring to ranks as potential ranks is because some scores occur more than once in the data set (e.g. in the data presented in table 5, scores 1, 8, 9, 12 and 17 occur twice, and a score of 3 occurs three times for YSR). These are called tied ranks and these values need to be given the same rank. The average of the
potential ranks for those scores is assigned. Thus, the two scores of 1, would have been potentially ranked 1 and 2. An average of 1 and 2 (1.5) was taken and used as the rank for both occurrences. Similarly, for the three scores of 3, the average of the potential ranks of 4, 5 and 6 [(4 + 5 + 6)/3 = 5] was used as the rank for all 3 occurrences. Assigning the mean rank when there are ties ensures that the sum of the ranks is the same in each sample. The signs ("+" or "-") of the observed differences were attached to each rank according to the CBC, YSR and TRF and are presented in Table 5.

Table 5: Summary of the behavioural problems domain ordered signed rank difference scores according to the CBC, YSR and TRF

<table>
<thead>
<tr>
<th>Participants</th>
<th>Behavioural Problems CBC</th>
<th></th>
<th>Behavioural Problems YSR</th>
<th></th>
<th>Behavioural Problems TRF</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ordered Absolute Values of Difference Scores</td>
<td>Signed Ranks</td>
<td>Ordered Absolute Values of Difference Scores</td>
<td>Signed Ranks</td>
<td>Ordered Absolute Values of Difference Scores</td>
<td>Signed Ranks</td>
</tr>
<tr>
<td>1</td>
<td>-2</td>
<td>-1</td>
<td>1</td>
<td>1.5</td>
<td>-3</td>
<td>-1.5</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>2</td>
<td>-1</td>
<td>-1.5</td>
<td>-3</td>
<td>-1.5</td>
</tr>
<tr>
<td>3</td>
<td>-4</td>
<td>-3.5</td>
<td>2</td>
<td>-3</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>4</td>
<td>-4</td>
<td>-3.5</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>NR</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>5.5</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>NR</td>
</tr>
<tr>
<td>6</td>
<td>-6</td>
<td>-5.5</td>
<td>-3</td>
<td>-5</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>7</td>
<td>-7</td>
<td>-7</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>-8</td>
<td>-8</td>
<td>-8</td>
<td>-8.5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>-11</td>
<td>-9.5</td>
<td>-8</td>
<td>-8.5</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>-11</td>
<td>-9.5</td>
<td>-9</td>
<td>-10.5</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
<td>12.5</td>
<td>-9</td>
<td>-10.5</td>
<td>7</td>
<td>8</td>
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<td>12</td>
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<td>-12.5</td>
<td>-8</td>
<td>10</td>
</tr>
<tr>
<td>13</td>
<td>-12</td>
<td>12.5</td>
<td>-12</td>
<td>-12.5</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>14</td>
<td>-12</td>
<td>-12.5</td>
<td>17</td>
<td>15.5</td>
<td>0</td>
<td>NR</td>
</tr>
<tr>
<td>15</td>
<td>-12</td>
<td>-12.5</td>
<td>-17</td>
<td>-15.5</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>16</td>
<td>-13</td>
<td>-15</td>
<td>27</td>
<td>16</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>17</td>
<td>-34</td>
<td>-16</td>
<td>31</td>
<td>17</td>
<td>38</td>
<td>14</td>
</tr>
<tr>
<td>18</td>
<td>-50</td>
<td>-17</td>
<td>35</td>
<td>18</td>
<td>-54</td>
<td>-15</td>
</tr>
</tbody>
</table>

*NC-Not Computed  NR-Not Ranked (Zero Values are not ranked)
The Wilcoxon Signed-Rank test was conducted in SPSS to test significance and determine if there is a difference in behavioural problems after participating in the mentorship programme in comparison to before. The actual test statistic was also computed and the data is presented in Table 6. If the research hypothesis were false we would have expected to see higher negative ranks. In this case, for the CBC and YSR there were more mentees with substantial improvement in behaviour after the intervention than before it (i.e., W- much larger than W+). However, the TRF respondent group reported the contrary.

Table 6: Summary of ranks for behavioural problems (CBC, YSR, and TRF) according to the Wilcoxon Signed-Rank test

<table>
<thead>
<tr>
<th>Problem Post-intervention - Problem Pre-intervention</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
<th>median values</th>
<th>z-value</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Post-intervention CBC (P)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Pre-intervention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Ranks</td>
<td>13</td>
<td>9.27</td>
<td>120.50</td>
<td>17.00</td>
<td>-2.087</td>
<td>.037</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>4</td>
<td>8.13</td>
<td>32.50</td>
<td>25.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ties</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Post-intervention YSR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Pre-intervention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Ranks</td>
<td>10</td>
<td>11.75</td>
<td>117.50</td>
<td>40.50</td>
<td>-1.395</td>
<td>.163</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>8</td>
<td>6.69</td>
<td>53.50</td>
<td>54.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ties</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Post-intervention TRF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Pre-intervention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Ranks</td>
<td>4</td>
<td>7</td>
<td>28.00</td>
<td>9.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>11</td>
<td>8.36</td>
<td>92.00</td>
<td>4.00</td>
<td>-1.820</td>
<td>.069</td>
</tr>
<tr>
<td>Ties</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the CBC, a critical value with the sample size \( n = 17 \) and two -sided level of significance \( \alpha = 0.05 \) is 34 (See appendix A for the critical table for Wilcoxon signed rank). From table 6 above, W according to the parents/guardians is 32.5 and less than 34, indicating that there is a difference between the behavioural problems observed by parents/guardians at pre-test and post-test. Thus,
behavioural problems of the mentees were significantly lower at post-test (median =17) than at pre-test (median=25), \( z= -2.087, \ p=.037 \). The \( p \)-value indicates that the likelihood that the changes in behavioural problems (a decline in reported behavioural problems post-test) are a result of the involvement in the mentorship programme, rather than other effects which would be viewed as random. Based on this, we reject the \( H_0 \) in favour of the \( H_1 \) because the \( p \)-value of 0.037 is less than the significance level of 0.05.

In the TRF we had a total of 18 viable responses. For the TRF a critical value with the sample size \( n = 18 \) and two-sided level of significance \( \alpha = 0.05 \) is 40 (See appendix A for the critical value table for Wilcoxon). From table 6 above, \( w \) according to the mentors is 28.00 and less than 40, indicating that there is a difference between the behavioural problems observed by mentors at pre-test and post-test. The behavioural problems of the mentees were however insignificantly higher at post-test (\( Md_n =9 \)) than at pre-test (\( Md_n = 8 \)), \( z= -1.820, \ p=.069 \). The \( p \)-value indicates that the likelihood that the changes in behaviour problems (the increase in reported behavioural problems reported post-test) are not necessarily a result of mentoring but rather other effects which would be viewed as random. We do not reject the \( H_0 \) in favour of the \( H_1 \) because the \( p \)-value of 0.069 is greater than the significance level of 0.05.

According to the YSR a critical value for the sample size \( n = 18 \) and two-sided level of significance \( \alpha = 0.05 \) is 40, while \( W = 53.50 \) and more than 40, indicating that there is no difference between the number of behavioural problems observed by mentees at pre-test and at post-test. (See appendix A for the critical table for
Wilcoxon signed rank). This means that the behavioural problems were not significantly higher at post-test ($Mdn = 40$) than at pre-test ($Mdn = 54$), $z = -1.395, p = .163$. The $p$-value indicates that the likelihood that the changes in behaviour problems are not a result of the involvement in the mentoring programme but rather other effects which would be viewed as random. Based on this, we do not reject the $H_0$ in favour of the $H_1$ because the $p$-value of .163 is greater than the significance level of 0.05.

