THE EFFECT OF A HEALTH PROMOTION INTERVENTION ON GRADE 1 TO 3 LEARNERS' PSYCHOSOCIAL WELL-BEING

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THE EFFECT OF A HEALTH PROMOTION INTERVENTION ON GRADE 1 TO 3 LEARNERS' PSYCHOSOCIAL WELL-BEING

by

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Submitted in partial fulfilment of the requirements for the degree

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(Educational Psychology)

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September, 2018

ETHICAL CLEARANCE CERTIFICATE

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RESEARCH ETHICS COMMITTEE

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This Ethics Clearance Certificate should be read in conjunction with the Integrated Declaration Form (D08) which specifies details regarding:

- Compliance with approved research protocol,
- No significant changes,
- Informed consent/assent,
- Adverse experience or undue risk,
- Registered title, and
- Data storage requirements.

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DECLARATION

I, Elisma Williams (student number 25146956), declare that this study titled: *The effect of a health promotion intervention on Grade 1 to 3 learners' psychosocial well-being,* which I hereby submit for the degree Master Educationis in Educational Psychology at the University of Pretoria, is my own work and has not been previously submitted by me for a degree at this or any other university. All resources and citations from literature have been acknowledged in-text and referenced in full.

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Elisma Williams

September 2018

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LETTER FROM THE LANGUAGE EDITOR

Louise van Niekerk
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Tel: 082 854 4657
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27 August 2018

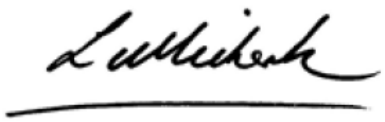
To whom it concerns:

This letter serves to confirm that I have edited a dissertation by Elisma Williams for English language usage, titled:

The effect of a health promotion intervention on Grade 1 to 3 learners' psychosocial well-being

submitted in partial fulfilment of the requirements for the degree Magister Educationis (Educational Psychology) in the Department of Educational Psychology, Faculty of Education, University of Pretoria.

Yours sincerely
Louise van Niekerk



ABSTRACT

This study forms part of and involves the analysis of data from an existing NRF-funded broad research project. The broader project, which has been conducted in collaboration with Fordham University in New York City (USA), aimed to facilitate social change through a school-based intervention that focused on physical fitness, psychosocial well-being and healthy eating habits of young learners. The current study involves the investigation of the effect of the intervention on the psychosocial well-being of the Grade 1 to 3 learners who participated.

For the purpose of the current study, I followed a quantitative methodological approach, relied on a post-positivist epistemological perspective and implemented a secondary data analysis research design. I analysed the psychosocial well-being sections of the Nutritional Habits, Physical Activity and Well-being (NPWB) questionnaire, the Kid-KINDL® as well as the Feelings questionnaires by making use of descriptive and inferential statistics. I specifically made use of the Wilcoxon signed-rank test.

For many of the items included in the three questionnaires, the results remained relatively constant prior to and following the intervention. As such, the results of the study indicate that the health promotion intervention did not have an overall positive effect on the psychosocial well-being of the respondents, despite certain areas of functioning being affected by the intervention. It was namely found that an increased number of learners felt angry more often, were bored more often, and felt calm less often following the health promotion intervention. Learners reportedly also had fun and laughed less often after the implementation had been implemented. More learners felt excited more often after the intervention in relation to before its implementation. In addition, more of the learners felt content at home more often following the health promotion intervention than prior to implementation.

Based on the findings of the current study and differences between these and those obtained from the qualitative measures that were implemented as part of the broader project, I can conclude that the use of quantitative measures with young children needs careful consideration. Specific regard should be given to learners' developmental level, as well as age and language proficiency when using quantitative

measures. Any quantitative measure should also be standardised for the context it is intended for, in order to yield reliable and valid results. Finally, practitioners are encouraged to include qualitative measures in supplementation of standardised quantitative measures when doing research with young children in at-risk school community contexts.

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KEY WORDS

- At-risk school community contexts
- Feelings questionnaire
- Grade 1 to 3 learners
- Health promotion intervention
- Kid-KINDL® questionnaire
- Nutritional Habits, Physical Activity and Well-being (NPWB) questionnaire
- Post-positivism
- Psychosocial well-being
- Quantitative research
- Secondary data analysis

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ACRONYMS AND ABBREVIATIONS

ANA	Annual National Assessments
CARE USA	CARE United States of America
CSG	Child Support Grants
ECD	Early Childhood Development
FAO	Food and Agriculture Organization
H_0	Null Hypothesis
H_1	Alternative Hypothesis
HIV and AIDS	Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome
HSRC	Human Sciences Research Council
IMF	International Monetary Fund
Max	Maximum
Min	Minimum
N	Sample size
NCS	National Core Standards
NPWB	Nutritional Habits, Physical Activity and Well-being
NRF	National Research Foundation
REPSSI	Regional Psychosocial Support Initiative
SAHRC & UNICEF	South African Human Rights Commission & United Nations Children's Fund
SAS 9.4	Statistical Analysis System 9.4
SCT	Social Cognitive Theory
STAR	Supportive Teachers, Assets and Resilience
Std Dev	Standard Deviation
UNDP	United Nations Development Programme
USA	United States of America
USDHHS	United States Department of Human and Health Services
WHO	World Health Organisation

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CHAPTER 1

INTRODUCING THE STUDY

1.1 INTRODUCTION AND RATIONALE FOR UNDERTAKING THE STUDY

The current study forms part of and involves the analysis of data from an existing NRF-funded broader research project[1]. The broader research project, in collaboration with Fordham University in New York City (USA), aimed to facilitate social change through a school-based intervention that focused on physical fitness, psychosocial well-being and healthy eating habits of young learners. A health promotion intervention for 330 Grade 1 to 3 learners was developed during 2014 and 2015, based on assessments conducted with the learners prior to the intervention. The intervention was implemented during the second half of 2015 and consisted of three sessions per week for a period of six weeks. Activities and discussions on physical fitness, psychosocial well-being and healthy eating habits formed part of each week's sessions. During intervention implementation, learners were engaged in discussions and concrete activities. Handouts to parents were distributed after every session and some activities had to be completed at home involving parents and sometimes other family members.

The United Nations Development Programme (UNDP, 2016) indicates that more than 700 million individuals globally live on less than US$1,90 per day (currently approximately R27,90), which is below the extreme poverty line. At-risk communities and informal settlements typically experience challenges of poor healthcare and barriers to healthy lifestyle maintenance as a result of these high poverty levels (Du Toit et al., 2015). As such, the growing level of poverty in specifically Sub-Saharan Africa is affecting the health and ultimately the lives of caretakers, leaving many children vulnerable and even orphaned (CARE USA, 2010).

Poverty is strongly related to malnutrition, stunted growth in children, poor sanitation and hygiene challenges that lead to infections (Grantham-McGregor et al., 2007). Consequently, the challenges of malnutrition and non-communicable diseases are constantly present and even increasing in at-risk communities – both in developed and

[1] NRF grant UID 90575.

developing countries (Draper et al., 2010). Dietary diversity and food intake are typically low in such areas, with negative implications for the health of family members, learners' school attendance, the ability of caretakers to earn an income over the long-term, and learners' holistic development (Drimie & Casale, 2008; Casale et al., 2007).

Within these contexts, challenges that at-risk school-communities generally face include high levels of unemployment and illiteracy, limited access to social and health services, loss and grief related to HIV and AIDS as well as financial strain due to caretaking responsibilities (Ebersöhn & Ferreira, 2012). Individuals living in at-risk communities are usually unable to choose food products that can sufficiently provide for their nutritional needs, as they do not have the required knowledge, resources or skills to do so (Nguyen, De Villiers, Fourie, Bourne & Hendricks, 2013; Draper et al., 2010).

As such, learners' growth, cognitive, motor and psychosocial development, and subsequently school performance, are in many cases negatively affected by poverty and malnutrition, leading to learners being less likely to develop into productive adults (Grantham-McGregor et al., 2007). It follows that multiple factors within the various systems of individuals and learners may be the cause of health risks. Drimie and Casale (2009) therefore emphasise their concern about the vulnerability and well-being of learners within such at-risk contexts and the possible implications it may have on their future and long-term security. The context in which my study took place is an example of such an at-risk school community. Challenges discussed above are evident in the particular context.

Improving the health status of South Africans, and especially learners, can be regarded as a challenge (Vergnani, Filsher, Lazarus, Reddy & James, 1998). The psychosocial well-being of learners, which are defined as their social adaptation, as well as their mental health functioning (King, De Silva, Stein & Patel, 2009), can however potentially be addressed by means of health promotion interventions. In addition, South African policies can be applied to promote the psychological and physical well-being of learners, as well as the stability and caring capacity of their families. Such policies can address external and internal vulnerability by reducing stressors that may pose threats to households, and by increasing familial resilience and coping abilities (Drimie & Casale, 2009).

In this regard, Drimie and Casale (2009) are furthermore of the view that, given the various aforementioned challenges, no existing single health promotion intervention can accomplish sustained support for learners' wellbeing. Comprehensive interventions adopting a holistic approach (Drimie & Casale, 2009; Vergnani et al., 1998), which is well-considered, decisive, and sustainable, can potentially enable families to support their children's livelihoods and are therefore necessary to break the harmful cycle, which threatens the future well-being of children (Drimie & Casale, 2009). Such interventions may in turn result in relevant programmes addressing South Africans' diverse needs and embracing the country's mental, physical, social and health-related challenges (Vergnani et al., 1998).

Learners' psychological functioning can be supported by developing their holistic well-being through health promotion interventions (Du Toit et al., 2015; Vergnani et al., 1998), since well-being includes psychological, social, environmental and physical aspects (Vergnani et al., 1998). School-based nutrition education programmes are regarded as feasible health promotion efforts to reduce the prevalence of malnutrition among South African learners (Kupolati, MacIntyre & Gericke, 2014; Draper et al., 2010). Nguyen et al. (2013) confirm the importance of implementing food-based dietary guidelines in schools to aid learners' psychosocial well-being. Schools are therefore important potential sites for reaching learners and promoting health (Vergnani et al., 1998).

1.2 PURPOSE OF THE STUDY

As part of the NRF-funded University of Pretoria/Fordham University collaborative project, I aimed to determine the effect of the health promotion intervention that was implemented during 2015, specifically in terms of the psychosocial well-being of participating Grade 1 to 3 learners (n=330) in two at-risk school community contexts. For the current study, I conducted secondary data analysis and drew on inferential statistics to answer the research questions (McMillan & Schumacher, 2014). I thus analysed existing pre- and post-intervention data to determine the possible effect(s) (if any) of the health promotion intervention on the psychosocial well-being of the learners.

As such, I utilised statistical procedures to describe the psychosocial profile of Grade 1 to 3 learners before and after the intervention. More specifically, these procedures

assisted me in determining the possible effect(s) of the health promotion intervention on the learners' psychosocial well-being. By answering the research questions, contributions could be made to the broader research project. A basis has furthermore been provided for future improvement and refinement of the health promotion intervention in order to apply the intervention in similar at-risk school community contexts.

1.3 RESEARCH QUESTIONS

My study was guided by the following primary research question:
What was the effect of a health promotion intervention on Grade 1 to 3 learners' psychosocial well-being in at-risk school community contexts?

In order to address the primary research question, I explored the following secondary research questions:

- What was the overall psychosocial profile of Grade 1 to 3 learners in at-risk school community contexts prior to the health promotion intervention?
- What was the overall psychosocial profile of Grade 1 to 3 learners in at-risk school community contexts following the health promotion intervention?
- Which areas of psychosocial well-being (if any) were affected by the health promotion intervention and if so, what was the nature and extent of the effect?

1.4 HYPOTHESES

Within the post-positivist paradigm, hypotheses cannot be proven and may either be rejected or not rejected, as evidence is seen as fallible and imperfect (Creswell, 2009). In applying this view to my study, it was expected that the independent variable (health promotion intervention) would influence the dependent variable (psychosocial well-being of Grade 1 to 3 learners). These variables (constructs) were operationalised by using relevant scales and related theory that formed part of the data collection phase within the broader research project. The statistical hypotheses related to these assumptions are stated as follows:

- H_0: $Median_{dif} = 0$ (median population difference prior to and following the intervention is equal to zero)
- H_a: $Median_{dif} \neq 0$ (median population difference prior to and following the intervention is not equal to zero)

The null hypothesis thus states that there is no significant difference between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention. The alternative hypothesis states that there is a significant difference between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention.

1.5 CLARIFICATION OF KEY CONCEPTS

In this section, I describe the key concepts that apply to the current study.

1.5.1 PSYCHOSOCIAL WELL-BEING

Psychological well-being, a multidimensional construct, implies self-acceptance, positive relationships with other individuals, a sense of competence and life purpose, autonomy and a feeling of continuous personal development (Ryff, 1989). In terms of social well-being, Keyes (1998) states that this concept includes social acceptance by others, social coherence, the evaluation of the potential of a society to improve (social actualisation), as well as social integration and contribution. Broadly stated, Crivello, Camfield and Woodhead (2009:53) view the well-being of learners as a "socially contingent, culturally-anchored construct that changes over time, both in terms of individual life course changes, and changes in socio-cultural context".

As part of the broader project, the psychosocial well-being of Grade 1 to 3 learners was measured using the Nutritional Habits, Physical Activity and Well-being (NPWB) questionnaire (Appendix A), the Kid-KINDL® questionnaire (Appendix B), and the Feelings questionnaire (Appendix C). These questionnaires measure learners' feelings about themselves, their families, their peers and school. More specifically, the NPWB questionnaire enabled me to acquire information on the nutritional and physical activity habits of the respondents, as well as their well-being (for example their emotions, sleeping habits and attention capacity).

The Kid-KINDL® questionnaire focuses on how respondents feel in general, how they feel about themselves, and on their perceptions about their families and friends. The Feelings questionnaire enabled me to access data on the specific perceived emotions of the respondents, for example how often they experienced feelings of happiness, sadness, anger, loneliness, fear or excitement.

Within the context of this study and against the background of the questionnaires that were used to assess the psychosocial well-being of the participating learners, psychosocial well-being can be conceptualised as the perception of learners towards and of their own emotional functioning, as well as regarding their families and peers within an at-risk school community.

1.5.2 HEALTH PROMOTION INTERVENTION

Bandura (2004) indicates that an effective health promotion intervention consists of informational components on healthy lifestyle habits. Such an intervention will typically aim to facilitate self-management and social skills implementation in order for individuals to act in a health-related preventative manner. Jemmot III et al. (2001) agree that health promotion interventions will generally have a positive effect on the health-related behaviour of respondents.

According to Draper et al. (2010), health promotion interventions can positively influence dietary and physical activity habits, as well as the psychosocial well-being of learners, such as self-efficacy. Bandura (2004) confirms that a health promotion intervention can promote self-efficacy thus enabling individuals to deal with setbacks and difficulties in a resilient manner. Bandura (2004) furthermore believes that social support for personal change may be recruited and created by means of a health promotion intervention, and states that the management of social relationships are important in managing healthy habits.