5.3.1.2. Competence according to the CBC and YSR

Similar procedures were employed when computing the competence difference scores for the CBC and YSR, as for behavioural problems. The results are presented in Table 7. As explained in previous sections, insufficient CBC data resulted in some scores not being computed (NC) and the total number of participants dropping ($N = 14$).
### Table 7: Competence scores pre- and post-intervention (CBC and YSR)

<table>
<thead>
<tr>
<th>Participant</th>
<th>Before (CBC)</th>
<th>After (CBC)</th>
<th>Difference (CBC)</th>
<th>Before (YSR)</th>
<th>After (YSR)</th>
<th>Difference (YSR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27</td>
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</tr>
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<td>19</td>
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</tr>
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<td>16</td>
<td>6</td>
<td>12</td>
<td>13</td>
<td>1</td>
</tr>
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<td>20</td>
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</tr>
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<td>5</td>
<td>18</td>
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</tr>
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<td>6</td>
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<td>16</td>
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<td>8</td>
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<td>25</td>
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</tr>
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<td>5</td>
<td>14</td>
<td>11</td>
<td>-3</td>
</tr>
<tr>
<td>10</td>
<td>NC</td>
<td>10</td>
<td>NC</td>
<td>15</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>15</td>
<td>18</td>
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<tr>
<td>12</td>
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<td>NC</td>
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</tr>
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<td>13</td>
<td>23</td>
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<td>12</td>
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</tr>
<tr>
<td>15</td>
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<td>24</td>
<td>2</td>
<td>24</td>
<td>19</td>
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</tr>
<tr>
<td>16</td>
<td>17</td>
<td>17</td>
<td>0</td>
<td>16</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>17</td>
<td>25</td>
<td>14</td>
<td>-11</td>
<td>21</td>
<td>17</td>
<td>-4</td>
</tr>
<tr>
<td>18</td>
<td>NC</td>
<td>28</td>
<td>0</td>
<td>19</td>
<td>16</td>
<td>-3</td>
</tr>
</tbody>
</table>

*NC-Not Computed

Similar procedures, as for the behavioural problems, were employed in ranking the competence difference scores for the CBC and YSR as presented in Table 8.

### Table 8: Competence signed rank ordered difference scores for competence

<table>
<thead>
<tr>
<th>Participant</th>
<th>Ordered Absolute Values of Difference Scores</th>
<th>Signed Ranks</th>
<th>Ordered Absolute Values of Difference Scores</th>
<th>Signed Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
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<td>-2</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>3</td>
<td>-1</td>
<td>-2</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
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<td>3</td>
<td>7</td>
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<tr>
<td>6</td>
<td>4</td>
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<td>3</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
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<td>0</td>
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<td>8</td>
<td>-4</td>
<td>-7</td>
<td>3</td>
<td>7</td>
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<tr>
<td>9</td>
<td>5</td>
<td>9.5</td>
<td>-3</td>
<td>-7</td>
</tr>
<tr>
<td>10</td>
<td>NC</td>
<td>NC</td>
<td>-3</td>
<td>-7</td>
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<tr>
<td>11</td>
<td>NC</td>
<td>NC</td>
<td>4</td>
<td>11.5</td>
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<tr>
<td>12</td>
<td>NC</td>
<td>NC</td>
<td>0</td>
<td>NR</td>
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<tr>
<td>13</td>
<td>0</td>
<td>NR</td>
<td>4</td>
<td>11.5</td>
</tr>
<tr>
<td>14</td>
<td>5</td>
<td>9.5</td>
<td>-4</td>
<td>-11.5</td>
</tr>
<tr>
<td>15</td>
<td>6</td>
<td>11</td>
<td>-4</td>
<td>-11.5</td>
</tr>
<tr>
<td>16</td>
<td>0</td>
<td>NR</td>
<td>-5</td>
<td>-14</td>
</tr>
<tr>
<td>17</td>
<td>-11</td>
<td>-12</td>
<td>7</td>
<td>15.5</td>
</tr>
<tr>
<td>18</td>
<td>NC</td>
<td>NC</td>
<td>7</td>
<td>15.5</td>
</tr>
</tbody>
</table>

*NC-Not Computed  
NR-Not Ranked (Zero Values are not ranked)
The actual test statistic was also computed and the data is presented in Table 9. For the CBC a critical value with the sample size \( n = 14 \) and two-sided level of significance \( \alpha=0.05 \) is 21. (See appendix A for the critical value table for Wilcoxon). From Table 9, \( W \) according to the parents/guardians is 19.00 and less than 21, indicating that there is a difference between competence observed by the parents/guardians pre-test and post-test. Mentee competence was however, insignificantly higher at post-test (median =21.50) than at pre-test (median =20), \( z=-1.574, \ p=.115 \). The p-value indicates that the likelihood that the changes in competence (the increase in competence reported post-test) are not necessarily a result of mentoring but rather other effects which would be viewed as random. We do not reject the \( H_0 \) in favour of the \( H_1 \) because the p-value of .115 is greater than the significance level of 0.05.

According to the YSR a critical value for the sample size \( n=18 \) and two-sided level of significance \( \alpha=0.05 \) is 40. \( W=55 \) and more than 40, indicating that there is no difference between competence observed by mentees at pre-test and at post-test. (See appendix A for the critical table for Wilcoxon signed rank). This means that Competence was insignificantly higher at post-test (median=18.00) than at pre-test (median =16.50), \( z=-.676, \ p = .499 \). The p-value indicates that the likelihood that the changes in competence are not a result of the involvement in the mentoring programme but rather other effects which would be viewed as random. Based on this, we do not reject the \( H_0 \) in favour of the \( H_1 \) because the p-value of
0.499 is greater than the significance level of 0.05.

Table 9: Summary of competence (CBC, YSR) data after they have been ranked

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
<th>median values</th>
<th>z-value</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency Post-intervention - Competency Pre-intervention CBC</td>
<td>2°</td>
<td>9.50</td>
<td>19.00</td>
<td>21.50</td>
<td>-1.574</td>
<td>p=.115</td>
</tr>
<tr>
<td></td>
<td>10°</td>
<td>5.90</td>
<td>59.00</td>
<td>20.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2°</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competency Post-intervention - Competency Pre-intervention YSR</td>
<td>7°</td>
<td>7.86</td>
<td>55.00</td>
<td>18.00</td>
<td>-.676</td>
<td>.499</td>
</tr>
<tr>
<td></td>
<td>9°</td>
<td>9.00</td>
<td>81.00</td>
<td>16.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2°</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Competency Post-intervention < Competency Pre-intervention
b. Competency Post-intervention > Competency Pre-intervention
c. Competency Post-intervention = Competency Pre-intervention

5.3.1.3 Adaptive functioning

Due to the fact that some data was insufficient, one adaptive functioning score could not be computed hence \( n = 17 \). Similar procedures as for the behavioural problems domain were employed and the data are presented in Table 10. Adaptive functioning scores pre- and post-test were recorded and differences between the two scores computed for each participant according to how the mentors (TRF) perceived the mentees.

Table 10: Adaptive functioning scores pre- and post-intervention

<table>
<thead>
<tr>
<th>Participant</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>26</td>
<td>19</td>
<td>21</td>
<td>17</td>
<td>16</td>
<td>25</td>
<td>20</td>
<td>16</td>
<td>20</td>
<td>N</td>
<td>C</td>
<td>16</td>
<td>16</td>
<td>19</td>
<td>20</td>
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<td>20</td>
<td>20</td>
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<td>After</td>
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<td>16</td>
<td>24</td>
<td>14</td>
<td>25</td>
<td>28</td>
<td>15</td>
</tr>
<tr>
<td>Difference</td>
<td>-10</td>
<td>7</td>
<td>3</td>
<td>-1</td>
<td>0</td>
<td>-1</td>
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<td>11</td>
<td>1</td>
<td>3</td>
<td>8</td>
<td>-3</td>
<td>4</td>
<td>-2</td>
<td>5</td>
<td>8</td>
<td>-8</td>
<td></td>
</tr>
</tbody>
</table>

*NC-Not Computed
Similar procedures as for behavioural problems were employed to rank the data as presented in Table 11. The absolute values of the difference scores were ordered making a note of the sign of the difference [+ (positive) or – (negative)] and ranks from 1 through to the largest absolute values of the difference scores were assigned.

Table 11: Adaptive functioning signed rank ordered difference scores

<table>
<thead>
<tr>
<th>Participant</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differences</td>
<td>-10</td>
<td>7</td>
<td>3</td>
<td>-1</td>
<td>0</td>
<td>-11</td>
<td>4</td>
<td>11</td>
<td>1</td>
<td>NC</td>
<td>3</td>
<td>8</td>
<td>-3</td>
<td>4</td>
<td>-2</td>
<td>5</td>
<td>8</td>
<td>-8</td>
</tr>
<tr>
<td>Ordered Values</td>
<td>-1</td>
<td>-2</td>
<td>3</td>
<td>3</td>
<td>N</td>
<td>R</td>
<td>-3</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>NC</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>-8</td>
<td>-9</td>
<td>-10</td>
<td>11</td>
</tr>
<tr>
<td>Signed Ranks</td>
<td>N</td>
<td>R</td>
<td>-4</td>
<td>6.5</td>
<td>6.5</td>
<td>8</td>
<td>9</td>
<td>11</td>
<td>11</td>
<td>-11</td>
<td>-13</td>
<td>-14</td>
<td>-15</td>
<td>-15.5</td>
<td>*NC-Not Computed</td>
<td>NR-Not Ranked (Zero Values are not ranked)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The actual test statistic was also computed and the data is presented below in Tables 12.

For the TRF a critical value for the sample size n=17 and two –sided level of significance a=0.05 is 34. W=51 and more than 34, indicating that there is not a significant difference between adaptive functioning observed by mentors at pre-test and at post-test. (See appendix A for the critical table for Wilcoxon signed rank). This means that adaptive functioning was not significantly higher at post-test (median=18.00) than at pre-test (median =16.50), z = -.881, p = .378. The p- value indicates that the likelihood that the changes in competence are not a result of the involvement in the mentoring programme but rather other effects which would be viewed as random. Based on this, we do not reject the $H_0$ in favour of the $H_1$ because the p-value of 0.378 is greater than the significance level of 0.05.
Table 12: Summary of adaptive functioning (TRF) data after they have been ranked

<table>
<thead>
<tr>
<th>Adaptive Functioning</th>
<th>Post-intervention TRF Adaptive Functioning Pre-intervention TRF</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
<th>median values</th>
<th>z-value</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Ranks</td>
<td>6</td>
<td>21</td>
<td>8.50</td>
<td>51</td>
<td>.881</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive ranks</td>
<td>10</td>
<td>20</td>
<td>85</td>
<td></td>
<td>.378</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ties</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The preceding results from the mentee and parents/guardians respondent groups can be interpreted as indicative of the fact that the intervening mentorship programme provided a positive impact on the behavioural outcomes of students who participated in the intervention. However, the mentees exhibiting improved perceptions of themselves overall when compared to the pre-intervention corroborated by the parents/guardians’ responses could have been a result of social desirability. The reason being that negative behaviour could result in withdrawal from the programme according to the terms of reference of the ERF programme (ERF, 2013). Contrary to the former respondent groups’ perceptions, the TRF (mentors) reported 11 participants with higher and positive ranks compared to 4 with lower and negative ranks. The latter could be a fairly more accurate assessment of the mentees’ behaviour. However, the mentors might have been more critical and wanted good results post-intervention since they had interacted with the mentees for longer in contrast to pre-intervention.
5.3.2 Academic performance

Research question: To what extent does academic performance of participants change after six months of participation in the mentorship programme?

Academic performance scores consisted of marks from five learning areas that are offered in the ERF programme, the average of which was calculated. The academic average marks of learners were then used as a reflection of their academic performance. Academic performance scores pre- and post-test were recorded and the differences between the two scores were determined to show whether there was a difference in mentees’ academic performance after participating in the mentorship programme. The data are shown in Table 13.

Table 13: Academic performance data: difference between academic performance pre- and post-intervention

<table>
<thead>
<tr>
<th>Participant</th>
<th>Academic performance</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>1</td>
<td>72</td>
<td>64</td>
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<tr>
<td>2</td>
<td>68</td>
<td>63</td>
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<tr>
<td>3</td>
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<td>81</td>
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<tr>
<td>4</td>
<td>58</td>
<td>59</td>
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<tr>
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<td>63</td>
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<td>57</td>
</tr>
<tr>
<td>18</td>
<td>61</td>
<td>59</td>
</tr>
</tbody>
</table>

The absolute values of the difference scores were ordered and assigned ranks from 1 through \( n \) to the largest absolute value of the difference in scores, and assigned the
mean rank when there are ties in the absolute values of the difference scores. The signs ("+" or "-") of the observed differences were attached to each rank as presented in Table 14.

**Table 14: Academic performance signed-rank ordered difference scores**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Ordered Absolute Values of Difference Scores</th>
<th>Signed Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-1</td>
<td>1.5</td>
</tr>
<tr>
<td>2</td>
<td>-1</td>
<td>-1.5</td>
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<td>-17</td>
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</tr>
<tr>
<td>18</td>
<td>-21</td>
<td>-18</td>
</tr>
</tbody>
</table>

The actual test statistic was also computed and the data is presented in Table 15.

**Table 15: Summary of academic performance data after they have been ranked**

<table>
<thead>
<tr>
<th>Academic Performance post-test</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
<th>median values</th>
<th>z-value</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Ranks</td>
<td>17</td>
<td>9.97</td>
<td>169.50</td>
<td>56.50</td>
<td>-3.661</td>
<td>.000</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>1</td>
<td>1.50</td>
<td>1.50</td>
<td>64.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ties</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Academic performance post-test < Academic performance pre-test
b. Academic performance post-test > Academic performance pre-test
c. Academic performance post-test = Academic performance pre-test

For the academic performance a critical value with the sample size n = 18 and two-sided level of significance α=0.05 is 40 (See appendix A for the critical value table for
Wilcoxon). From table 15 above, w is 1.5 and less than 40, indicating that there is a difference between the academic performance observed at pre-test and post-test. The academic performance of the mentees was significantly lower at post-test (median =56.50) than at pre-test (median =64.50), z=-3.661, p = .000. The p-value indicates that the likelihood that the changes in academic performance (the decrease in reported academic performance post-test) are not necessarily a result of other effects which would be viewed as random but rather a result of mentoring. We reject $H_0$ in favour of the $H_1$ because the p-value of .000 is less than the significance level of 0.05.