Even though the school-based health promotion intervention that forms part of the broader project focussed on the promotion of health-related behavioural change, as well as holistic psychosocial well-being, the current study is limited to the psychosocial well-being of the Grade 1 to 3 learner-respondents. As such, for this study, the health promotion initiative is regarded as a health promotion intervention that, among other things, aimed to promote the individual psychosocial well-being of learners in relation to themselves, their families, and the school, as well as their teachers and peers.

1.5.3 GRADE 1 TO 3 LEARNERS

During the initial phases of the broader research project, seven to nine-year old respondents (in Grades 1 to 3) were selected to participate. According to the Psychosocial Developmental theory described by Erikson (1968), Grade 1 to 3

learners form part of stage four of the psychosocial developmental stages. This stage is referred to as the 'Industry *versus* Inferiority' phase (Erikson, 1968) where challenges of physical, cognitive and social tasks, for example, are taken on in order to acquire the necessary skills to succeed with these tasks (Donald, Lazarus & Lolwana, 2012). Erikson (1968:122) explains that learners learn avidly and quickly within this stage, implying their ability to internalise knowledge to acquire skills and apply these in their lives (Donald et al., 2012).

Within the context of the current study, Grade 1 to 3 learners are thus defined as learners between the ages of seven and nine years old (at the time of data collection) and in stage four of the psychosocial developmental stages as described by Erikson (1968). Some learners may however have been six or ten years old at the time, owing to starting school early or in cases where a grade had been repeated.

1.5.4 AT-RISK SCHOOL COMMUNITY CONTEXTS

At-risk school community contexts are usually characterised by poverty and limited resources in schools, as well as poor nutrition, all of which may hamper learners' cognitive, social and emotional development (Durlak, Weissberg, Dymnicki, Taylor & Schellinger, 2011; Petersen, Swartz, Bhana & Filsher, 2010). Many schools in South Africa still operate in insufficient buildings and some rural schools do not have running water, sanitation or electricity (Timæus, Simelane & Letsoalo, 2013). In the context of the current study, at-risk school community contexts are viewed as schools situated in communities that are poverty-stricken and in need of support. Learners in such schools typically receive nutritional support at school.

1.6 CONCEPTUAL FRAMEWORK

I combined aspects of Erikson's (1968[2]) Psychosocial Developmental Theory and the Social Ecological Model that is based on Bronfenbrenner's Ecological Systems Theory (Donald et al., 2012; Bronfenbrenner, 1986[2]). As already stated, the fourth of the eight stages of psychosocial development as described by Erikson (1968), is applicable to the phase in which the respondents were when data were collected. As such, the success of the physical, social and cognitive tasks within this phase will lead to a

[2] Dated references are included due to these authors being the pioneers of the relevant theories used in my conceptual framework.

sense of industry for learners, while failure in these tasks will result in a sense of inferiority (Donald et al., 2012). Within this stage of psychosocial development, a learner's social relationships are expanding and therefore play a significant role in the learner's development (Erikson, 1968).

According to the Social Ecological Model (Donald et al., 2012; Bronfenbrenner, 1986), various complex systems influence the development of a learner. These levels include the intrapersonal, interpersonal, school and community systems, as well as the interrelationships between these systems (Donald et al., 2012; King, 2012). I include my integration of said theories in Figure 2.1 in Chapter 2, and illustrate how constructs that form part of the Social Ecological Model (Bronfenbrenner, 1986) and the Psychosocial Developmental Theory (Erikson, 1968) may influence learners' development. As such, I provide a more detailed explanation in Chapter 2 on how intrapersonal, interpersonal, school and community factors that are part of a learner's life may be conducive to or inhibit a learner's sense of industry or inferiority and ultimately his/her psychosocial well-being.

1.7 PARADIGMATIC APPROACHES

In this section, I provide a brief overview of the epistemological perspective and methodological research approach that guided this study. A more detailed discussion follows in Chapter 3.

1.7.1 EPISTEMOLOGICAL PERSPECTIVE

Through the lens of post-positivism, the world is seen as open to interpretation (O'Leary, 2004) and reality as subjective, and mentally constructed within the context of influential factors (Maree, 2010), which are conditional within a given society (Tekin & Kotaman, 2013). Post-positivism as a paradigm acknowledges the intricacies of any social occurrence (Tekin & Kotaman, 2013) and proposes that various perspectives, possibilities and points-of-view should be taken into account while research is conducted (Lor, 2011). This paradigm therefore takes cultural groups and idiographic situations into account (O'Leary, 2004), but also states that findings from one context may be applicable to other contexts.

A post-positivist paradigm seemed suitable for the current study as both quantification and meaning, subjectivity (Seale, 1999; Maree, 2010) and knowledge creation (Ryan,

2006) is possible. Accordingly, subjective knowledge constructed by individuals is regarded as a valid form of knowledge (Ryan, 2006) and is shaped by rational considerations, evidence and data (Creswell, 2009). From a deterministic point of view (Guba & Lincoln, 1994), this paradigm seemed relevant, as I set out to determine the effect (if any) of a health promotion intervention on the psychosocial well-being of Grade 1 to 3 learners.

1.7.2 METHODOLOGICAL APPROACH

Within the field of psychology, quantitative studies gather information that is numerical in nature (Kruger & Janeke, 2011). The focus of such a study falls on the measureable aspects of respondents' behaviour (Van Rensburg et al., 2010) which are then used to explain and generalise the results of the study (Leedy & Ormrod, 2005). One of the aims of a quantitative approach is to evaluate the social world objectively (Maree, 2010), which resonates with the nature of the epistemological perspective of my study.

As such, I consider a quantitative methodological approach as suitable for my study. In support, post-positivism is often associated with quantitative research (Johnson & Gray, 2010). Since questionnaires were used during data collection and statistical procedures were employed during data analysis, the quantitative methodological approach enabled me to achieve the objective of my study. A quantitative approach is typically used to determine (Van Rensburg et al., 2010) and answer questions about cause-and-effect relationships between the variables under investigation (Leedy & Ormrod, 2005), as in the case of this study.

1.8 BRIEF OVERVIEW OF RESEARCH METHODOLOGY

As I analysed previously-collected data for the purpose of the current study, I was guided by secondary data analysis as a research design. When a secondary data analysis design is used, data are mostly quantitative in nature and data analysis normally answers descriptive or causal questions through standard statistical techniques (Mouton, 2001), as relevant to this study. Regular contact with the initial researchers (my supervisors) provided me with an opportunity to gain insight into the original study and its associated findings. As such, I could address questions pertaining to the relevance of the data, data collection methods, parties that collected the data, and purpose of the original study (Struwig & Stead, 2001).

Furthermore, I was able to verify the validity and reliability of the data used, and to consider the suitability of generalising the findings, as the nature of the data implied the possibility of not being able to generalise to all learners (Trzesniewski, Donnellan & Lucas, 2011). Since the initial sampling strategy was non-probable and purposive (explained later), generalisability is indeed not possible. In this regard, Gravetter and Forzano (2009) however argue that samples from one location can only be taken as representative of samples of similar settings, which leads to the assumption that generalisation of findings may take place to similar at-risk school community settings to an extent.

Selection criteria for respondents to partake in the initial NRF-funded project included that schools had to be situated in at-risk areas and form part of the national feeding scheme, implying that (seven to nine-year old) learners receive at least one daily meal at school; that learners had to be available to participate in the research activities; and that informed consent and assent had to be obtained from parents and learners respectively. Since my study analysed the data that were collected prior to and following the health promotion intervention, I relied on non-probability, convenience sampling (Leedy & Ormrod, 2013; Maree 2010) and analysed all the questionnaires.

I conducted data cleaning, prescribed by Rubin and Babbie (2014) as an essential step to remove errors in the data before starting the analysis. In addition, I relied on suitable quantitative methods to reduce the bias of missing data (Trzesniewski et al., 2011), implementing complete case deletions where appropriate. Kang (2013) suggests that such deletions, where necessary, can produce conservative results and unbiased estimates with a large sample.

As stated earlier, for the purpose of the current study, I analysed the psychosocial well-being sections of the NPWB, Kid-KINDL® and Feelings questionnaires, which were my data sources. By using statistical analysis, I was able to describe (descriptive statistics) and draw inferences (inferential statistics) (Maree, 2010) from secondary data (Leedy & Ormrod, 2013) as part of nonparametric statistics. As the data are ordinal in nature, I relied on nonparametric statistics (distribution-free tests) (Corder & Foreman, 2014; Leedy & Ormrod, 2013; Bless & Kathuria, 1993; Ferguson, 1981). Nonparametric tests are time-saving and convenient as they are easy to compute, using associated straightforward tests (Bless & Kathuria, 1993), with the advantage of limited rigid assumptions. Even though nonparametric tests are not as powerful as

parametric tests and also less effective (Bless & Kathuria, 1993), sufficient statistical tests were available and appropriate, which facilitated the testing of hypotheses in order to meet the aims of my study.

When comparing two related or paired measures of attitude from the same group of respondents who had been tested twice, the Wilcoxon signed-rank test is regarded as appropriate (Corder & Foreman, 2014; Maree, 2010; Connolly & Sluckin, 1971). This test is based on the difference between two scores, on one variable (Maree, 2010). The Wilcoxon signed-rank test is namely used to "compare the medians of two correlated variables when the data are ordinal rather than interval in nature" and when nonparametric statistics are applied (Leedy & Ormrod, 2013:301), as done in the current study.

1.9 ETHICAL CONSIDERATIONS

I adhered to the ethical considerations and guidelines stipulated by Leedy and Ormrod, (2013), Creswell (2009), as well as Gravetter and Forzano (2009) when conducting secondary data analysis and reporting on the results. Minimal ethical dilemmas are associated with secondary data analysis, as direct harmful effects to respondents are not possible (Royse, 1995). However, the respondents in any study have the right to respect, privacy (Leedy & Ormrod, 2013), welfare, dignity (Gravetter & Forzano, 2009) and protection (Creswell, 2009), which I respected during all research activities.

In addition, ethical clearance was obtained from the Ethics Committee of the Faculty of Education at the University of Pretoria (Annexure D). I commenced with my analysis only after obtaining ethical clearance. Furthermore, as part of the NFR-funded research project, I adhered to the safe guarding prescriptions of the raw and interpreted data. In reporting on the results, I did not use language that is biased (Creswell, 2009). I remained honest and did not misrepresent the results in any way (Leedy & Ormrod, 2013; Creswell, 2009; Gravetter & Forzano, 2009).

1.10 STANDARDS OF RIGOUR

Neuman (2007) explains that secondary data cannot be regarded as problem-free, even if a reliable source collected the data. As part of my study, the Statistics Department of the University of Pretoria assisted in objectively analysing the data in

order to ensure reliability of the results. Reliability of a measurement instrument can be explained as the ability of the instrument to measure a construct in a consistent manner (Foxcroft & Roodt, 2013; Gravetter & Forzano, 2009). In addition, internal consistency of a measure serves as an indication of reliability and should be above 0.7 (Foxcroft & Roodt, 2013). In this study, the validity of the measures was derived from their ability to measure what they were intended to measure, in other words, the psychosocial well-being of the respondents. External validity (Leedy & Ormrod, 2013; Gravetter & Forzano, 2009) may indicate future usefulness of the health promotion intervention.

1.11 OUTLINE OF CHAPTERS

In this section, I provide a brief overview of the chapters of this mini-dissertation.

CHAPTER 1: INTRODUCING THE STUDY

Chapter 1 provides a brief overview of the current study. In this regard, I explain the rationale and purpose of the study in light of the formulated research questions and hypotheses I set out to test. Subsequently, I clarify core concepts and summarise the paradigmatic perspective, methodological approach, standards of rigour as well as ethical considerations applicable to the study.

CHAPTER 2: LITERATURE REVIEW

Chapter 2 entails a literature review on aspects relevant to the current study such as the psychosocial well-being of learners, health promotion interventions and the effects of poverty and related challenges on these phenomena within at-risk school community contexts. I conclude the chapter with a discussion of the conceptual framework of my study to ensure consistency between the purpose of the study and theory relevant to the topic.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

In Chapter 3, I describe the research process in terms of the selected research design and methodological strategies employed during the study in order to test the formulated hypotheses. The selected methods of data analysis and the appropriate statistical procedures are explained and justified. In addition, I discuss the sampling

procedures of the respondents, and conclude the chapter with a detailed explanation of ethical considerations as applicable to the current study.

CHAPTER 4: RESULTS OF THE STUDY

In Chapter 4, I present and discuss the results I obtained. Results are explained in terms of descriptive and inferential statistical presentations. I explain the results across the questionnaires in terms of the psychosocial well-being of respondents.

CHAPTER 5: FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

In Chapter 5, the concluding chapter, I reach conclusions in terms of the research questions, hypotheses and purpose of the study (as posed in Chapter 1). I explain the results I obtained in terms of the existing literature outlined in Chapter 2 and highlight potential contributions, as well as challenges experienced in completing the study. I conclude the chapter with recommendations for training, practice and further research.

1.12 CONCLUSION

In Chapter 1, I introduced my study and provided some background on the rationale of the study. I formulated research questions that guided me in the hypotheses I set out to test. I clarified key concepts and briefly outlined the selected paradigm, research design and methodological choices. I also concisely considered ethical issues and provided a summary of the chapters to follow.

In Chapter 2, I explore existing literature and present a comprehensive review of subject matter relevant to the topic of the current study. I also discuss and explain the conceptual framework, for which purpose I integrated constructs of the Social Ecological Model (Bronfenbrenner, 1997; 1979; 1986, as cited in Donald et al., 2012) with the Psychosocial Development theory (Erikson, 1968).

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CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

In Chapter 1, I provided an outline of my study in terms of the rationale, purpose of the study, research questions and hypotheses. I clarified key concepts and introduced the selected paradigmatic approaches and research methodology. I furthermore briefly explained the ethical considerations and standards of rigour of my study.

In this chapter, I explore relevant literature related to the focus of my study. I commence by discussing early childhood development, specifically in terms of the psychosocial well-being of young learners. To this end, I also explore literature on possible barriers to early childhood development and psychosocial well-being. I specifically describe the effect of poverty and related challenges on the psychosocial well-being of learners in at-risk school community contexts. I subsequently focus on health promotion interventions, referring to applicable and relevant South African policies, examples of school-based health promotion interventions, and the way in which the psychosocial well-being of learners can be potentially enhanced and sustained. Lastly, I explain the conceptual framework of this study.

2.2 UNDERSTANDING THE PSYCHOSOCIAL WELL-BEING OF YOUNG LEARNERS

The various stages of human development include specific milestones in terms of social, physical, cognitive, emotional and moral growth. The early childhood phase is seen as a critical window for development (CARE USA, 2010), and furthermore characterised as a period that will have a long-lasting impact on the life course of any individual (CARE USA, 2010).