5.4 Summary

It was hypothesized that ERF mentees’ Behavioural problems scores as seen by the parents / guradians pre-test would not differ from scores post-test ($H_0$: Median difference = 0, ($H_1$: Median difference $\neq$ 0; $\alpha$=0.05). We rejected the $H_0$ in favour of the $H_1$ because the p-value of 0.037 (CBC) is less than the significance level of 0.05. However, we failed to reject the null hypotheses for Behavioural problem scores reported by the mentors and mentees. We also failed to reject the null hypotheses for Competence scores and Adaptive functioning. However, we did reject the null
Chapter 6: Discussion and conclusion

This chapter will start with a summary of the research study after which the results will be discussed. Implications of the results of the study will also be discussed in light of the literature and limitations will be explored. Recommendations regarding future research in this area will be put forward.

6.1 Summary of the study

The study examined the effects of participating in a mentorship programme within an organisation on learners’ behaviour and academic performance. To satisfy the needs of the study, a formal mentorship programme was selected for evaluation. Using pre- and post-test comparisons, the study assessed how participation in the ERF programme, a mentoring programme for high school learners from two Soweto schools in Johannesburg, South Africa, affected: (a) academic performance as measured on tests set by mentors; and (b) behaviour, as reported by mentees, mentors and parents/guardians on (i) Behavioural problems, (ii) Competence and (iii) Adaptive functioning.

The study was a pre-test/post-test quantitative design. The population comprised six male and 12 female learners from Grade nine through to Grade twelve whose ages ranged from 14 to 18 years, as well as their mentors and parents/guardians. The learners were recipients of the ERF Scholarships which automatically placed them into mentorship programme. The Wilcoxon Signed-Rank test was used to determine whether there is a difference in behaviour and academic performance after participating in the mentorship programme. It was hypothesised that participants’ academic
performance scores, competence and adaptive functioning scores post-test would be higher than scores pre-test, but that participants would report more behavioural problems pre-test than post-test.

6.2 Behaviour

The results in this research do not support previous findings that mentoring significantly improves behavioural outcomes (DuBois & Silverthorn, 2005; Langhout, Rhodes & Osborne, 2004; LoSciuto, Rajala, Townsend & Taylor, 1996; Portwood, Ayers, Kinnison, Waris & Wise, 2005). Mentoring may indeed not be able to influence change in all behavioural areas. The variability in the reports of the mentees, mentors and parents/guardians on behavioural change is difficult to account for with a single explanation and even the areas that reflect no significant change can be interpreted in different ways.

In addition, the measures used in this study may not accurately assess the nuanced changes learners may be making in their behaviour. Further research would need to be done in order to provide more information. For example, different and more detailed measures gathered from multiple sources in addition to the mentee, mentor and parent/guardian (i.e., teachers, friends, coaches and school records) might help to inform this area.

6.2.1 Behavioural problems

It has been posited that youth involvement with adults who are an interested and committed presence may result in children who think more positively about their lives
(positive self-worth) and these children are less likely to participate in behaviours that are destructive to themselves and others (DuBois & Silverthorn, 2005; Keating, et al., 2002; Keller, 2007). However, only the parents/guardians in this research reported significant positive gains in this regard.

Mentees reported no significant change in behavioural problems with the programme ($Z = 1.395, p = .163$). On the other hand, parents/guardians reported behavioural problems to be significantly higher pre-intervention than post-test, ($Z = 2.087, p = .037$). The results showed that the decline in behavioural problems reported by the parents/guardians could be clearly attributed to the ERF programme. Contrary to the parent/guardian and mentee respondent groups, the mentors reported that the mentees' behavioural problem scores increased over the six months, though not significantly ($Z = -1.820, p = .069$).

When using the Social Learning and Social Cognitive theories as a lens, modelling, observation and expectancy effects could account for these results. According to the Social Learning Theory, behaviours are acquired through observation and modelling (Bandura, 1977; Morrison, Ross & Kemp, 2007). In the current study, the mentees were supposed to learn by observing the mentors as they modelled acceptable behaviour and in turn exhibit changes in their behaviour. The lack of change reported by the mentees could be related to the lack of suitable modelling by the mentors (Kahle-Piasecki, 2011). Mentees may also have lacked a sense of identification with mentors, so that even if modelling was suitable behaviours would not have been imitated. The Social Cognitive Theory stresses the importance of identification between the observer and model in bringing about behavioural change (Vygotsky, 1978), though there are
conflicting results from studies that examined identification as a factor in the effect of mentoring on behaviour (Bowen, 1986; Sosik & Godshalk, 2000). In addition, mentees might not have seen or witnessed positive mentor behaviour being rewarded (Ebel, 1977).

It is also important to consider whether or not the mentors had been trained to model specific behaviours (Jackson, 2002). Learning how to model appropriate behaviour requires an understanding of the expectations and needs of the mentee. Zand, et al. (2009) emphasise the importance of determining which behaviours need to be targeted in a mentorship programme. They add that mentors must take into account not only the mentee’s needs, but the mentee’s developmental level when deciding how best to model desirable behaviours. This is an important consideration in scaffolding and the zone of proximal development (Vygotsky, 1978).

Interestingly, mentors provided rather low pre-test behavioural problem scores. It might be that, as the mentors spent more time with their new mentees over the six months, mentors observed more problem areas. The decline in behaviour (increase in behavioural problems) reported by the mentors could be a result of differences in personalities between the mentors and the mentees and the context in which mentoring took place to translate into the desired behaviour (Bandura, 1977; Ebel, 1977; Hezlett, 2005; Kahle-Piasecki, 2011). It is possible that mentor personalities and the venues were not conducive to fostering positive mentor behaviour (Bahn, 2001).

It is also possible that the learners in the programme experienced a negative halo effect. That is, perhaps mentors had some bias about who the maladaptive mentees
were during sessions, and as a result failed to notice any substantial gains (Jackson, 2002).

The mentor reports contrasted the parent/guardian reports of improved behaviour. While the parents/guardians could have responded to the best of their knowledge of the mentees to present the mentees’ behaviour as improved, there is also the possibility that the parents/guardians and the mentee might have perceived a link between the study and the organisation. As a result they may have given socially desirable responses. The social desirability of responses could have been because if they presented mentees as exhibiting negative behaviour, they would risk being withdrawn from the programme and subsequently lose out on the scholarship. The latter is highly likely because the withdrawal clause is given in writing in the programme contract (T. Moloko, personal communication, March 28, 2013).

Another explanation for the parent/guardian reports is related to expectancy bias. Fiske (1993) explains that the perceiver’s (in this case parents/guardians) expectancies persistently affect the observation of target behaviours. Fiske goes on to explain that perceiver observations are “relatively accurate but not perfect” (p. 158) as perceivers use both their observation as well as expectancies to judge target behaviours. Such expectancy biases can also explain the differences amongst the perceptions of the three respondent groups regarding behavioural problems. Each group may have generated its own self-fulfilling prophecies (Fiske, 1993).
6.2.2 Competence

The parent/guardian respondent group indicated an improvement in mentee competence over the 6 month period, though this was not statistically significant ($Z = -1.574, p = .115$). On the other hand, the mentees did not view any change in their competence within the same period ($Z = -.676, p = .499$).

The parent/guardian reports could be explained by Festinger’s (1957) theory of cognitive dissonance, which suggests people seek to reduce incongruences between personal beliefs and external information. That is, knowing the implications of negative behaviour, positive change is likely to be perceived regardless of the actual outcome. On the other hand, the outcome might also be a true reflection of mentee competence.

By including learners who were neither self- nor parent-nominated for mentoring, it is less likely that the gains reported were the result of expectancy bias (Jackson, 2002). In either case Zand, et al. (2009) are of the opinion that the interpersonal relationship is central to the acquisition of any competence skill. This cooperative dialogue within mentoring is therefore very important. However, it is not clear how central the interpersonal relationship is in the ERF programme based on the approach applied in this study. Given the limited time available for mentor-mentee interaction and data collection intervals time might have been a limiting factor in the development of this cooperative dialogue.

6.2.3 Adaptive functioning

There was no difference between adaptive functioning scores as reported by mentors pre- and post-test ($Z = -.881, p = .378$). There is again a possibility of expectancy bias
influencing the outcome (Fiske, 1993). Another possible explanation would be that the mentors might not really be the right people to assess academic performance as well as the other adaptive characteristics given the limited contact time. Given that adaptive functioning is an aspect of behaviour, due consideration must be given to the points made in 6.2.1, including expectation and needs, zone of proximal development and the quality of modelling.

6.2.4 Further considerations for evaluating behavioural change through mentoring

The researcher acknowledges that there are many reasons why learners’ behaviours (behavioural problems, competence and adaptive functioning) scores could have changed or stayed the same. This includes a host of reasons that the researcher would not have been able to identify given the methodological boundaries of the research design that was selected for the study. The non-significant difference reported by mentees could be as a result of them not thinking so highly of themselves and perceiving themselves in a negative light while the mentors and parents/guardians were probably more objective. Behavioural problems according to the mentors might have been influenced by the development of trust between them and the mentees. The mentees might have opened up to them and the mentors in turn looked more closely at aspects of behaviour. However, time spent in mentorship could also account for the mentors’ perceptions of the mentees.

This study was based on a mentoring programme with a prevention focus that is aimed at learners who are susceptible for, but not experiencing, behaviour and academic problems. This makes it less likely that there would be a high prevalence of unhealthy
behaviours in participants pre-enrolment. It is likely that the learners were experiencing a ceiling effect and therefore what improvement may have occurred could not be captured at post-test. In other words, when participants begin with relatively healthy results, it is difficult to show improvement (Eccles, et al., 1999; Silberg, et al., 1999; Underwood, 2003).

Also, given that many of these outcomes become more problematic as learners progress through school (Eccles, et al., 1999; Silberg, et al., 1999; Underwood, 2003), it is possible that the mentorship programme may have had a yet undetected effect of helping learners cement their positive growth. Long-term follow-up of the participants in this study could determine whether the ERF mentoring programme has this potentially protective effect of keeping mentees healthy longer than their non-mentored counterparts (Rhodes, et al., 2006).

The results may also have been affected by the fact that parents/guardians tried to complete the questionnaires without the assistance of the mentees and left out some important information. This resulted in non-calculation of scores for behavioural problems and competence which could have affected the results. The mentors on the other hand reported behaviour problems to have increased post-intervention probably owing to the fact that at pre-intervention they could not say much about the mentees’ behaviour. Post-intervention, they had spent reasonably more time with the mentees and now knew the mentees better than when they reported on them pre-intervention.

The mentoring programme intervention between data collection points was relatively short, yet produced some positive outcomes in the behaviour of students. If some gains
can be observed after just six months, it stands to reason that a longer course of mentoring might be even more beneficial to students. However, there are limitations. As indicated in the literature review, the relationship between the duration of a mentoring programme and positive outcomes is one that has confounded researchers and which has created conflicting claims. Some researchers contend that after an initial period of enthusiasm and demonstrable benefit mentees and sometimes mentors too reach a ceiling beyond which mentoring is less effective (Campbell, 1995; Hobson, 2002). Reid (2008) concurs by pointing out that all stakeholders in the mentoring process should be aware of the possibility of the ceiling, and should plan for it in their policy and programme development phase so as to ensure that significant gains that can be made are not lost or undermined. Further research is needed to determine whether there is a threshold past which the positive effects of mentoring may either reach a ceiling or enter a phase where they decline.

As noted earlier, each mentorship programme is designed for a specific population with specific goals and as such, each emphasises distinctive features and functions according to a distinctive set-up. While the ERF mentoring programme realised minimal positive effects on behaviour for the population of students who participated in this study, it cannot be claimed that the positive outcomes of the study could be generalised to any and all learner populations. Different populations have distinct needs and mentorship programmes are neither-nor should they be one size fits all.

While some positive results for behaviour were noted, the question of whether the improvements experienced or perceived will be maintained over time ensues. Incidentally one wonders whether the positive effects reported by mentees,
parents/guardians, and mentors are reflective of actual improvements which could be measured by completely different respondents, or they are possibly reflective of learners’ improved self-esteem and increased engagement, which perhaps influenced positive responses post-intervention. This, however, may be understood as some sort of halo effect. Holbrook (1983, p.247) explained the halo effect and its implications as follows: “Researchers who work with attitude models based on attribute ratings encounter the danger that affective overtones may distort perceptual judgments”. In other words, with respect to the present study, students perceived themselves as having improved, in general, across all of the measured items. As a result, whether they truly believed that they had improved may have been coloured by their general positive feelings about their participation in the mentoring programme. The researcher cautions, however, that this is merely a hypothesis on her part. Nonetheless, the halo effect is a pervasive problem with respect to questionnaire, survey and interview methodologies in which the researcher is attempting to capture perceptions (Holbrook, 1983). The halo effect has also been noted repeatedly as a potential pitfall in studies related to teachers and students (Boatright, Phelps & Schmitz, 1986; Coren, 1998; Meltzer, Katzir-Cohen, Miller & Roditi, 2001). To confirm or deny the influence of the halo effect in the present study would require further research.

In addition to the question of whether or not positive mentoring outcomes will be maintained, one would also want to find out if the positive effects, perceived, actual or some combination of the two, will be sustained over the long-term. In other words, while the ERF mentoring programme produced some positive behavioural outcomes, one wonders if students retain the benefits over a longitudinal period. This question is
particularly critical because its answer may give an indication of whether ongoing or periodic support is needed once a student completes a mentoring programme. Once more, the present study cannot answer this question, as it was not longitudinal in nature. However, this is one area that is deserving of future research.

However, before one reaches the conclusion that the programme is or is not effective, closer consideration ought to be given to the data. For example, a review of pre-test results indicates that for several outcome areas (perception of academic performance and behaviour) participants began the programme with few problems. This was also confirmed by the within normal range results obtained from the ADM (Achenbach, 2010). Of note, this study was based on a mentoring programme with a prevention focus that is aimed at learners who are vulnerable, but not yet experiencing academic, social and/or emotional problems (Mentee reports).

6.3 Academic performance

While some positive behavioural outcomes have been reported to have been a result of participation in mentoring, participating learners in the ERF mentoring did not yield significant gains in academic performance. In fact, academic performance post-test results decreased significantly and only 6% of the mentees had a higher post-test academic performance score. The results indicate a significant decline in academic performance ($Z$-3.661, $p < .001$). This is in contrast to results from numerous other studies that link mentoring to improved academic performance (DuBois & Silverthorn, 2005; Langhout, Rhodes & Osborne, 2004; Megginson & Clutterbuck, 1999; Portwood, et al., 2005).
There could be several explanations for the decrease in academic performance. One of the reasons could be attributed to the increase in level of difficulty in the respective learning areas, change in content of learning material and also the demands placed upon learners to adhere to stringent academic requirements and difficulties managing between regular school work and ERF work. The decrease in academic performance could be explained by the fact that these learners may demonstrate an oral-based basic interpersonal communication skills style of proficiency in English which is the language of learning and teaching. Since the cognitive-linguistic proficiency that underpins reading ability is based on cognitive academic language proficiency, they are unlikely to succeed in the learning context (Cummings, 2010; Pretorius, 2002).