2.2.1 IMPORTANCE OF QUALITY EARLY CHILDHOOD DEVELOPMENT (ECD)

According to the Education White Paper 5 on Early Childhood Education (2001:5), ECD can be described as “an umbrella term that applies to the processes by which children from birth to at least nine years grow and thrive, physically, mentally, emotionally, spiritually, morally and socially”. To this end, it can be derived that an

integrated approach is necessary when supporting and aiming to understand childhood development. Such an approach can, among other factors, consider nutrition, health, education and psychosocial factors within the environment and context of the learner's family and community (Education White Paper 5 on Early Childhood Education, 2001). Furthermore, skills that are learnt early in life can assist learners to thrive (Hall et al., 2016) as critical cognitive, social and physical skills are developed during the school-going years (Oldewage-Theron & Egal, 2012). Kupolati et al. (2016) explain that learners' performance in school can be supported through physical and intellectual development, as well as nutritional well-being. As such, potential negative influences on learners' social and cognitive development, especially learners from at-risk school community contexts, can potentially be addressed and even prevented through high quality ECD interventions (HSRC, 2015).

In addition to the effect on well-being, quality ECD services may increase the scholastic performance of learners in at-risk environments (Biersteker & Dawes, 2008). In this regard, Biersteker and Dawes (2008) state that the platform for learners' optimal development is however often inadequate in poverty contexts. Consequently, Hall et al. (2016) advise that investment in quality ECD initiatives is one of the most efficient, long-lasting and long-term strategies to combat poverty. According to Masten (2014), learners' healthy development is globally threatened by political violence, pandemics and disasters, to mention but a few. In addition, other risk factors that may limit healthy childhood development include HIV and AIDS, gender inequality and maternal depression (HSRC, 2015). Stress that is associated with abuse, malnutrition, maternal depression and poverty can furthermore hinder learners' optimal development (Hall et al., 2016). Closely related, Spaull (2013) more specifically states that less than 30% of learners who come from the poorest 75% of schools, attend two or more years of preschool education. In addition, learners living in at-risk environments are most likely to experience challenges in terms of early childhood development, which may in turn hinder their physical growth, as well as their cognitive and emotional development (Education White Paper 5 on Early Childhood Education, 2001).

2.2.2 PSYCHOSOCIAL DEVELOPMENT AND WELL-BEING OF YOUNG LEARNERS

De Witt and Lessing (2010) summarise various aspects identified by different authors (Gerdes, 1988; Louw & Louw, 2007; Mwamwenda, 1995; Reyland et al., 2002;

Robson & Sylvester, 2007; Santrock, 2000; Smith, Bem & Nolen-Hoeksema, 2001; Wadeley, Birch & Malim, 1997) in defining psychosocial development. Examples of aspects that form part of young learners' (ages 6 to 12) psychosocial development include the preparation of learners to enter and constructively participate in society. Furthermore, according to the above-mentioned authors, psychosocial development implies support to learners to enable them to learn how to make independent decisions and to subsequently manage stress when dealing with the challenges they face. De Witt and Lessing (2010) explain that society can, for example, support the development of self-discipline. This should start at home with parents teaching their children discipline to help them develop self-control, moral values, and character, and display appropriate behaviour that can facilitate socialisation (Louw & Louw, 2007). In addition, age appropriate psychosocial development of 6 to 12-year old learners include the development of healthy reciprocal relationships with others, focusing on attachment, warmth, care, intimacy, humour, a sense of security and understanding, happiness and satisfaction (De Witt & Lessing, 2010).

During this developmental phase, the importance of developing a positive self-esteem (based on perceptions of academic performance, social competence, physical competence and physical appearance), as well as healthy social relationships, is emphasised (Louw & Louw, 2007). The qualities, attitudes, values and abilities that learners use to define themselves will typically represent their self-concept. As such, young learners can refine their self-concept by including external and internal characteristics, psychological traits and social aspects as part of self-description (Louw & Louw, 2007). A sense of competence and industry (Erikson, 1968), as well as psychosocial development, seemingly stems from factors such as pride in accomplishment, emotion regulation abilities, a positive yet realistic self-concept, moral responsibility, prosocial frameworks and fostered relationships. To this end, the development of peer relationships can predict learners' competence later in their lives (Louw & Louw, 2007).

De Witt and Lessing (2010) identify relationships with others, self-emergence and the search for identity, as well as the role of culture throughout a person's life, as significant factors influencing psychosocial development. Temane and Wissing (2008) interpret well-being as the interdependent and interrelated functional and structural conditions within a community. In a study by Crivello et al. (2009), interpersonal

relationships are similarly viewed as critical in terms of learners' subjective well-being. To this end, the strength and quality of immediate social relationships with families and friends are regarded as indicative of learners' well-being. In this regard, peer groups can provide a sense of cohesion to young learners since it can provide comradeship and facilitate knowledge and information transfer (Louw & Louw, 2007). In addition, positive social skills can be acquired when belonging to a group, which may in turn facilitate the development of independence and reinforce gender roles. Peer acceptance is furthermore an important aspect during the developmental phase of young learners, as this one-sided perspective that young learners hold will inevitably contribute to the nature of their social environment and their feelings of self-worth (Louw & Louw, 2007).

In this regard, the psychosocial development of young learners implies consideration of the relationship between their social environment and emotional needs, taken against the developmental phase in which they find themselves (De Witt & Lessing, 2010). The emotional development of young learners can be characterised by an increased ability to understand emotions that are more complex, the probability of experiencing more than one emotion at a time, the internalisation of emotions, an increased ability to conceal or suppress negative emotions, and taking the emotional perspectives of others into consideration (Louw & Louw, 2007).

As such, psychosocial well-being is seen as a multidimensional construct that includes psychological, social and subjective dimensions (Negovan, 2010). Williamson and Robinson (2006) acknowledge the dynamic inter-relationship between social and psychological aspects when using the term 'psychosocial', and propose that individual as well as group aspects need to be included when well-being is considered. As well-being will support enhanced positive psychological functioning (Du Toit et al., 2015), it is important to understand learners' psychosocial functioning when aiming to facilitate positive change in relation to sustained well-being.

The psychological well-being of a learner relates to autonomy and a feeling of continuous personal development, a sense of competence and life purpose, as well as self-acceptance and positive relationships with other individuals (Negovan, 2010). Ryan and Deci (2001) equate well-being with human potential when they argue that the realisation of well-being generally leads to positive functioning in life. Closely related, Williamson and Robinson (2006) explain that the developmental needs of

young learners should be met in order for healthy maturation and growth to occur, and to facilitate their functioning within the social environment. In this regard, Keyes and Shapiro's (2004) description of social well-being emphasises social coherence, an evaluation of the potential of a society to improve social actualisation and social acceptance by others, as well as social integration and contribution. In support, Crivello et al. (2009) regard learners' well-being as culturally anchored, socially contingent and changing over time, following changes in the learner's socio-cultural context, as well as the learner's own life course.

As already stated, Du Toit et al. (2015) are of the view that improved well-being can enhance positive psychological functioning. As such, meeting young learners' biological, material, social, spiritual, mental, cultural and emotional developmental needs, is seemingly essential to their psychosocial well-being (Williamson & Robinson, 2006).

The development and general well-being of learners can largely be attributed to education (Timæus et al., 2013). In this regard, Theron and Theron (2014) indicate that most black South African learners from poor families perceive formal education services as dominating their experiences of the formal support they receive during their childhood years. Similarly, Durlak et al. (2011) state that schools do not only have an important role to fulfil in the cognitive development of learners, but can also significantly influence learners' emotional and social development. These studies and findings emphasise the importance of school-based efforts to support young learners' optimal development and subsequent well-being, such as the intervention employed for the broad research project that my study forms part of.

2.3 EFFECTS OF POVERTY-RELATED CHALLENGES ON THE WELL-BEING OF LEARNERS IN SOUTH AFRICAN AT-RISK SCHOOL COMMUNITY CONTEXTS

Poverty and related challenges in at-risk communities typically limit learners' optimal development (Kupolati et al., 2016). To this end, a need for psychosocial support in such at-risk communities is important (Ferreira & Ebersöhn, 2011) to promote learners' development and functioning.

2.3.1 EXTENT OF POVERTY IN CONTEMPORARY SOUTH AFRICA

According to the International Monetary Fund (IMF, 2004), poverty entails multiple dimensions, such as low income, environmental degradation, illiteracy, gender inequality and poor health. Poverty implies an incapacity of individuals, households and communities to obtain adequate resources in order to sustain a suitable minimum standard of living in society (Oppong, 2015; Townsend, 2014). Poverty therefore also shapes the environments that learners come from (Oppong, 2015).

Individuals and families residing in at-risk communities are typically confronted with numerous challenges, such as hunger, malnutrition, a lack of sanitation and electricity, as well as inadequate schools (UNDP, 2016). In addition, a decline in health as a result of poverty implies an ongoing cycle of continuous ill health due to poverty-related challenges (IMF, 2004). As social instability, industrialisation, poverty as well as urbanisation continue to add to the increase of diseases such as asthma, tuberculosis, allergies, cancer and diseases related to malnutrition, the need to address people's health, more specifically those living in poverty, remains a priority (Draper et al., 2010; Drimie & Casale, 2009).

South Africa faces the challenge of high poverty levels, with implied limited resources and unemployment, among a large proportion of its citizens (Mayosi et al., 2009). High levels of poverty and unemployment more specifically triumph in rural areas, at-risk communities and informal settlements; in areas where inadequate healthcare and the risk to maintain a healthy lifestyle are typically present (Du Toit et al., 2015). The current unemployment rate of 26,7% determined for the first quarter of 2018, raises serious concern regarding the well-being of South-African citizens (Stats SA, 2018). In particular, many people in at-risk communities experience low quality of life and discontentment due to the high levels of unemployment, as well as a lack of education, decreased social support, passive coping strategies and pessimism (Hassan, Khalid & Kayani, 2016; Wissing, Temane, Khumalo, Kruger & Vorster, 2013). At-risk communities furthermore often experience adverse circumstances due to phenomena of victimisation, crime, constant economic adversity, limited aspirations and employment dissatisfaction (Davids & Gouws, 2011). As a result, a diminished sense of self-esteem, feelings of loss of control, and no hope for the future are often experienced by people living in at-risk circumstances (Davids & Gouws, 2011).

Hall and Sambu (2016) state that large numbers of South African learners live in extreme conditions of poverty, with the number of these learners still on the rise (Goldstein & Brooks, 2013). To be more specific, in 2014, 63% of South African learners lived below the poverty line (R779[3] per person per month) and 30% resided in households where none of the adults were employed (Hall & Shambu, 2016; Makiwane & Kwizera, 2009). In addition, more than 5,5 million learners resided in homes where the per capita income fell below the national food poverty line at the time (Hall & Budlender, 2016). Approximately 16% of the 18,5 million South African learners are orphans, while 21% do not reside with their biological parents. In addition, 0,3% of learners are part of child-headed households (Hall & Shambu, 2016).

2.3.2 SOUTH AFRICAN AT-RISK SCHOOL COMMUNITY CONTEXTS

Numerous schools in at-risk community contexts in South Africa, which provide education to learners from poor households, operate in impoverished conditions. As a result, such school buildings are often neglected and run-down, with some schools in rural areas not even having running water, telephone lines or electricity (Timæus et al., 2013). This lack of essential resources can hinder the learning process of learners (SAHRC & UNICEF, 2014).

In addition, access to schools also gives cause for concern, as 13% of South African primary school learners travel far in order to reach their schools (Hall, 2016), with poverty often preventing them to make use of public transport. Many learners walk long distances to get to school, often without shoes or warm clothing, due to poverty and limited resources. Resource constraints in schools may furthermore hamper the important role that schools can fulfil in the cognitive, social and emotional development of learners (Durlak et al., 2011). As a result, the risk of failing and eventually dropping out of school is higher in such schools than in schools where learners experience connectedness and can learn in a well-resourced school setting (Lester & Cross, 2015; Petersen et al., 2010).

As already indicated, schools are in an excellent position to facilitate health promotion among learners (Lester & Cross, 2015; Oldewage-Theron & Egal, 2012). In this regard, Jemmott III et al. (2011) state that a nation's health can be positively

[3] Equivalent of US $53,62 per person per month.

influenced by efficacious school-based interventions and teaching young learners about health-enhancing habits. Even though nutrition and health promotion among learners are acknowledged as important, Faber, Laurie, Maduna, Magudulela and Muehlhoff (2013) report that only 15% of all educators are trained in nutrition education. Be that as it may, Marks (2009) contends that a school may be the only place where some learners can acquire the necessary skills to ensure physical, cognitive and social well-being. To this end, learners, their parents, family members and the community may adopt positive patterns of healthier lifestyle behaviour (Du Toit et al., 2015) when learners become change agents and transfer newly acquired knowledge to their communities, following for example their participation in a health promotion intervention (Oldewage-Theron & Egal, 2012).

2.3.3 EFFECT OF POVERTY ON THE WELL-BEING OF LEARNERS

Oppong (2015) explains that poverty will inevitably have a negative effect on learners' quality of life and psychosocial well-being, since poverty has an impact on physical health, cognitive abilities, behavioural and emotional functioning, as well as on school achievement. Crivello et al. (2009), as well as Copeland, Shanahan, Costello and Angold (2009) argue that factors contributing to the reduced level of overall psychosocial well-being among poor individuals, include stressful conditions related to poverty and the deficiency of resources to deal with such demands. Recent studies indicate that approximately 200 million learners worldwide do not reach their socio-emotional and cognitive potential due to a lack of stimulation during their early childhood developmental years, micronutrition deficiency and/or malnutrition (CARE USA, 2010). Furthermore, learners are seemingly more vulnerable to diseases when their fathers are unemployed (Bronfenbrenner, 1986), in most cases due to a reduction in preventative health care because of insufficient income, as well as greater vulnerability as a result of family tension. Theron and Theron (2014) concur that such adversities can threaten learners' positive development.

Increased levels of stress experienced by learners living in poverty, may result in negative academic performance (Claro, Paunesku, & Dweck, 2015; HSRC, 2015; Lam, Ardington & Leibbrandt, 2011; Timaeus & Boler, 2007). As specified in the Education White Paper 5 on Early Childhood Education (2001), learners raised in poor families face the risk of low birth-weight, death as infants, underdevelopment in terms of growth, poor school adjustment and high incidences of school dropout and/or

repetition of a year. In South Africa, the results of the Annual National Assessments (ANAs) indicate that only 56% of Grade 3 learners obtained the 50% benchmark for Mathematics in 2016, and only 57% achieved the 50% benchmark for Home Language (Hall et al., 2016), which may partially be ascribed to the factors listed above.

In this regard, the current challenge of improving South Africans' health status, more particularly the health of South African learners (Savahl, Casas & Adams, 2017) remains a central priority in the country. Regarding household food insecurity and associated malnourishment, Timæus et al. (2013) state that more than 20% of South African learners live in homes where they frequently or sometimes go to bed hungry. The Food and Agriculture Organization (FAO, 2017) views malnutrition as a chronic disease risk factor, which is considered a global public health concern. Draper et al. (2010) furthermore emphasise the related worldwide concern about non-communicable diseases, while Oni et al. (2015), as well as Schutte and Olckers (2007) highlight the increasing rate of chronic diseases, such as diabetes, in South Africa. Health, hygiene and food preparation in homes affected by poverty can result in the spread of diseases and are more likely to occur in at-risk communities (Hall et al., 2016). As such, the development of learners from such households is generally negatively influenced by poverty, related neglect and poor nutrition (Hall & Budlender, 2016; Petersen et al., 2010).

For school-going learners, malnutrition is usually connected to poor cognitive performance (The World Bank, 2006), in addition to the weakened resistance towards diseases and ill-health, decreased physical activity, poor psychosocial well-being and educational capacity, as well as increased mortality rates (United Nations, 2015). The most common nutritional disorders among South African learners are conditions of being stunted (10% of all children and over 20% of children under the age of five) and being underweight (20% of all children) (Hall et al., 2016; Oldewage-Theron & Egal, 2012). Stunting occurs when learners experience chronic undernourishment (Hall et al., 2016), which in turn relates to poverty and high food prices, according to Faber et al. (2013). Draper et al. (2010) similarly indicate that resource inadequacy, the availability of inexpensive foods that have low nutritional value, and the absence of healthy-lifestyle policies are barriers to the promotion of healthier lifestyles at schools in at-risk communities.

An increase of adult mortality rates in Sub-Saharan Africa due to HIV and AIDS (CARE USA, 2010) has resulted in orphans having to survive on their own by leaving school in order to work and earn an income. This typically causes a decline in nutrition, resulting in permanently disadvantaged learners (REPSSI, 2017). In addition to HIV and AIDS resulting in the death of many adults in developing countries (IMF, 2004), the probability of learners being infected with the virus from their mothers (Hall, Nannan & Sambu, 2016) poses a serious risk, more specifically among people who live in poverty.

Ferreira and Ebersöhn (2011) indicate several associated psychosocial and physical challenges associated with HIV and AIDS, including learners having to drop out of school or experiencing distress as a result of trauma and discrimination. The HIV and AIDS context is characterised by learners experiencing cumulative stressors due to e.g. the loss of caregivers and family members, severe anxiety about a bleak future, a shortage of basic resources such as clothing, nutrition and shelter, as well as associated social stigmatisation (Wahlbeck, Cresswell-Smith, Haaramo & Parkkonen, 2017; Ebersöhn, 2007). The same fate applies to learners who live in low-income households not affected by HIV and AIDS (IMF, 2004).

Other factors influencing the psychosocial well-being of learners are related to aspects such as geographic location, gender, social conditions, and even the settings in which parents spend their time, such as the work environment (Wissing et al., 2013). It can therefore be derived that poverty and unemployment can have a direct, as well as an indirect influence on the development of learners (Hall & Budlender, 2016). To this end, Li, Chung and Ho (2012) propose a focus on the improvement of self-esteem in order to promote the psychological well-being of learners. In this regard, the “need for specialised psychosocial support” (Ferreira & Ebersöhn, 2011:64) in at-risk school community contexts remain a priority.

2.4 REVIEWING EXISTING POLICIES AND HEALTH PROMOTION INTERVENTIONS

Psychosocial interventions, as explained by Williamson and Robinson (2006), draw upon the application of knowledge and skills in fields such as social work, psychiatry and psychology. Williamson and Robinson (2006) point out that psychosocial interventions can include counsellors’ training, community-based integration and

social support, formal and non-formal educational activities and cultural activities in support of psychosocial well-being (Williamson & Robinson, 2006).

2.4.1 CURRENT SOUTH AFRICAN POLICIES ON THE WELL-BEING OF LEARNERS

According to the South African Children's Act (2005), prevention and early childhood intervention programmes can include numerous focal areas, such as the development and enhancement of appropriate parental skills to safeguard the well-being of learners, the development of appropriate interpersonal familial relationships, the provision of psychological programmes for learners, and preventing the neglect, abuse or exploitation of learners, or failing to meet learners' needs. South Africa's 2015 Policy on Early Childhood Development (Röhrs, Berry, Lake & Shung-King, 2016) aims to transform ECD services by ensuring the provision of equitable and comprehensive ECD services, with an emphasis on nutritional and psychosocial support. In addition, intervention programmes are encouraged to include aspects that can promote the well-being of children to facilitate the realisation of their potential (Children's Act, 2005). The South African Integrated School Health Programme (Röhrs et al., 2016) is furthermore aimed at reducing barriers to learning and improving learners' overall well-being. This programme supports the Bill of Rights (1996), which forms part of the constitutional socio-economic rights of learners, specifying that learners should be provided with basic nutrition, shelter, social and healthcare services (Hall & Sambu, 2016; Bill of Rights, 1996).

Hall and Sambu (2016) emphasise the importance of recognising the link between international law, the national constitution and the realisation of children's rights. On a national level, evidence exists of some interventions aimed at facilitating well-being such as the National Integrated ECD Policy, which, among other priorities, focuses on psychosocial support to parents to enable them to sustain their children's development from birth (Röhrs et al., 2016). Another national level support initiative entails the provision of child support grants (CSG), as these grants imply an increased likelihood that learners will attend an ECD facility and school (Grinspun, 2016). An additional example of supportive interventions is the National Core Standards (NCS) for Health Care Establishments and the Ideal Clinic Programme. All such national-level programmes are designed to improve the functioning and quality of available facilities for healthcare, as well as to increase accessibility of healthcare services to children,

which is further made possible by a higher number of doctors being available at clinics closer to learners' homes (Röhrs et al., 2016).

According to Oldewage-Theron and Egal (2012), the Department of Basic Education's emphasis on nutrition education in schools has however been insufficient, despite the critical importance of such education. Consequently, Nguyen et al. (2013), as well as Faber et al. (2013) have investigated the feasibility of implementing and integrating food-based dietary guidelines in the South African national primary school curriculum. Faber et al. (2013) recommend that nutrition-based education in schools should also include learners' parents. To this end, Nguyen et al. (2013) argue that the implementation of such guidelines within the school curriculum can provide a cost-effective intervention that may attempt to prevent the development of non-communicable diseases and guard against malnutrition in at-risk community contexts. Ongoing research on the outcome of those efforts remains important.

2.4.2 ADDRESSING LEARNERS' WELL-BEING THROUGH SCHOOL-BASED HEALTH PROMOTION INTERVENTIONS

The World Health Organisation (WHO, 2015) views the link between education and health as a fundamental connection. In addition to health having a significant influence on learning proficiency, regular school attendance is considered as critical to enhance general health and facilitate well-being. The United States Department of Human and Health Services (USDHHS, 2000) states that, except for the family, the most important influential factor on learners' general health are schools. Schools furthermore provide a setting where socialisation occurs, where friendships develop and where norms that direct behaviour are developed and reinforced. As a result, the WHO (2015) explains that schools generally afford a convenient opportunity and perfect setting to embed a healthy lifestyle for learners.

According to Draper et al. (2010), research on school-based interventions in Sub-Saharan Africa is limited. In support, Du Toit et al. (2015) argue that existing research on wellness is fragmented and that the need exists for integrated, systemic and a holistic comprehension of wellness. Such an understanding may in turn contribute to more effective management of wellness and health. In this regard, Ebersöhn (2007:154) reports that learners regard schools as vital for their own well-being,

indicating that “accountable facilitation of learning in schools” can be regarded as a “factor children living in adversity” identify as “facilitating their well-being”.

In support of this argument, the International Monetary Fund (IMF, 2004) states that the possibility of a longer life expectancy, improved cognitive development and increased school attendance rates, make investment in education appealing. Furthermore, as schools allow for regular and ongoing contact with learners, it has become popular settings for the implementation of interventions (Brown & Summerbell, 2009). To this end, Ebersöhn (2015) advises that the design of a school-based intervention should be informed by adequate knowledge about the politics, culture and ideology of a particular school, as well as the nested system of the various factors. Furthermore, the WHO (2015) proposes that preventative, instead of curative healthcare, is important and may have greater benefits than interventions implemented during adulthood.

The WHO (2015), as well as Brown and Summerbell (2009) accentuate the need for interventions that focus on changed behaviour among learners in an attempt to promote nutritional health. To this end, nutritional education and intervention can potentially result in reduced levels of malnutrition among learners (Kupolati et al., 2014) since children may be fed, although they are not hungry, but are in fact under-nourished (Hall et al., 2016). Sharma, Gernand and Day (2008) furthermore propose that early intervention programmes can be effective in changing learners’ health-related behaviour – a view that is supported by McIntosh, Mercer, Nese, Strickland-Cohen and Hoselton (2016). In addition, Kupolati et al. (2014) state that school-based nutrition education interventions can influence both the nutritional behaviours and status of learners. In this regard, Bhana (2010) more specifically argues that school-based health promotion interventions may contribute to the enhancement of mental health as a potential way of supporting learners’ psychosocial well-being.

Accordingly, learners who “are equipped with positive adaptation competencies (emotional stability, motivational self-directedness, cognitive competence and enthusiasm, as well as social proficiency)” will generally consider themselves as capable of dealing with life (Ebersöhn, 2007:155). Within a learner’s systems, cumulative protective factors (such as educators and adults that care, adults who are competent and involved in the development of learners, responsible schooling, and sufficient physical resources within all systems) may enhance a learner’s capacity to

address adversity. Cumulative risk factors such as persistent crime, uncaring and absent adults, poverty and inadequate physical resources, as well as inadequate schooling may however inhibit a learner's capacity to address life challenges (Ebersöhn, 2007).

Examples of interventions that have resulted in positive change in terms of learners' health-related behaviour in South African schools are often theory-based or involve contextually appropriate cognitive-behavioural health-promotion efforts (Jemmott III et al., 2011). Kupolati et al. (2014) state that trained educators are important for the implementation of interventions, and regard appropriately developed and implemented interventions based on behavioural theory as potentially effective.

A study by Jemmott III et al. (2011) confirms this view, indicating how participants' physical activity, as well as their intake of fruit and vegetables increased as a result of a cognitive-behavioural health-promotion intervention. In addition, Jemmot III et al. (2011) highlight the improvement of participants' health-promotion attitudes and knowledge, as well as their intention to follow a healthy lifestyle. Closely related, Contento (2011) explains that behaviour-focused approaches to interventions that include active methods, over which learners have some control, can enhance the effect of nutrition education programmes and ultimately learners' related nutritional knowledge.

Other school-based interventions that have resulted in positive outcomes in the past, involve the utilisation of social cognitive theory (SCT) (Kupolati et al., 2014; Gorely, Nevill, Morris, Stensel, & Nevill, 2009). In this regard, Sharma et al. (2008) explain that, according to SCT, learners need to understand the required behaviour and obtain the relevant skills to display changed behaviour. A study by McIntosh et al. (2016) indicates that factors such as external support, school demographic characteristics and the speed of implementation may also determine the effect and sustainability of interventions. Ebersöhn (2015) furthermore explains that extended time in schools across different school terms, and long-term partnerships can promote connectedness and trust between researchers, educators and the leadership of a school, in turn increasing the effectiveness of an intervention. In addition, the successful implementation of programmes relies on supportive principles, standardisation of the intervention programme, and supervision during implementation, as well as integration of a programme into normal school-day activities (Payne & Eckert, 2010).

On the other hand, the implementation of health promotion interventions may also be hindered by certain factors. Williamson and Robinson (2006), for example, caution researchers not to use technical language and terminology during research and implementation, as this may potentially result in diminished confidence within vulnerable communities when they question their own abilities and perceive external expert support as a prerequisite to mitigate the impact of adversity and risk (Williamson & Robinson, 2006). Health practitioners are therefore cautioned against an approach which may give the impression that they hold specialised knowledge, as this may hinder the community from participating in terms of the way in which challenges can be addressed (WHO, 2015; Williamson & Robinson, 2006).

Other challenges related to the successful implementation and sustainability of positive effects of health promotion interventions include time constraints, development of educator capacity and school policies, as well as implementation problems in the case of multicomponent interventions (Kupolati et al., 2014). The WHO (2015) refers to limited legal and political support, insufficient funds, inadequate training of role players and cultural difficulties, as additional barriers to the successful implementation of health promotion interventions.

2.4.3 INTERVENTIONS FOCUSING ON LEARNERS' PSYCHOSOCIAL FUNCTIONING

Due to widespread poverty in South Africa and, therefore, the increased risk of exposure to high risk factors that may hinder early childhood development, ongoing interventions towards mental health promotion, as well as health-enhancing microsystem guidance during early childhood development, are necessary (Petersen et al., 2010). The promotion of mental health within the context of at-risk school communities may have a positive effect in breaking an intergenerational cycle of ill mental health and poverty, as these two constructs are seen to be linked (Petersen et al., 2010). In this regard, suitable and timely interventions are proposed to reverse the negative effects of poverty and early deprivation in order to maximise learners' potential development (Education White Paper 5 on Early Childhood Education, 2001). As such, psychosocial support, and therefore health promotion interventions, may result in systemic care that can alleviate vulnerability (Ferreira & Ebersöhn, 2011) in at-risk school community contexts in South Africa.

Bronfenbrenner (1986) argues that well-designed strategies can potentially assist in the creation, enhancement and sustaining of environments that are conducive to healthy childhood development. As early as 1998, Vergnani et al. (1998) proposed that health promoting schools can be established through, for example, inter-sectoral collaboration, addressing the practice and attitudes of health and education personnel, following a holistic-health approach, and by means of advocacy, research, existing services' rationalisation, life-skills education, whole-school approaches to development, developing demonstration programmes and the participation of the community (Vergnani et al., 1998).

Yeager and Walton (2011) are of the opinion that, even though psychosocial interventions hold promise for promoting long-term change, they cannot be seen as instant solutions. Such intervention programmes are typically powerful and theory based, but rely on the nature of the environment in which they are delivered and are therefore context dependent (Yeager & Walton, 2011). Opportunities to learn, supplemented by qualitative methods, should be offered to increase the positive outcomes of health promotion programmes (Yeager & Walton, 2011). In support of these recommendations, the WHO (2015) also accentuates the importance of prioritising school health programmes and engaging parents, learners and teachers, to facilitate the promotion of learners' well-being through well-planned interventions.

Ferreira and Ebersöhn (2011) similarly emphasise educators' commitment as important when providing support of a psychosocial nature within a community or school. In this regard, Ebersöhn (2015) is of the view that educators are well positioned and able to implement, as well as sustain, their active involvement in interventions. The STAR (Supportive Teachers, Assets and Resilience) intervention (Ferreira & Ebersöhn, 2011), for example, motivated and mobilised psychosocial support provided by educators to school-communities on various levels in attempting to address poverty-related challenges. In this regard, it can be concluded that educators can manage psychosocial support that is school-based and attempt to create caring spaces for learners in at-risk school community contexts (Ferreira & Ebersöhn, 2011).