The negative academic performance results could also be a result of the fact that the mentors are young professionals and graduates who donate their time, knowledge and skills to teach and advise learners as well as facilitate learners’ workshops and other engagements with them. The quality of modelling and the identification of mentees with the mentor are therefore important considerations again.

In traditional schooling, the teacher is an important figure in the classroom and is the source of knowledge and information. He or she must be a subject matter expert who actively facilitates the achievement of desired academic and behavioural results in learners (Pryce, 2012). For this study, the mentors are not subject specialists, neither are they trained educators. They might be competent in the subjects they offer in the mentorship but lack the delivery skills a specialist educator has received in training.
Additionally, time spent in the sessions was limited to one session per month with most of the work being done as assignments with very little assistance from the mentor. These could have contributed to the negative academic performance results. Best practices suggest more and frequent contact time would yield more positive results (Dappen & Isernhagen, 2006). However, mentor qualifications and/or training as well as contact time were not the focus of this study. These could be explored in future research.

The current study does however, support the findings by Lapidus (2004), that there was a decline in academic performance for students participating in mentoring. While this is not supportive of the fact that mentorship might be useful, it is important to understand that the time mentees spent with mentors was relatively short (one hour per session, once a month) meaning positive changes might have been seen had there been more sessions.

The statistically significant academic performance decline could have been influenced by the stage of learner development. Adolescence requires an adjustment to high school and the new school environment that accompanies it (Lord, et al., 1994). Challenges encountered during this time may result in academic performance suffering, which is particularly problematic since a strong scholastic performance can pave the way to future success in life (Grossman & Tierney, 1998). As such, academic performance is an important aspect of adolescent development. However, positive outcomes may occur because mentors demonstrate their own valuing of education, express interest in the youth’s academic progress, and serve as an example of the connection between education and later success (Grossman & Tierney, 1998).
McPartland and Nettles (1991) found that their population of mentored middle and high school students had improved grades in certain classes while participating in mentoring. Another large study of children and adolescents found that mentoring directly and positively affected mentees' perceived scholastic competence (Rhodes, et al., 2000). Additionally, another study of children and adolescents found that individuals whose mentors were active and involved had a higher sense of school competence than those without mentors (Langhout, et al., 2004). However, not all studies focusing on the relationship between mentoring and academic performance report conclusive and positive findings (McPartland & Nettles, 1991). This may be in part because grades tend to remain relatively stable over time and unaffected by interventions that are not focused directly on academic instruction (Grossman & Tierney, 1998). Thus, mentoring's impact on academic performance is indeterminate. More research is necessary in order to determine mentoring's effect on academics because of a growing lack of confidence in learners' abilities during this phase of development (Eccles, et al., 1999).

While I acknowledge that this is in part due to my research method, post-test data could not be gathered after 12 months due to other commitments some of the participants had to engage in. The issue is discussed in detail in section 4.4. Thus, this study supports previous literature suggesting that a six month mentorship relationship is not sufficient for producing positive outcomes in adolescent learners’ academic performance (Rhodes, et al., 2005). Such findings concur with research suggesting that mentorship relationships must last a minimum of 12 months in order to be effective in producing mentee change (Rhodes, et al., 2005).
Williams & Snipper (1990) states that Vygotsky (1978) offers new visions for teaching and learning – ones that emphasised the importance of social contact and collaboration, such as peer-mentoring. According to this view, it is the latter that helps children to reflect on their own thought processes (through feedback and discussion in the actual reading programme) and shift to a higher level of cognitive functioning (Williams & Snipper, 1990). This view is also held by Cummings (2010) and Smyth (2002) – higher-order scientific, abstract concepts that are learnt through mediated experience such as peer-mentoring, play a vital role in children’s cognitive development and hence their schooling and academic achievement.

6.4 Limitations

The generalisability of the results of this study were restricted because of some limitations. Perhaps the most significant limitation of the study was the sample size, but the study design and measures used are also critiqued.

6.4.1 Sample size

This study involved a relatively small sample size and limited geographic coverage that is not representative of the entire South African learner population. The total number of participants failed to meet the desired sample size of at least 30 determined using the four factors of the: criterion for statistical significance; level of statistical power; statistical analysis strategy; and the size of the effect judged to be meaningful (Olejnik, 1984). Failing to meet the intended sample size greatly limits the generalisability of results back to other demographic student populations. It would naturally have been better for generalisability if the sample was bigger, but there were practical problems
such as financial and human resource problems involved in finding a big enough group which also was representative enough. The ERF was chosen for this study mainly due to time constraints and limitations on disposable income and spending.

6.4.2 Study design

Data for this study is based on a non-random sample and a non-control group quantitative design. The non-random nature and participants being their own control also pose limitations. Participants were their own control and data for two of them could not be used because they did not participate on either one of the data collection occasions. One participated during pre-test but voluntarily withdrew post-test while the other only participated post-test. Allen (2009) stressed that although the difficulties of insisting on a control group in an on-going school programme are real, the practical value of having control groups is obvious.

The fact that no qualitative input (through interviews/naive sketches) was specifically tapped from programme participants, the mentors and mentees, meant that some important elements of the programme not tapped by the questionnaire were not included. The current study investigated only a small population – high school learners identified by the organisation who qualified to be a part of the scholarship programme thus potentially biasing the results. A strong criticism of the existing research on mentoring is that it is methodologically flawed and limited in its conclusions, relying exclusively on self-report data (Keating, et al., 2002).
6.4.3 Organisation standardised measures

The study’s focus on behaviour and academic performance for which there were no standardised measures employed by the organisation created another limitation. Further investigations are required to replicate and define the relationship between the two constructs. This study would have benefited from a more direct measure of academic performance and behaviours. While some positive changes were reported, the self-report nature of the questionnaires provide limited insight into the actual versus reported behaviour of students. Given that the participants were automatically placed into mentorship following the successful passing of selection criteria into the scholarship programme, it may be that a measure more sensitive to the specific concerns is needed. Future research should also include behavioural outcomes that are more central to the programme’s design and intent (i.e. social skills, social network).

6.4.4 Common method variance

The results of the study may have been affected by common method variance, that is, when two variables are correlated largely because they are rated by the same respondent (Podsakoff, MacKenzie, Lee & Podsakoff, 2004). Parent/guardian questionnaires might have been completed in the presence of the learner participants, raising the possibility of contamination. In future, a concerted effort will be made to ensure personal supervision of questionnaire completion by the researcher and or fieldworkers.
6.4.5 The use of self-reported data

The use of research instruments that elicit self-reported responses from participant groups can be limiting in terms of the validity and reliability of the data. As Cohen, et al. (2007, p.354) remarked, "subjective measures such as self-reports, by their very nature, raise questions about the external validation of respondents’ revelations." Additionally, self-report data is subject to various complicating factors such as social desirability; participants may have exaggerated some measures (e.g. grades) or been hesitant to report others honestly (e.g. parental relationships) (Rhodes, et al., 2000). This was particularly true with the differences between the parents and learners’ perceptions of academic performance and the actual results. While parents and learners reported academic performance as ranging from average to above average, pre- and post-intervention, actual post-test results were lower than pre-tests. These variations clearly indicated an element of giving socially desirable responses. The researcher however, attempted to control the negative influence of this possibility by using three distinct participant groups - students, parents and mentors.