A good starting point for a health promotion intervention is taking what learners know and addressing their concerns through their culture and capacities (Williamson & Robinson, 2006). Wahlbeck et al. (2017) emphasise that interventions should not only

focus on the individual, but should also include families and at-risk groups, as well as their communities. In addition, instead of assisting learners in at-risk communities, learners' existing capacities can be built on by promoting their psychosocial well-being (Williamson & Robinson, 2006).

Faber et al. (2013) suggest an integrated approach when providing support, which considers socio-economic aspects. In this regard, Williamson and Robinson (2006) propose that health promotion interventions can integrate psychosocial, biological and material aspects that are related to well-being. These authors argue that, even though some health promotion interventions may address particular issues related to psychosocial well-being, "their potential effectiveness depends to a significant degree on whether biological and material needs are also being met" as these "needs are inter-related and their fulfilment is inter-dependent" (Williamson & Robinson, 2006:5-6).

In addition, Gorely, et al. (2009) report that measures of which the reliability and validity have not been standardised for a particular group, may not necessarily indicate accurate results after implementation of an intervention. Such measurement instruments may not be sensitive enough to identify a change (Gorely et al., 2009). To this end, these measurement instruments are generally not recommended for use with learners under the age of 10 years since cognitive limitations may affect the validity of the results. Closely aligned, Gorely et al. (2009), as well as Yeager and Walton (2011), propose the use of developmentally appropriate measures and qualitative supplementary measures when determining the effect of an intervention among young learners.

In addition, Marks (2009), as well as Yeager and Walton (2011), advocate for culturally sensitive, contextually appropriate elements and inclusionary practices, consisting of learning approaches that will accommodate all learners during health education efforts. As such, it is necessary that teaching guidelines address the integration of, for example, nutrition education into the existing curriculum and be extended to also include learners' parents (Faber et al., 2013; Marks, 2009). The recursive interaction between existing processes in schools, including learners' beliefs about abilities and the quality of their relationships with teachers and peers are key to understanding the long-term effects of psychosocial interventions (Yeager & Walton, 2011). Long-term improvement in motivation can typically be attained by addressing

self-reinforcing recursive processes, even after the salient message of a health promotion intervention has faded (Yeager & Walton, 2011).

Ebersöhn (2007) indicates that learners' perspectives of supportive factors in at-risk school communities comprise an important source when planning interventions, which may in turn assist in addressing social, as well as educational challenges. In addition, Ben-Arieh (2006) advocates the fundamental importance of considering learners' accounts regarding their own well-being and living conditions when developing supportive efforts. As such, Yeager and Walton (2011:290) propose that interventions can be made meaningful for diverse learners by structuring the exercise to allow learners to personalise "their responses so intervention materials evoke the intended experience in the way that is most relevant to them".

Learners' subjective perceptions and insights into their worlds and experiences should thus be understood in order to accurately and meaningfully monitor their well-being (Ben-Arieh, 2006). In this regard, Ebersöhn (2007:155) promotes "enhancement programmes to equip children with relevant positive adaptation skills" in the face of adversity. In addition, the WHO (2015), as well as Wahlbeck et al. (2017) suggest that health promotion and education in schools can increase learners' knowledge, change their attitudes and subsequently also their behaviour in the long term.

Marks (2009) indicates that learners ought to be provided with consistent and ample opportunities to learn and practice newly acquired health behaviours when part of an intervention, in collaboration with their educators, peers and family members (Durlak et al., 2011). Han and Weiss (2005) focus on the sustainability of interventions, which implies the constant implementation of certain practices with continuous devotion after initial training and supportive resources have been withdrawn. Questions about sustainability and, for example, whether or not more intervention sessions, or lengthier programmes are required, may contribute to the effectiveness of interventions, and reinforce the need for evaluating the outcomes of health promotion interventions (Jemmott III et al., 2011), as in the current study. In this regard, Yeager and Walton (2011) indicate that negative effects following health promotion interventions can be the result of such interventions and the intended meanings of sessions being differently understood by learners. Interventions delivered in controlled environments, as opposed to classrooms, are seemingly more effective (Yeager & Walton, 2011). As the current study specifically focuses on the effect of a health promotion intervention

on the psychosocial well-being of Grade 1 to 3 learners, the findings may potentially add to existing literature on the effect of South African school-based health promotion interventions.

2.5 CONCEPTUAL FRAMEWORK

The conceptual framework of my study includes constructs from Psychosocial Developmental Theory as described by Erikson (1968), and the Social Ecological Model based on Bronfenbrenner's Ecological Systems Theory (Donald et al., 2012; Bronfenbrenner, 1986). Erikson's theory describes eight stages of psychosocial development, indicating that children undergo different stages of development during which confronting conflicts may exist between social expectations and biological drives (King, 2012). The social context is also considered (Donald et al., 2012).

For the purpose of this study, I included Erikson's theory on stage four of these phases in my conceptual framework, which focuses on 'Industry *versus* Inferiority'. Erikson (1968) explains that during this stage, a child is most ready to learn avidly and quickly. In addition, children's social relationships are expanded during this time, to include mentors, peers and educators. Challenges of physical, cognitive and social tasks, for example, are taken on in order to acquire the skills required to succeed with these tasks. In this way, successful completion of tasks will result in a sense of industry, while failure in tasks will end in a sense of inferiority (Donald et al., 2012).

Erikson (1968) explains that a child will become estranged from him-/herself and the task (sense of inferiority) when a solution to conflict is not found. As the importance of a child's social world (interpersonal level) in stage four cannot be ignored, parents and family, educators, peers and role models are seen to play a significant role in the development of a child during these years. In this regard, De Witt and Lessing (2010) add that a relationship between the social environment and an individual's emotional needs is implied when focusing on psychosocial development.

According to the Social Ecological Model (Donald et al., 2012; Bronfenbrenner, 1986), child development can be explained in terms of various complex systems within a social context (intrapersonal, interpersonal, school and community social ecological levels), as well as their interrelationships, and not just in terms of a single concept (King, 2012; Donald, et al., 2012). The specific value of the Social Ecological Model

lies in its capacity to incorporate and integrate the relevant determinants of development (Stead & Watson, 2006).

Figure 2.1 presents the conceptual framework (adapted from Donald, et al., 2012; King, 2012; Draper et al., 2010) of this study, demonstrating my integration of the intrapersonal, interpersonal, school and community social ecological levels as part of the Social Ecological Model for Psychosocial development (Donald et al. 2012; Draper et al., 2010; Bronfenbrenner, 1986) and the Psychosocial Developmental Theory (Erikson, 1968). In the conceptual framework, dashed lines indicate continuous, dynamic and reciprocal influences that may exist between systems (intrapersonal, interpersonal, school and community) where individuals function (Draper et al., 2010), and influential factors. All factors described within the Social Ecological Model on Psychosocial Development have the potential to influence the psychosocial well-being of learners.

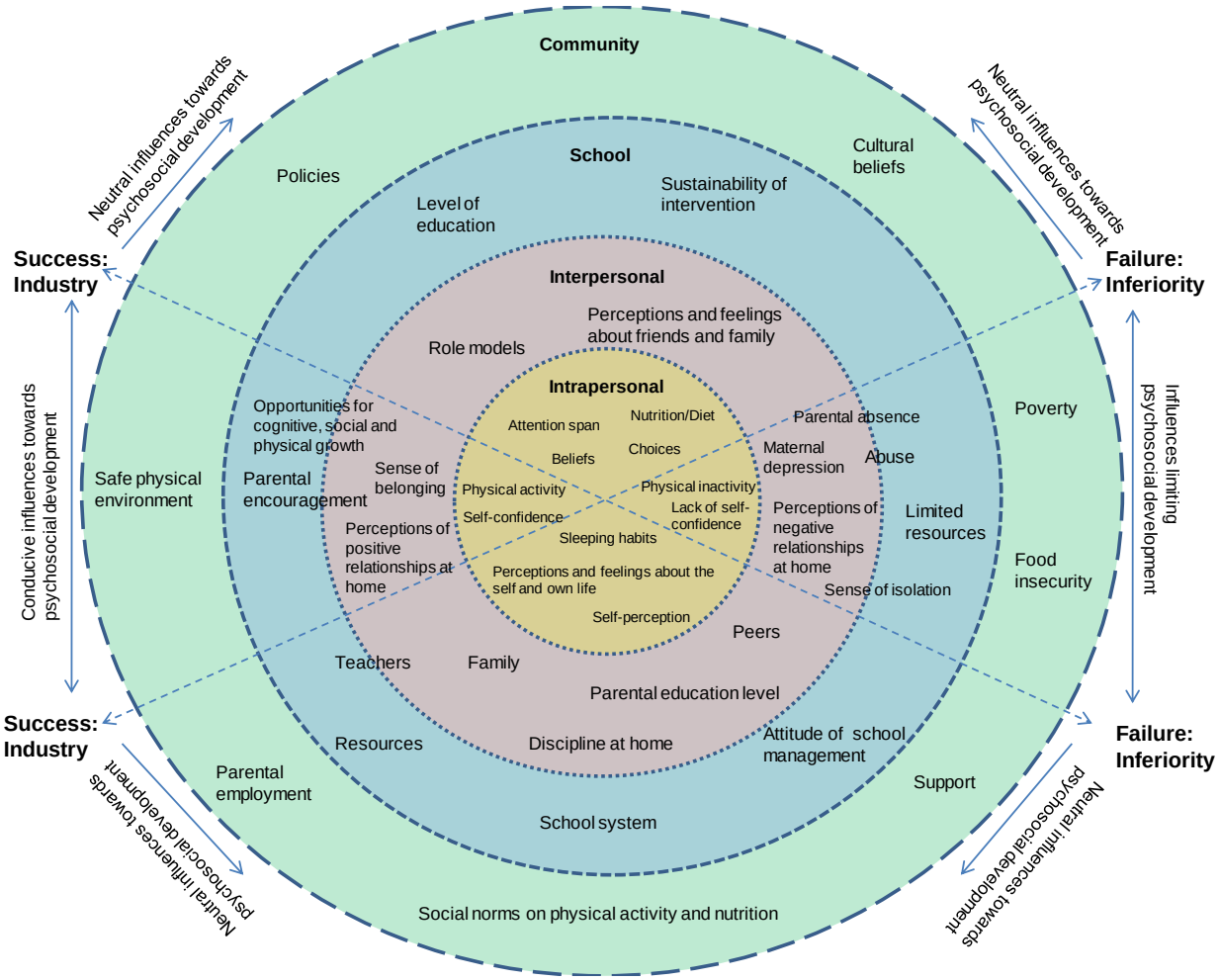

Figure 2.1: Social Ecological Model of Psychosocial Development

Intrapersonal factors that may influence learners' psychosocial well-being and development include early childhood cognitive, social and physical skills that are learnt (Hall et al., 2016; Oldewage-Theron & Egal, 2012) as well as a learner's search for identity (De Witt & Lessing, 2010). According to Kupolati et al. (2016), nutritional well-being will also play a role within the intrapersonal level of a learner's development. Furthermore, self-acceptance (Ryff, 1989) and therefore perceptions about oneself and one's life may influence learners' psychosocial well-being.

Interpersonal factors that may influence learners' psychosocial well-being are related to the nature of relationships with other individuals, specifically friends and family (De Witt & Lessing, 2010; Negovan, 2010; Crivello et al., 2009). In addition, social acceptance by others, social contribution and social integration may facilitate social well-being (Keyes, 1998). Furthermore, education and educational services (as part of school factors) can be influential factors, as expressed by Timæus et al. (2013), as well as Theron and Theron (2014). Durlak et al. (2011) explain that schools thus play an important role in learners' social and emotional development.

Additionally, community factors that may influence learners' psychosocial well-being and development are culturally anchored (De Witt & Lessing, 2010), and will change over time based on changes in learners' socio-cultural contexts (Crivello et al., 2009). Poverty is one example of a factor influencing the community level (Amato & Zuo, 1992). As a result, the hindered growth and well-being of learners due to poverty may affect their development as productive citizens (SAHRC & UNICEF, 2014).

Factors described in the 'neutral influences towards psychosocial development' sector are neither fixed as positive or negative, and can therefore be either limiting or conducive to psychosocial development (Erikson, 1968), depending on the nature of the factor. The factors described in the 'conducive factors towards psychosocial development' sector positively correlate with the psychosocial development of learners, whereas the factors described in the 'influences limiting psychosocial development' sector will typically hinder psychosocial development. Some of these factors have the potential to influence more than one system of the model, for example 'abuse', and therefore extend over the dashed lines. Continual influences, factors and circumstances within learners' lives can, as indicated in the model, either result in a sense of success for a learner (industry) or a sense of failure (inferiority)

(Erikson, 1968). These results do not assume a totality in outcome, but rather a sense of competence in various areas of each learner's life regarding accomplishment.

I was guided by my conceptual framework in conducting this study and explaining the results I obtained in terms of the psychosocial well-being of Grade 1 to 3 learners following their participation in a health promotion intervention. Even though I did not rely on qualitative data pertaining to the influential factors indicated in the framework, I utilised the model to hypothesise about the factors that may have contributed towards or limited the psychosocial well-being of the respondents. Following the completion of secondary data analysis, the effect of the intervention was thus determined, and results were conjectured in terms of these influential factors, and ultimately, the psychological well-being of the respondents. The conceptual framework may potentially also be used in future to refine the health promotion intervention with the possibility of implementation in similar, as well as different at-risk school community contexts.

2.6 CONCLUSION

In Chapter 2, I discussed existing literature on health promotion interventions and the potential effects thereof on learners' psychosocial well-being in at-risk school community contexts. I commenced the chapter by reviewing the importance of investing in early childhood development and explained the psychosocial well-being of young primary school learners. I subsequently discussed the potential impact of poverty and related challenges on the well-being of learners in at-risk school community contexts. I paid specific attention to school-based health promotion interventions aimed at enhancing the psychosocial well-being of learners, while considering the influence and guidance of relevant South African policies. I concluded the chapter by explaining the conceptual framework that guided me in undertaking this study.

In Chapter 3, I explain the epistemological perspective and methodological approach applicable to the current study, together with the research design I employed. I also discuss the associated data sources and data analysis procedures. I elaborate on the standards of rigour for my study, as well as the ethical guidelines I followed throughout the study.

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CHAPTER 3
RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In Chapter 2, I discussed existing literature associated with poverty and the related challenges, as well as the effects that these may have on the well-being of learners in at-risk school community contexts. In addition, I reported on existing health promotion interventions and their effects on the psychosocial well-being of children in at-risk contexts, as well as on the importance of early childhood development initiatives. I further described my conceptual framework, for which purposes I integrated the Social Ecological Model of Bronfenbrenner (Donald et al., 2012; Bronfenbrenner, 1986) with the Psychosocial Developmental Theory (Erikson, 1968).

In this chapter, I provide a comprehensive outline of the research process followed in my attempt to obtain answers to the primary research question, based on testing the formulated hypotheses. I introduce the paradigmatic approach that informed this research, and justify my choice of research design and methodology in terms of data collection and analysis procedures. I conclude the chapter by discussing standards of rigour and explaining how I followed ethical guidelines throughout the study.

3.2 BACKGROUND INFORMATION ON EXISTING DATA

For the current study, I analysed data from an existing NRF-funded research project, as stated in Chapter 1. The broader project focused on healthy eating habits and nutrition, physical fitness and socio-emotional functioning of Grade 1 to 3 learners. The data I analysed stems from pre- and post-intervention questionnaires, completed by 330 Grade 1 to 3 learners.

For the current study, I incorporated both convenience (Maree, 2010) and purposive sampling (Mouton, 2001) strategies in order to ensure that all the completed questionnaires were included during data analysis. For data analysis, I focused on sections related to well-being in the NPWB questionnaire (Appendix A), parts two to five of the Kid-KINDL® questionnaire (Appendix B) and the Feeling questionnaire (Appendix C). Please refer to the aforementioned appendices for examples of the instruments.

3.3 RESEARCH QUESTIONS AND HYPOTHESES

The study is aimed at addressing the following primary research question: *What was the effect of a health promotion intervention on Grade 1 to 3 learners' psychosocial well-being in at-risk school community contexts?*

In order to address this question, I was guided by the three secondary questions presented in Chapter 1, Section 1.3. To this end, I formulated the following hypotheses to test for statistical differences:

- **Null hypothesis (H_0)**
  There is no significant difference between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention.

- **Alternative hypothesis (H_1)**
  There is a significant difference between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention.

3.4 PARADIGMATIC PERSPECTIVES

A research paradigm indicates the way in which a researcher views material related to scientific research (De Vos, Strydom, Fouché & Delport, 2000), and guides the methodology of a study (Chilisa & Kawulich, 2012). In this study, I employed a quantitative research approach anchored in the post-positivism paradigm.

3.4.1 EPISTEMOLOGICAL PERSPECTIVE: POST-POSITIVISM

Post-positivists see the world as ambiguous, open to interpretation and as considerably intricate (O'Leary, 2004). Post-positivists assume that reality is subjective, multiple and mentally constructed. As such, the assumption is made that reality exists, but is a creation of individuals that participate in research; and is consequently difficult to fully understand (Maree, 2010). Reality is believed to be constructed in a context of influential factors (Maree, 2010) and can therefore never be perfectly comprehended (Guba & Lincoln, 1994).

I selected the post-positivist epistemological paradigm as a guide for the current study as, among other reasons, this approach assumes a philosophy that is deterministic in nature, where effects or outcomes are assumed to be determined by causes

(Creswell, 2009). Since the aim of the study was to determine the effect (if any) of a health promotion intervention on the psychosocial well-being of Grade 1 to 3 learners, the paradigm seemed fitting. In addition, Tekin and Kotaman (2013) explain that post-positivist inquiry allows for in-depth understanding of what is being studied, yet within a system as a whole (O'Leary, 2004), which is in line with the conceptual framework I relied on.

Another aim of post-positivist research is to develop true and relevant statements that can assist in explaining situations or describing causal relationships (Creswell, 2009). The research process will thus include refining or abandoning claims after making them, and will therefore start with theory testing (Creswell, 2009). Furthermore, using post-positivism as research paradigm for this study, implies the advantage of findings being transparent, systematic and dependable (O'Leary, 2004).

Since everything is however seen as subject to change, implying that concrete universal laws and facts can never be reached (Tekin & Kotaman, 2013), it is not possible to find the absolute truth (Creswell, 2009). Changes in conclusions can thus occur over time (Ryan, 2006) and are conditional within a given society (Tekin & Kotaman, 2013). Knowledge is seen as antifoundational, conjectural (Phillips & Burbules, 2000) and comprising of hypotheses that are not falsifiable, yet can be considered as probable laws or facts (Struwig & Stead, 2001; Guba & Lincoln, 1994). As such, O'Leary (2004:6) explains that, within post-positivism, "the world is not fixed", neither is it knowable, and that truth may be reliant on one's ability to describe changing phenomena. When studying the actions and behaviour of human beings, one can therefore not be 'positive' about the claims of knowledge made from a post-positivist study (Creswell, 2009).

Within this paradigm, subjective knowledge is constructed through data, evidence and rational considerations (Creswell, 2009), which are taken as a valid form of knowledge (Ryan, 2006). Against this background, this paradigm aims to search for reliable and valid evidence in terms of the existence of phenomena (Maree, 2010) in order to explain phenomena, yet also enable the prediction of phenomena (Guba & Lincoln, 1994). As such, post-positivism is deterministic (Guba & Lincoln, 1994) and reductionistic in nature, having the intent to reduce broad ideas into a distinct set of ideas (Creswell, 2009). From a deterministic point of view, I regard this paradigm as

suitable for the current study as I searched for a cause-and-effect relationship (Guba & Lincoln, 1994).

It follows that, as a scientific methodology, post-positivism aims to holistically understand (Tekin & Kotaman, 2013). Ryan (2006) advises that a post-positivist researcher should thus take a distanced view in order to see the whole picture, and remain reflexive in writing about the research. Such a researcher, according to Tekin and Kotaman (2013), should furthermore be open-minded, self-critical, reflexive and flexible. As post-positivist research generally explores a system as a whole, and not as the sum of its parts (O'Leary, 2004), it is important to emphasise various viewpoints, possibilities, perspectives and diverse variables (Lor, 2011) that may affect results. In this regard, Maree (2010) explains that even though objectivity is accepted as the ideal, it is seldom achieved. As such, the researcher should remain aware of the possible effect of researcher bias (Creswell, 2009). However, rigorous and systematic approaches to research can make a study dependable, implying transparent explanations of the research (O'Leary, 2004).

An advantage of post-positivism as a research paradigm relates to the principle that it takes cultural groups and unique situations into account, and therefore seeks idiographic findings (O'Leary, 2004). However, when considering the context where data were collected for this study, it is important to take into account that findings are not concrete and universal (Tekin & Kotaman, 2013). The researcher can therefore not be positive about claims made about individuals (Creswell, 2009) since reality is subjective, mentally constructed and conditional for respondents (Maree, 2010), within a given context (Lor, 2011). Yet, findings from one context may be applicable to other similar contexts and might therefore be generalisable. This possibility of generalisability implies that the findings of the current study can potentially lead to the possibility of adapting and refining the health promotion intervention so that it can be used in additional contexts.

As mentioned, conclusions as a result of post-positivist research are conditional in a given society, valid for a period of time, and therefore subject to change (Tekin & Kotaman, 2013; Ryan, 2006). It is for this reason that the conclusions associated with the current study can be seen as a starting point for other post-positivist studies (Tekin & Kotaman, 2013). In this regard, it may thus be possible to make certain predictions

based on the findings of the current study regarding the future use of health promotion interventions in similar contexts.

Despite post-positivism being suitable for the current study, this paradigm also implies certain potential challenges and limitations. For example, a post-positivist researcher may not always be able to access the areas of more intuitive human experiences indicated in data (Ryan, 2006). O'Leary (2004) furthermore raises the question of researchers' ability to recognise, manage and value subjectivities associated with the research process. In addition, Tekin and Kotaman (2013) highlight the challenge of generalisability of the results obtained through post-positivist research, based on the focus being conditional, situational and embedded within a specific cultural context.

In an attempt to address these potential areas of concern, I took a reflexive, open-minded and flexible stance. Reflexive research is regarded as a key concept of post-positivist research, which implies the ability of a researcher to critically reflect on the research process, while attempting to do this from the outside (O'Leary, 2004). As such, research as a 'reflexive' process involves the researcher's continuous consideration about what is being researched, as well as the truthfulness and integrity of the entire process, as advised by O'Leary (2004:). I therefore approached this study from a holistic stance, considering the fact that the findings may not be concrete, and fitting to the context in which the data had been collected.

3.4.2 METHODOLOGICAL PARADIGM: QUANTITATIVE APPROACH

Johnson and Gray (2010) explain that post-positivism is often associated with a quantitative research methodological approach. Quantitative studies in psychology typically entail systematic and objective research processes (Maree, 2010) with the focus on measurable aspects of individuals' behaviour (Van Rensburg et al., 2010) in order to predict, explain (Leedy & Ormrod, 2005) and generalise the findings to the population under study. A quantitative approach in research aims to evaluate the social world objectively (Maree, 2010) and to assist in determining (Van Rensburg et al., 2010) and answering questions related to cause-and-effect relationships between variables (Leedy & Ormrod, 2005).

Within this approach, theory is used deductively and the relationships among variables (or constructs) are stated in terms of hypotheses or questions (Creswell, 2009), as in

the current study. Kruger and Janeke (2011), as well as Van Rensburg et al. (2010) explain that a hypothesis is an uncertain statement about the relationship that exists between variables. With the use of statistical methods, these predictions are then tested (Kruger & Janeke, 2011). Within a post-positivist paradigm, hypotheses cannot be proven, yet can be rejected, as evidence is seen as fallible and imperfect (Creswell, 2009).

Several advantages are associated with quantitative research (Ryan, 2006). These include the possibility of examination of patterns, indicating the numerical significance of a problem, thus providing explicit and readily available information, as well the possibility of the particular phase being a starting point for qualitative research. A potential limitation of quantitative research relates to its highly structured nature, which may prevent a researcher to further follow up in the case of unexpected outcomes (Ryan, 2006). In addition, Van Rensburg et al. (2010:89) argue that another limitation may arise owing to the researcher's distanced involvement, potentially resulting in challenges to accommodate behavioural expressions not anticipated in the research.

In terms of these potential challenges, I conducted secondary data analysis with reflexivity throughout the process. I followed Seale's (1999) recommendation to include a comprehensive explanation regarding the procedures that were employed to produce findings. Seale (1999) explains that this strategy can make the assessment of credibility possible and is in the interest of those who endeavour to replicate a study. As mentioned in the section above, I followed a holistic approach while taking the dynamic and abstract nature of findings into account within the applicable context. Since it was not possible to consider or further explore the experiences of the respondents during the data collection phase, reflexivity throughout the research process contributed to the probable generalisation of findings.

3.5 RESEARCH PROCESS AND METHODOLOGICAL STRATEGIES

In this section, I discuss the research design, research methodology and related strategies I relied on. As an introduction, Table 3.1 provides a summary of the research design, methodology and ethical considerations.

Table 3.1: Summary of methodological choices

RESEARCH METHODOLOGY	
Research design	**Secondary data analysis**
Sampling of documentation	Non-probability convenience and purposive sampling of questionnaires, Likert scales, ordinal data electronically captured
Source of data	Grade 1 to 3 learners enrolled in two schools in Pretoria who took part in a NRF-funded project
People who conducted data collection	NRF-funded research team prior to my involvement in the project
Data analysis and interpretation	Descriptive and inferential statistical procedures of ordinal data obtained from already completed questionnaires
Ethical considerations	Ethical clearance to utilise, analyse and report on data; confidentiality and anonymity

3.5.1 SAMPLING OF DOCUMENTATION

As explained in Chapter 1, I analysed data that were generated as part of the said NRF-funded project, in order to determine the effect of the health promotion intervention on the psychosocial well-being of Grade 1 to 3 learners. Two schools in Pretoria took part in this project. As such, research was conducted in at-risk communities with children who generally displayed unhealthy eating behaviours and lifestyles, at the start of the study. For the initial research of the project, seven- to nine-year old respondents (in Grades 1 to 3) were selected through non-probability purposive sampling.

The initial selection criteria for participation included the following:

- Schools had to be situated in poverty-stricken areas.
- Schools had to form part of the national feeding scheme.
- Learners had to receive at least one daily meal at school.
- Learners had to be seven to nine years old.
- Learners had to be available after school hours to participate in research activities.
- Parents had to provide informed consent.
- Learners had to provide informed assent.

As already stated, I analysed data that had been collected through questionnaires pre- and post-intervention. I therefore did not collect new data, but merely included completed questionnaires when doing secondary data analysis. I focused on data obtained from sections of the NPWB questionnaire (Appendix A), and parts two to five of the Kid-KINDL® questionnaire (Appendix B), as well as the entire Feelings questionnaire (Appendix C).

As such, I relied on non-probability sampling, not having any control over the respondents who were included in initial data collection (Leedy & Ormrod, 2013). As I analysed all the questionnaires that formed part of initial data collection, I used convenience sampling (Maree, 2010) by simply analysing data that had been collected for a broader project and were available to analyse. In this regard, Maree (2010) explains that convenience sampling occurs when respondents are selected for research based on the fact that these respondents are conveniently available. I also relied on purposive sampling (Mouton, 2001), since I only focused on certain parts of the questionnaires that could address my research questions. Since secondary data analysis took place, the completed questionnaires were thus both conveniently and purposefully selected for data analysis purposes. As the initial sampling strategy was non-probabilistic and purposive, generalisability may not be possible. However, Gravetter and Forzano (2009) argue that it is reasonable to presume that samples from one location can be representative of samples from similar settings, which leads to the assumption that generalisation of findings may be possible in similar at-risk settings.

The questionnaires implemented as part of the NRF-funded research project, included respondents' biographical information (nominal data), as well as scales measuring (among other aspects) their psychosocial well-being (ordinal data). The construct under discussion (psychosocial well-being) was measured by means of Likert scales, producing ordinal data. In including all respondents' completed questionnaires (relevant sections), the primary research question could be answered, as the effect (if any) of the health promotion intervention on the psychosocial well-being of the respondents could be determined. After ethical clearance was obtained and in communication with my supervisors (who form part of the broader project), I obtained access to the available data.

When conducting quantitative research, data are required to be electronically available to facilitate statistical tests. Advantages of data already recorded in electronic format, as was the case in the current study, include easy and quick analysis as in this case through the Statistical Package SAS 9.4. This made the process of data analysis easy for me and saved time. I was furthermore able to conduct various statistical tests on the electronic data as the data could be easily sorted, ordered and ranked as required. The process of data analysis I used, is discussed in more detail in Section 3.6.

Possible limitations may however exist when using data that were previously collected and captured. More specifically, areas of concern relate to the reliability and validity of the data. To this end, I investigated the validity and reliability of the data before commencing with analysis, as explained in Section 3.7. It is furthermore possible that errors in the data might have occurred as a result of the data collection process, over which I had no control (Mouton, 2001). For example, some data were missing from the data set, which may potentially negatively affect statistical inference. As a result, I selected appropriate quantitative methods in response to these possible limitations and in an attempt to reduce the bias of missing data. I subsequently deleted selected complete cases (Kang, 2013) in order to reduce the effect of missing data.

3.5.2 RESEARCH DESIGN

Burns and Grove (2005) explain that, when implementing secondary data analysis as research design, other statistical analyses are to be employed than that already done. When relying on secondary data analysis, data are mostly quantitative and analysis normally involves hypotheses testing by means of standard statistical techniques (Mouton, 2001). De Vos, Strydom, Fouché and Delport (2011) state that secondary data analysis can however be used for both qualitative and quantitative methodological approaches, of which I did the latter.