No information on literacy levels of parent/guardian respondents is directly requested on the instrument. This might have influenced some responses and outcomes. Some parent/guardian respondents might not have understood questions and their responses could have negatively affected the study’s outcomes. The data could have been further enriched and varied by the incorporation of an entirely different kind of data set. To validate the participants’ responses about their academic outcomes, the researcher could have sought permission to review school test scores and grade reports and compared these to the responses for each learner. For the behavioural measure, the
researcher could also have corroborated the participants’ self-reports about improvement by accessing school records regarding the number of behavioural incidents recorded before, during and after the intervention period. This information would have given a better understanding of the pre-intervention baseline that describes the state of the study participants before receiving the intervention and made it possible to determine efficacy of an intervention programme.

6.4.6 The halo effect

It is acknowledged that one of the limitations of the present study is that it did not anticipate the possibility of the halo effect and the influence that it could exert, albeit unconsciously, on the participants’ responses (Holbrook, 1983). Yet the influence of the halo effect may well have confounded the response patterns of all three respondent groups, students in particular. In future studies of mentorship programmes, researchers should be aware of the likelihood that the halo effect can occur in methodological frameworks that rely upon questionnaires, surveys, or interviews as the instruments of data collection.

6.4.7 Mentor skills

Other than through the assessment of academic performance, attendance and time spent together in groups, the current data did not allow for an investigation of group facilitator skills or the degree to which the various mentoring parties were accurately following the requirements of the mentoring programme. It is possible that mentors that adhered to the curriculum had a greater impact on their mentees than those that did not.
As alluded to initially the sample size for this study was too small to be able to separately analyse these possible differences.

### 6.5 Future research

Based on the study, the researcher was able to gain invaluable insight into the process of mentoring and the potential that these programmes have to influence and positively impact students. A similar study could look to collect qualitative data on the mentors and their mentees. Qualitative data provides a depth of knowledge that quantitative statistics are not able to provide (Lee, 2008). Additionally, qualitative data provided by the participants will assist future researchers by identifying barriers to effective mentorship.

A true experimental design involving an intervention and control group randomly selected; using mixed methods of data collection to investigate both the outcomes and processes also needs to be considered. Interviews will need to be used to supplement data collected through questionnaires. This approach to data collection is based on Yin’s (2003) affirmation that with the combination of multiple sources of evidence within a study of the same phenomenon rests on the premise that the weaknesses in each single method will be compensated for by the counter-balancing strengths of another, reducing the likelihood of misinterpretations of research results. Interviews are ways for participants to get involved and talk about their views (Cohen, et al, 2007).

Future research would also benefit from rigorously collected observational data, checklists to measure the prevalence of the outcome variables, and analysis of group mentoring processes. A more structured questionnaire could be used in the teacher/mentor/mentee feedback on the intervention. For example, specific questions...
could have been addressed to mentees on how the mentoring helped them in areas such as school achievement and homework, motivation to study, self-confidence, social adjustment and general enrichment. The mentors could be specifically asked about whether or not they encountered problems around scheduling sessions, planning activities, dealing with problems from the mentees, receiving suitable guidance and support. The use of such qualitative feedback is most valuable to the evaluation and re-structuring of such interventions so future studies are even more effective and successful (Goodlad, 1998). In addition, exit interviews at post-test data collection with the learners would have helped to uncover their perceptions of the environment, particularly mentor support. Mentors in the programme might have set high but attainable expectations with mentees, characteristic of authoritative teaching styles that enhance student learning and display of appropriate behaviour (King, Vidourek, Davis, & McClellan, 2002).

Furthermore, a similar study should look to provide further analysis regarding quality of the mentorship programme, time spent, mentor selection criteria and training. Future research in this area should allow for more time for the mentorship programme to develop. Extending the time for each session can also be considered. These two factors are critical to the success of the mentorship programme and future research should seek to make necessary adjustments in these areas. This is consistent with Sipe (2002), Mejorado (2000), and Foster (2001) who emphasise that most of the research on mentoring programmes indicates that the longer a mentor is matched with a mentee, the more likely the mentoring will produce positive effects. Inconsistent and short intervals of mentoring tend to have no significant benefit for students. Mejorado (2000)
found that most of the mentoring relationships in her study lasted for less than one year, demonstrating irregular mentoring patterns and levels of success. Although we recognise that the time-intensive nature of good mentoring makes for a complicated endeavour in trying to recruit and retain qualified mentors (Gándara 2003), erratic mentoring appears to have no effect on learner outcomes.

There is indication that the mentoring relationship must exist over a considerable amount of time in order to be beneficial (Rhodes, 2002). While the mentoring field has recently adopted 12 months as the minimum amount of time a mentor should be involved with a mentee (Rhodes, 2002), some negative results of shorter-term relationships may not apply to mentorship programmes that frequent contact may be likely to be effective in influencing positive outcomes (Keating, et al., 2002) as it could provide an opportunity for a mentee to receive benefits such as role modelling and skill development (Rhodes, 2005). Thus, it may be particularly important to investigate the frequency of contact within the mentoring relationships in order to determine whether that may influence the extent to which positive outcome changes emerge.

Research shows that in more cases than not, mentoring does work. However, positive outcomes are in direct correlation with the relationship of the mentor and the mentee, and the practices of the mentorship programme. Many mentorship programmes provide options and opportunities to assist in the building of the relationship, such as group outings and after school meeting. According to Dappen and Isernhagen (2006), for the mentor-mentee relationship to work, Best Practices should be followed. Mentorship Best Practices are described as mentorship programmes that include monitoring of programme implementation, careful screening of mentors, matching mentors and
mentees on at least one criteria, pre-match and on-going training for mentors, supervising programmes, supporting mentors, providing some structured activities and opportunities for parent support and/or involvement, and providing expectations for frequency of contact and duration of the mentoring relationship, which has been found to be the common component of successful mentorship programmes (Dappen & Isernhagen, 2006).

Mentors who are successful in promoting positive change are usually those who are a consistent and steady presence (Sipe, 2002). When investigating time spent in the mentoring relationship, the importance of the length of the relationship emerges, as mentoring relationships tend to have more of an impact over time (Grossman & Rhodes, 2002). Royse (1998) suggested that long-lasting (24 to 30 months) mentoring matches result in more positive mentee changes than shorter (15 months) matches. This could possibly be because long-term mentors have sufficient time to teach things such as responsibility and good habits. DuBois and Silverthorn (2005b) also highlight the importance of long-term mentoring matches as benefiting the mentorship pair. Research evidence shows adolescents in mentoring relationships that ended after a very short amount of time (less than three months) actually worsened on outcome measures such as global self-worth and perceived scholastic competence (Grossman & Rhodes, 2002). Frequency of contact between mentor and mentee is significantly associated with closeness and duration of the relationship (DuBois & Silverthorn, 2005b). This could be because frequent contact may have the indirect effect of fostering the development of closeness and positive outcomes. However, literature suggests that mentoring in a group context may be especially beneficial (Rhodes, 2006).
Although there is a fair amount of research on mentoring in general, there is considerably less available research that investigates the relationship between mentees and mentors (Langhout, et al., 2004). DuBois, et al. (2002) reported in their meta-analytic review that mentoring relationship characteristics could not be reliably investigated given a lack of sufficient data. Research fails to explain the ways in which mentors are able to increase learners’ resilience (Rhodes, 2002) or have positive effects (Keating, et al., 2002), although it does suggest that not all mentors are equally effective (Sipe, 2002). More information is needed in order to understand what aspects of the mentorship relationship may be associated with mentees' positive outcomes. Most available research points in one of two directions: aspects of the quality of the mentoring relationship (i.e., satisfaction and emotional connection) (Rhodes, 2002).