Leedy and Ormrod (2013) describe quantitative data analysis as being dependent on deductive reasoning, starting with a premise (hypothesis) and then drawing logical conclusions from findings. In addition, predetermined statistical procedures form part of quantitative research (Leedy & Ormrod, 2013). To this end, I include bivariate analysis by examining two variables (Rubin & Babbie, 2014). Furthermore, the current study is non-experimental in nature, as it was aimed at answering a causal question and test the hypothesis of whether the implemented health promotion intervention

(independent variable) had an effect on the psychosocial well-being (dependent variable) of Grade 1 to 3 learners, using existing data.

By analysing the psychosocial profiles of the respondents before and after the health promotion intervention had been implemented, it was possible to compare this construct pre- and post-intervention. Furthermore, secondary research questions that relate to the areas of psychosocial functioning that could potentially have been affected by the intervention, could be answered by analysing the constructs as factors that had been tested in the questionnaires. I ultimately address the primary research question based on consideration of the results I obtained through statistical analysis, in Chapter 4.

According to Lewis (2003:61), secondary data analysis also provides "an opportunity to bring a new perspective to existing data, to use elements of the data that have not been fully analysed, or to form a base for comparison with newly collected data". Another advantage of secondary data analysis as design lies in the possibility of examining questions relating to existing data that had not been examined in previous research (Burns & Grove, 2005; Alston & Bowles, 2003), in order to attain a multidisciplinary and/or broader understanding of social concerns (De Vos et al., 2011). Keeping this in mind, the findings of the current study may thus make additional contributions to the existing findings of the NRF-funded research project.

This research design can also be beneficial to a researcher by saving time and cost when not having to collect data (Trzesniewski et al., 2011; Mouton, 2001). In addition, potential respondents' reactivity during data collection can be avoided (Alston & Bowles, 2003) and, as a result, minimal ethical dilemmas are associated with secondary data analysis, since direct harmful effects to respondents are not possible (Royse, 1995). As such, Trzesniewski et al. (2011) are of the opinion that the paramount benefit associated with secondary data analysis is that data collection difficulties are eliminated. However, De Vos et al. (2011) suggest that possible prejudice in all documents should be evaluated. In response, I followed these guidelines to assess the quality of the data that I analysed (De Vos et al., 2011). As already indicated, I tested hypotheses by relying on existing data and including both descriptive and inferential statistics. Since the collected data are ordinal in nature, I relied on nonparametric statistics during secondary data analysis.

Throughout, I remained aware of potential limitations when utilising secondary data analysis as research design. As researcher, I thus remained aware of the probability that the purpose, for which the data were initially collected, may differ from the aim and research question of the current study (Trzesniewski et al., 2011). Closely related, De Vos et al. (2011) caution that a researcher may not obtain adequate understanding of the original problem when following secondary data analysis as design; suggesting that researchers contact original researchers to address this potential limitation. Because my supervisors form part of the team who conducted the initial study, I was able to implement this strategy.

Secondary data analysis furthermore requires a researcher to be unambiguous and clear about the theory and assumptions that lie behind the data (Mouton, 2001). It is important to link data to the goals and questions of the study (De Vos et al., 2011). As stated, I was in regular contact with the researchers (my supervisors) who assisted me in understanding the original research project and associated findings. In doing so, questions surrounding the relevance of the data, the data collection methods, the parties responsible for data collection and the purpose of the original study could easily be established (Struwig & Stead, 2001).

Furthermore, I was able to investigate the validity and reliability of the data that were analysed. The reliability of the Kid-KINDL® questionnaire was checked by confirmatory means and the internal consistency of the overall scale was over 0.80. The sub-scales reached values of around 0.70 (Ravens-Sieberer & Bullinger, 2000). Reliability was tested by examining internal consistency, while validity was tested by establishing whether or not the data had been collected and reported on carefully and meticulously (Struwig & Stead, 2001). Before the NRF-project started, reliability was tested only on the Kid-KINDL® questionnaire and not on the other two instruments.

Trzesniewski et al. (2011) explain that another area of concern may lie in the possibility that the interpretation of results through secondary data analysis may be biased if the researcher's conceptual model does not include all variables (constructs) that are tested. De Vos et al. (2011) are of the opinion that utilisation of secondary data analysis as research design is much more complex and time consuming than what researchers may anticipate. In response, I focused on systematically following the process of secondary data analysis as prescribed in theory, while duly considering all constructs that form part of my conceptual framework. I linked the epistemology of

the current study with constructs in the data set, and verified the suitability of the conceptual framework with my supervisors before starting with data analysis.

Another potential challenge may pose itself in the form of confidentiality, anonymity and copyright (De Vos et al., 2011). In considering this potential challenge, I focused on presenting findings in a confidential manner, by crediting sources appropriately. I also contemplated the appropriateness of generalising the results, as the nature of the data did not necessarily permit generalisation relating to all learners (Trzesniewski et al., 2011).

3.6 DATA ANALYSIS

I utilised both descriptive and inferential statistics, including the non-parametric Wilcoxon signed-rank test to address the research questions and test the hypotheses presented in Chapter 1.

3.6.1 DESCRIPTIVE STATISTICS

I used descriptive statistics to describe, organise and simplify the body of data (Gravetter & Forzano, 2009) to improve my understanding of the data set (Maree, 2010). Measures of central tendency (mode, mean and median), and the extent of variability or measures of spread (range, interquartile range, variance and standard deviation) were determined using SAS 9.4 (Leedy & Ormrod, 2013). In terms of the measures of central tendency that were computed (Foxcroft & Roodt, 2013), the mode entails the most frequently occurring value in a data set. Mean represents the arithmetic average of data and is a measure of location commonly used, and median refers to the centre value of an entire distribution, splitting the distribution into equal halves. The first measure of variability, the range, represents the difference between the lowest and highest values in a data set. In addition, the interquartile range represents the middle 50% of a data set (Maree, 2010).

Variance and the standard deviation are important measures of variability. Variance quantifies the spread of values of data around the mean, while standard deviation is the square root of the variance (Maree, 2010); also called sigma (Foxcroft & Roodt, 2013). In addition to relying on these strategies, I used graphical methods to represent the data, included in Chapter 4.

Leedy and Ormrod (2013) caution that a correlation between variables does not necessarily imply causation between them. These authors recommend that researchers should as a result inquire about the reason of association between variables when a correlation is identified. In this regard, I specified that, should the results suggest a correlation between psychosocial well-being of Grade 1 to 3 learners and the health promotion intervention, it may not necessarily confirm a cause-and-effect relationship based purely on the correlation between the applicable constructs. As such, I included appropriate inferential statistical tests as part of the Wilcoxon signed-rank test to test the hypotheses and possible correlations between constructs associated with the current study.

3.6.2 NONPARAMETRIC STATISTICS

Leedy and Ormrod (2013), as well as Scott and Mazhindu (2005), explain that the extent to which data reflect normal distribution as well as the nature of the data determine the statistical procedures to be used during data analysis. Furthermore, nonparametric tests can be conducted on data that have been selected by non-probability sampling procedures, such as in the current study (Scott & Mazhindu, 2005). Because the data I analysed are ordinal in nature and not that likely to be distributed normally (Scott & Mazhindu, 2005), I relied on nonparametric statistics (distribution-free tests) (Corder & Foreman, 2014; Leedy & Ormrod, 2013; Bless & Kathuria, 1993; Ferguson, 1981). Furthermore, my decision to use nonparametric statistics was based on this type of analysis being suitable for relatively simple data analysis (Leedy & Ormrod, 2013), while assessing whether or not populations differ significantly (Bless & Kathuria, 1993).

Bless and Kathuria (1993) explain that nonparametric tests are both convenient and time-saving as the associated and appropriate tests are straightforward and easy to compute. These authors describe the main advantage of nonparametric tests as the absence of rigid assumptions. However, parametric tests are regarded as more powerful than nonparametric tests and nonparametric tests may be less effective in some cases (Scott & Mazhindu, 2005; Bless & Kathuria, 1993). In order to address the potential limitations, the facilitation of the hypotheses testing associated with the current study, was supported by the availability and suitability of sufficient statistical tests.

By using statistical analysis, I was able to make use of descriptive statistics in describing the data and could draw inferences from the data by means of inferential statistics (Maree, 2010) from the secondary data (Leedy & Ormrod, 2013). Leedy and Ormrod (2013:277) explain that “inferential statistics involve using a small sample of a population and then *estimating* the characteristics of the larger population from which the sample has been drawn”, thereby allowing for the testing of hypotheses. However, before inferences could be made from the data, I used descriptive statistics to describe the data.

3.6.3 INFERENTIAL STATISTICS

Inferential statistics enable researchers to draw inferences about populations from small samples (Leedy & Ormrod, 2013; Gravetter & Forzano, 2009; Maree, 2010). The functions of inferential statistics include the testing of hypotheses and estimation of population parameters. Even though I used non-probability sampling, Gravetter and Forzano (2009) argue that it is reasonable to deduce that samples from one location is as representative as samples from comparable settings, which leads to the assumption that generalisation of findings may be possible when conducting research in similar at-risk settings.

I used a confidence interval (significance level) to describe, with a level of confidence, the inferences that were made from the sample to the population, or to similar settings. While conducting hypotheses testing, I worked on a 0,05-significance level (called alpha, α), meaning that a result occurs, on average, only 5% of the time. As such, the result can also be ascribed to another factor that has influenced the data (Corder & Foreman, 2014; Leedy & Ormrod, 2013). I established whether the computed p-value fell within the critical region by determining whether or not the p-value was less than or equal to the level of significance during data analysis (Corder & Foreman, 2014). The p-value assesses the definite probability of results being more than accidental (O’Leary, 2004). The null hypothesis is rejected when found that the result can be ascribed to something other than chance; if not, the null hypothesis is not rejected (Leedy & Ormrod, 2013).

It is however possible that a type I error (rejecting the null hypothesis when it is true) or a type II error (retaining the null hypothesis when it is false) can occur (Maree, 2010) during quantitative data analysis. These errors are seldom due to negligence on

the part of the researcher, but can rather be ascribed to the significance level selected for a particular study. In this regard, Drew, Hardman, and Hosp (2008) suggest that a 5% level of probability is generally accepted for use in behavioural studies. In this case, it was anticipated that the null hypothesis be rejected (Maree, 2010). Support for an alternative hypothesis is typically possible in cases where the null hypothesis is likely to be rejected. In order to test my formulated hypotheses, I used the Wilcoxon signed-rank test.

3.6.4 WILCOXON SIGNED-RANK TEST

The Wilcoxon signed-rank test is suitable when comparing two paired or related measures of attitude from the same group of respondents who had been tested twice (Corder & Foreman, 2014; Maree, 2010; Connolly & Sluckin, 1971). This nonparametric test is based on one variable, more specifically on the difference between two scores of the variable (Maree, 2010). The Wilcoxon signed-rank test is typically used when data are ordinal in nature, when nonparametric statistics are used and to compare the medians of two scores (Leedy & Ormrod, 2013). As such, symmetrical distribution of the data, which is less restrictive than normal distribution, is assumed (Maree, 2010). To this end, the null hypothesis and alternative hypothesis are stated in terms of the median (Maree, 2010; Ferguson, 1981) in the following format:

H_0: $M_e = 0$

H_a: $M_e \neq 0$

This Wilcoxon signed-rank test takes into account the direction of change as well as the extent of variance between two data sets and therefore makes full use of the data (Connolly & Sluckin, 1971). Computing the Wilcoxon signed-rank test statistically for large samples ($n \geq 20$), includes calculating the p-value. For this test, when evaluating the difference between pre-test results and the post-test results, for a significant level of 5%, the null hypothesis will be rejected if the p-value is less than or equal to 0.05.

In this regard, the results discussed in Chapter 4 indicate that no overall statistically significant difference was seen prior to and following the health promotion intervention, despite some components indicating a significant difference. For this reason, I conducted a second round of data analysis. During this phase, the five-point Likert scales from the various questionnaires where adapted to represent three-point Likert

scales. More specifically, response options one and two were grouped together as well as response options four and five, in order to determine if three options would indicate different results. As no change however occurred in the final conclusions based on the results of the study, I only report on the results from the first round of data analysis in Chapter 4.

3.7 STANDARDS OF RIGOUR

Since I utilised a post-positivist epistemology, I aimed to obtain reliable and valid evidence in terms of the existence of phenomena (Maree, 2010). Gravetter and Forzano (2009) explain that the validity of an instrument is especially important in cases where a hypothetical construct is measured by means of an operational definition. Validity implies that an instrument measures what it claims to measure (Foxcroft & Roodt, 2013; Gravetter & Forzano, 2009), which is essential when any research measurements are carried out (Muijs, 2004).

Internal validity entails the degree to which the design and data of a study allow a researcher to deduct truthful conclusions about cause-and-effect relationships of the data (Leedy & Ormrod, 2013). In such cases, an explicit, single description applies to the correlation that exists between variables (Gravetter & Forzano, 2009). On the other hand, external validity refers to the generalisability of findings beyond the context of a study (Leedy & Ormrod, 2013; Gravetter & Forzano, 2009).

The reliability of a measurement instrument implies that an instrument will measure a construct in a consistent manner (Foxcroft & Roodt, 2013; Gravetter & Forzano, 2009). As reliability is a prerequisite for validity (Gravetter & Forzano, 2009), the validity of an instrument can be enhanced by improving its reliability (Leedy & Ormrod, 2013). The degree of what a researcher can learn about a phenomenon that is investigated, the extent to which meaningful conclusions can be drawn, and the probability of obtaining statistical significance are all dependent on the reliability and validity of the instruments used in a study (Leedy & Ormrod, 2013).

Since data may however be defective, claims may also be made that are invalid. To find substantial correlations between variables, it is thus important for the measurement of variables to take place reliably and with a degree of validity (Leedy & Ormrod, 2013). As my study involved secondary data analysis, I had no control over

the validity and reliability of the measurement instruments used during data collection. I was therefore not able to remedy threats to internal validity (history, maturation, regression, selection, mortality and diffusion of treatment) (Creswell, 2009).

Rubin and Babbie (2014) advise that an awareness of possible limitations in terms of reliability and validity when doing secondary data analysis is the first protective factor for a researcher. For my study, I remained aware of this and subsequently implemented certain measures and strategies in an attempt to increase the external validity and reliability of the results. One such a measure was to utilise the expertise of the University of Pretoria's Department of Statistics, in order to, for example, conduct coefficient of reliability testing. Other strategies are discussed in more detail in the following section.

3.7.1 QUALITY ASSURANCE OF QUANTITATIVE DATA: RELIABILITY

I established the questions surrounding the relevance of the data, the collection methods, the parties responsible for data collection and the purpose of the original study (Struwig & Stead, 2001) as a means to determine the reliability of the data. As such, I determined whether or not the instruments had been used in a consistent and standardised fashion (Leedy & Ormrod, 2013) by consulting previous papers on the project describing the data collection methods and discussing the procedures with my supervisors. I paid particular attention to the manner of administration, possible language barriers that may have existed and instrument development descriptions, as well as to the coefficient of reliability (Cronbach's alpha).