Assessing the quantity and quality of time spent in the mentorship relationship may help shed light on what aspects of mentoring affect the youth. Although it is difficult to know whether outcome differences are due to differences in the quality of the mentoring relationship or time spent together (Langhout, et al., 2004), research in this area is necessary in order to better understand the mechanisms of successful mentoring.

Available data frequently suggest that a high quality mentorship relationship is an important component of positive youth outcomes (Rhodes, 2006), and that lower quality relationships often result in less favourable outcomes for the youth (DuBois, et al., 2002). However, merely having a mentor may not guarantee improved outcomes. Literature often is unclear about what constitutes a quality mentorship relationship. Results tend to stress the significance of the relationship without clarifying what helps to
make it successful (Rhodes, 2002). Further research is needed to determine what aspects of mentorship programmes produce the most beneficial mentee results.

Academic performance is hinged on effective instruction and this can be made possible by ensuring the training of mentors and involvement of qualified educators for quality checks and controls. Designing a battery for assessing behaviour that is tested for its reliability and validity will give the organisation a better picture of how things are going and a true reflection of the impact mentoring has on the mentees so that adjustments can be made timeously and for continuous improvement of the programme. Instead of the programme being a component of the scholarship, making the mentorship programme stand alone would mean more learners being involved and many more people being impacted as compared to a few whose other needs can be met in that small scale.

Programme administrators need to keep abreast of research literature and trends. In this age of measuring results (Johnson, 2002), this helps them develop a sense of what features of a programme or service are important, why, and how they should be offered to maximise benefits for all involved. On-going research has to be an integral part of the organisation’s core activities as this can assist them to have a better understanding of what makes mentoring work as a positive intervention for academic and behavioural success. Longitudinal studies would be effective in addressing the long-term effects of mentorship programmes on programme participants. Case study research could provide additional insight into these programmes and relationships which may not have surfaced through survey research methods.
Evaluation of the mentors and facilitators could prove useful information about mentor skills and characteristics. If individual mentor characteristics and skills are known, research could determine how these may affect various mentee outcomes. For example, a mentor who smokes cigarettes may have less beneficial impact on a mentee's smoking habits than one who does not. Also, findings suggest that mentors are most effective at producing positive youth outcomes when they are compatible with their mentees in the areas of personality, interests and goals (Rhodes, 2006).

6.6 Conclusion

This study evaluated the impact of mentoring on the behaviour and academic achievement of high school learners. High school learners as youth continue to be exposed to a variety of situations that could render them susceptible to academic failure and problem behaviours.

While this study does not reveal consistent reports of improved youth behaviour, parents/guardians suggested that positive changes did occur as a result of mentoring. The mixed results support the notion that mentoring is very complex and varies from one situation to another. In trying to understand the (lack of) changes and the variability in results, questions arise regarding the method of the study, as well as the possibilities and limitations of using Social Cognitive and Social Learning theories to explain informal learning processes in mentoring.

A concern is raised by the decline in academic performance seen in this study. However, the shortcomings of the method employed (including the sole reliance on mentors as reporters and evaluators of academic performance) cannot be discounted.
From the insight gained in this study, it is therefore considered worthy of further examination on a large scale from conception/developing a mentorship programme, training the mentors, developing a measurement instrument, facilitating the mentorship programme and evaluating its impact. The aforementioned exercise will provide a blueprint that will assist organisations and institutions looking to positively impact students in different areas.
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impediment to a culture of teaching and learning in some South African schools.

APPENDIX

Appendix A: Table of Critical Values

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Adapted From Hollander, Wolfe, and Chicken (2013).
Appendix B: Information and Consent Form

University of South Africa, Pretoria: South Africa

Department of Psychology

Researcher: Sarah Kadzomba MA(RC)

Dear Prospective Participant

I (Sarah Kadzomba) would like to invite you to participate in a research project, entitled: **AN EVALUATION OF THE IMPACT OF A MENTORING PROGRAMME IN TWO SOWETO BASED SCHOOLS**

Information and Purpose:

Purpose of the research

The purpose of the study is to evaluate the effect mentoring has on high school learners in the ERF mentorship program in terms of: (a) academic performance and (b) behaviour?

It will also seek to determine if:

- The mentorship program has a significant impact on the youth in terms of a) academic outcomes and b) behavioural development;
- What factors are most significant in the program's impact, and;
To formulate ways of possibly enhancing the delivery and impact of the mentorship programme.

The fact that you (your child has) have made it into the ERF scholarship program which automatically places you (them) into mentorship makes you eligible for participation in the study. You will be required to complete the research protocol. As a participant in the study, you will fill out questionnaires that ask about you (your child) and school life before and after participating in the mentoring program. Additionally, mentors and parents/guardians will fill out questionnaires that ask about you as a student, and a community member. The questionnaires will be distributed personally by the researcher(s) and collected after completion at a mentoring meeting.

Risk and discomfort involved

The researcher(s) do not foresee that you will experience any long term discomfort or that you will be exposed to any kind of risks during the research procedure. Neither do they foresee potential and/or overt harm to you and/or your families. It will be ascertained that you will not suffer any harm as a direct consequence of taking part in the research and you are invited to communicate any confidential or sensitive information separately.

Confidentiality

All information on the questionnaires will be treated with the strictest confidence. We appreciate that you might be sharing information that is very important to you.
Confidentiality for this study will be ensured by assigning a code number to each participant, separating cover sheets containing names from all surveys, and entering only code numbers into the database. The list connecting your name to this number will be kept in a password locked file to which only the researcher and her supervisor(s) have access. Your individual responses will not be disseminated to parents/guardians and or mentors.

**Nature of participation**

Your participation is voluntary in nature and you are free to withdraw if at any point you feel you no longer want to take part in the research with no consequences whatsoever. No specific predictions or statements will be made about you and no names will be used in any report. Personal details will only be kept so that we can contact you in future.

**Benefits**

There are no direct benefits to you for participating in this study. However, this study may help us better understand or identify what is beneficial in a mentoring relationship and subsequently provide information that may assist mentoring program designers to best address the needs of those taking part in the mentoring program. This should enable the identification of effective as well as ineffective aspects of the ERF mentoring program so that adjustments can be made accordingly.

**Time required**

At two separate times you will spend approximately 15 minutes completing questionnaires.
I …………………………………………………………………………… (Print name) hereby consent to 
(assent to my child) participating in the study.

I have read the Information Sheet. All my questions were answered. All parts of the 
study are clear to me.

I understand that:

- Participation is voluntary
- I may refuse to participate in any aspect of the study
- I may request to be withdrawn from the study at any time
- No information that may identify me will be included in the research report and
  my responses and participation will remain confidential
- There are no direct risks or benefits involved in my participation

Signed……………………… (Self/Parent/Guardian) Date………………………………………..

You will receive a copy of this form for your records.