The Cronbach's alpha coefficient is based on inter-item correlations. Therefore, if items strongly correlate with each other, a high internal consistency will be present. Cronbach's alpha can be interpreted in terms of high reliability (0.90), moderate reliability (0.80), or low reliability (0.70) (Maree, 2010). It follows that reliability can be determined by examining internal consistency, but also in terms of test-retest reliability (De Vos et al., 2011).

The low internal consistency of the Feelings Questionnaire (0.1617 for the pre-test results and 0.1125 for the post-test results) may be ascribed to poor interrelatedness between the different questions. The NPWB questionnaire similarly had a value of 0.58 for the pre-test results and 0.6849 for the post-test results. Finally, the Kid-

KINDL® questionnaire had a value of 0.6388 for the pre-test results and 0.7136 for the post-test results. It is however important to keep on mind that the score for the Kid-KINDL® questionnaire was only calculated on parts two to five and not on the entire questionnaire, which could have had an influence on the final results. In addition, it is important to consider that, for all three questionnaires, results were obtained from younger learners whose first language was not English.

3.7.2 QUALITY ASSURANCE OF QUANTITATIVE DATA: VALIDITY

Gravetter and Forzano (2009) caution that any aspect limiting the generalisability of findings can threaten external validity. Closely related, Leedy and Ormrod (2013) suggest that research done in a real-life setting can provide for generalisability and can therefore increase the external validity of research findings. As the data I analysed were collected directly from the respondents at their schools, I could analyse data collected in the specific setting under investigation. In my attempt to support external validity, I consulted previous papers that report on the findings of the broader project and had discussions with my supervisors to determine to what extent the sample represented the population, and whether or not generalisation was possible. This in turn predicted the generalisability of the findings relative to the population, and implies external validity of the measurement instrument (Leedy & Ormrod, 2013).

Closely related, Struwig and Stead (2001) explain that validity is determined by establishing whether or not data had been collected and reported on with care and meticulousness. Statistical conclusion validity may be threatened if inaccurate inferences are made from the data due to inadequate statistical assumptions (Creswell, 2009). In an attempt to avoid this potential limitation, meticulous care should be taken during analysis of the data and all verified statistical procedures against existing literature. I also conducted data cleaning, as suggested by Rubin and Babbie (2014), in order to remove errors in the data before starting my analysis. Regular contact with my supervisors further increased the possibility of accurate analysis of the data and reporting of the results.

Even though this study was not aimed at evaluating the validity and reliability of the instruments in a South African context, I attempted to use the stipulated instruments to explore and describe the phenomenon under study. As such, I relied on the said instruments to determine the psychosocial well-being of Grade 1 to 3 learners in at-

risk school community contexts, with the aim of determining the effect (if any) of the health promotion intervention.

3.8 ETHICAL CONSIDERATIONS

As part of the broader NRF-funded research project, I adhered to the required ethical considerations and guidelines while conducting secondary data analysis and reporting on the findings. The respondents in the current study had the right to protection (Creswell, 2009), welfare, dignity (Gravetter & Forzano, 2009), respect and privacy (Leedy & Ormrod, 2013), even though minimal ethical dilemmas are associated with secondary data analysis (Royse, 1995).

I started with data analysis only after obtaining ethical clearance from the Ethics Committee of the Faculty of Education at the University of Pretoria (Annexure D). During my analysis, I ensured anonymity of the respondents and did not represent data or findings in any way that may have resulted in the identification of a respondent or school. While using SAS 9.4, arbitrary code numbers were assigned to the respondents to ensure confidentiality and anonymity (Leedy & Ormrod, 2013). I also adhered to prescriptions regarding the safe storage of raw and interpreted data for 15 years (at the University of Pretoria), and repeated the guideline of data only being available to the research team.

As I followed a post-positivist epistemology, I remained aware of the assumption that "the world may not be knowable" and "the world is not fixed, 'truth' can depend on the limits of our ability to define shifting phenomena; and *multiple* in its realities – what might be 'truth' for one person or cultural group may not be 'truth' for another" (O'Leary, 2004:6). Therefore, I realised that I could not be 'positive' about any claims made from the study, when reporting on the results (Creswell, 2009). I also remained aware of the fact that modifications in conclusions are possible over time (Ryan, 2006) and conditional within the specified context (Tekin & Kotaman, 2013). To this end, I remained reflexive throughout the study, considering the guidelines of my conceptual framework. Because my objectivity as researcher was also important, I examined my methods and conclusions for bias (Creswell, 2009) and remained aware of the possible effects that bias could have had on my study.

Throughout, I thus focused on not using language that was biased in any way (Creswell, 2009) when reporting on the results. In addition, I aimed to report on the results in an honest and accurate manner and not misrepresent the findings I obtained (Leedy & Ormrod, 2013; Creswell, 2009; Gravetter & Forzano, 2009). I endeavoured to make my research auditable by following rigorous and systematic procedures, while providing transparent explanations of the research (O'Leary, 2004), and reporting on technical failures and shortcomings (Rubin & Babbie, 2014). I therefore describe my selected procedures in detail in this mini-dissertation (Creswell, 2009). I also give credit to all the sources I consulted and acknowledge the use of others' words and ideas where applicable (Leedy & Ormrod, 2013; Gravetter & Forzano, 2009).

Even though it is important to make a significant and distinct scientific contribution in terms of the data that are analysed (Burns & Grove, 2005), it is possible for outcomes to differ from what is expected as no experimental control was possible during data collection (Trzesniewski et al., 2011). In this regard, I explain the outcomes of this study providing various reasons, where necessary. To this end, I explored possible explanations including, but not limited to, the initial reliability of the scales used, reliability of the administration of the questionnaires, language barriers and cultural differences. Furthermore, I report on the effect that bias could have had during the data collection phase, as I did not have access to the experiences of the respondents during data collection.

As researcher, I remained cognisant of my own competencies, however, I believe that my training and experience with previous research projects contributed to me being ethical in completing this study and mini-dissertation. In addition, I endeavoured to equip myself even better for the processes involved in quantitative statistical data analysis in order to be able to accurately report on the results and deal with challenges that may have arisen. Throughout this entire study and during all the steps of data analysis, as well as when reporting on the results, I focused on acting ethically and responsibly.

3.9 CONCLUSION

In this chapter, I discussed the research methodology of my study in detail. I selected the quantitative research approach since it allowed me to analyse, describe and make inferences from the data from a post-positivist perspective by conducting statistical

tests. Using secondary data analysis as research design supported the aim of my study as it enabled me to address the research questions and test the associated hypotheses. As such, I was able to determine the effect of the health promotion intervention on the psychosocial well-being of Grade 1 to 3 learners in the selected at-risk school community contexts, as part of the broader NRF-funded research project.

In Chapter 4, I present and discuss the results of the current study. For this purpose, I explain and report on the results I obtained from the descriptive and inferential statistical tests.

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CHAPTER 4
RESULTS OF THE STUDY

4.1 INTRODUCTION

In Chapter 3, I discussed the methodological process of the research. I described my paradigmatic perspectives (quantitative research, anchored in post-positivism) in detail, and explained the suitability of secondary data analysis as research design. I also described the research methodology and strategies I relied on, elaborated on the standards of rigour, and described how I attended to ethical considerations.

In this chapter, I present the results I obtained following quantitative analysis of the measures I described in the previous chapter. In discussing the results, I refer to the research questions and hypotheses that I presented in Chapter 1. Throughout, I graphically summarise the results I obtained.

4.2 RESULTS OF THE STUDY

In this section, I provide an overview of the results I obtained following quantitative statistical analysis of the three selected questionnaires. The questionnaires were analysed individually, resulting in my discussion of the results also being done separately for the various questionnaires.

It is important to mention the number of respondents who had completed results for both the pre- and post-tests as the respondents' pre- and post-responses were not consistent across the three questionnaires. In addition, the relatively small sample size of respondents, specifically regarding the Kid-KINDL® questionnaire, may also have affected the results I obtained. More specifically, the section on well-being of the NPWB questionnaire (Appendix A) was completed by 133 respondents for all 12 questions prior to and following the health promotion intervention. For the Kid-KINDL® questionnaire (Appendix B), 51 respondents completed sections two to five (all 16 questions) and formed part of this study. For the six emotions-items of the Feelings questionnaire (Appendix C), the sample include 226 respondents who recorded all six emotions for the pre- as well as the post-intervention testing. As the "Generally I feel…" question on the Feelings questionnaire was not recorded in the post-intervention results; this question did not form part of the analysis. Even though the

"Today I feel…" question had a sample of 241 respondents who had recorded pre- and post-intervention results, I was not able to compare it to the "Generally I feel" section, and thus also excluded this question from the final analysis.

4.2.1 DESCRIPTIVE STATISTICS

In this section, I present the descriptive statistics for the three questionnaires prior to and following the health promotion intervention in order to illuminate how the psychosocial profile of the participating Grade 1 to 3 learners in at-risk schools could be described during these two intervals. The data presented in this section relate to the following two research questions:

- **Secondary question 1:** What was the overall psychosocial profile of Grade 1 to 3 learners in at-risk school community contexts prior to the health promotion intervention?
- **Secondary question 2:** What was the overall psychosocial profile of Grade 1 to 3 learners in at-risk school community contexts following to the health promotion intervention?

Even though ordinal data were analysed, I thought it important to report on the descriptive statistics as per the tables and figures that follow, since a numerical value was assigned to each potential choice, which was used to calculate an overall attitude towards each of the themes under investigation. All the respondents selected item options 5 (maximum) to 1 (minimum) for the various items. In addition, the median and mode for each item are also displayed in the tables, with the frequencies highligting how many respondents selected each of the choices, before and after the intervention. Since the median is not that much affected by outliers, I used this to make inferences from the results.

4.2.1.1 Results of the NPWB questionnaire

As already indicated, the Nutritional Habits, Physical Activity and Well-being (NPWB) of the respondents were measured with the NPWB questionnaire. More specifically, the questionnaire was aimed at collecting data on for example the emotions, sleeping habits and attention capacity of the respondents. The section on well-being specifically, that forms the focus of my study, was completed by 133 respondents before and after the health promotion intervention. In capturing the data, the key displayed in Table 4.1 was used, in order to subsequently present the results in the

form of graphs (Figure 4.1). More specifically, numbers 5 to 1 were assigned to the responses during data capturing, as these had not been included in the questionnaire.

Table 4.1: Response options for the NPWB questionnaire

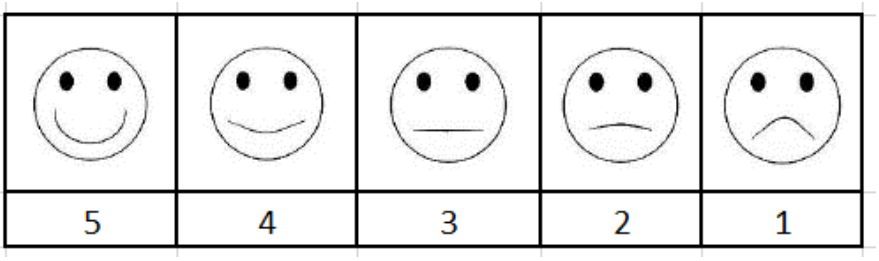


Figure 4.1 provides graphs that display the various proportions of all respondents who selected the different option components on the well-being section of the NPWB questionnaire, both prior to and following the intervention.

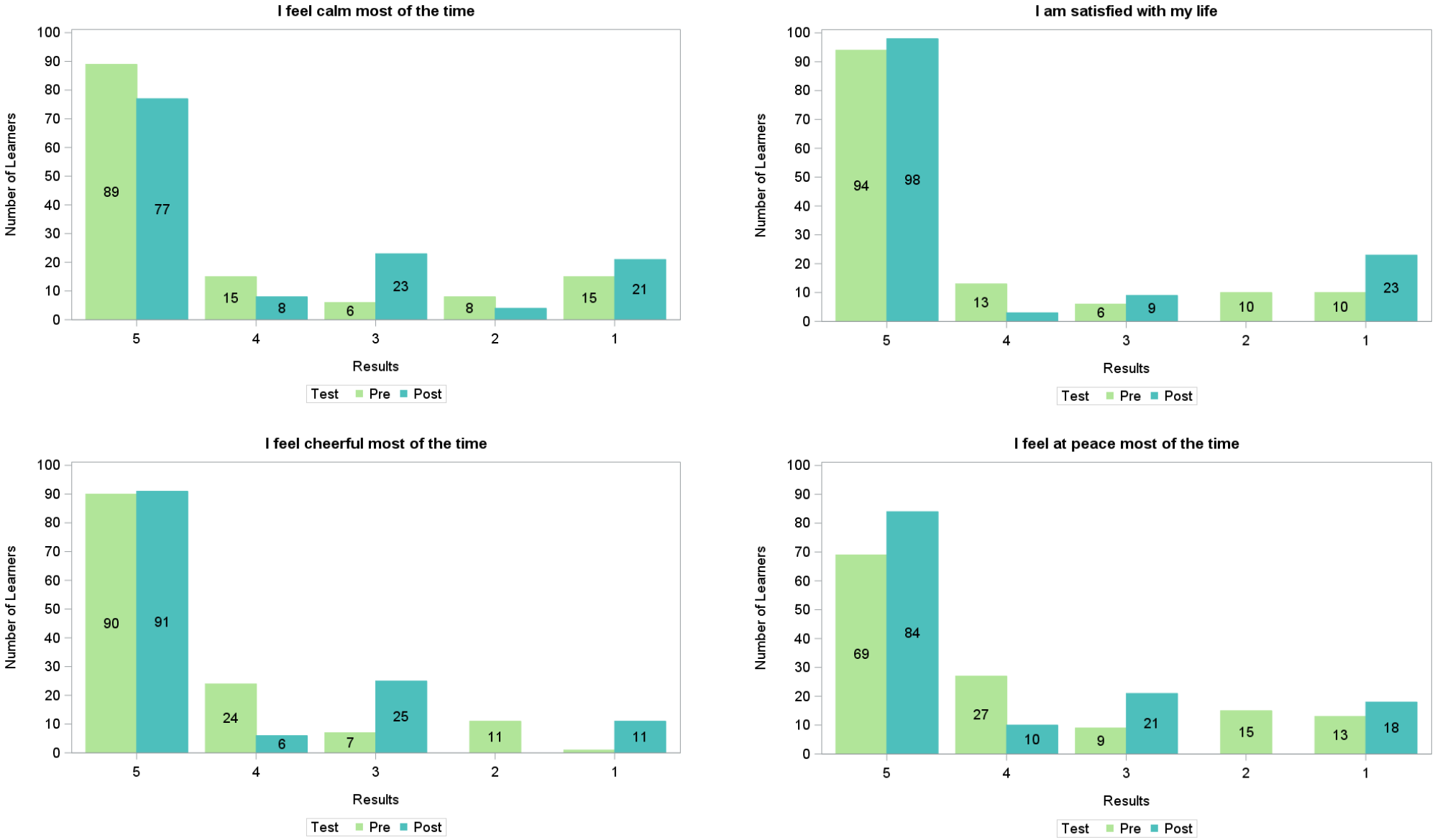
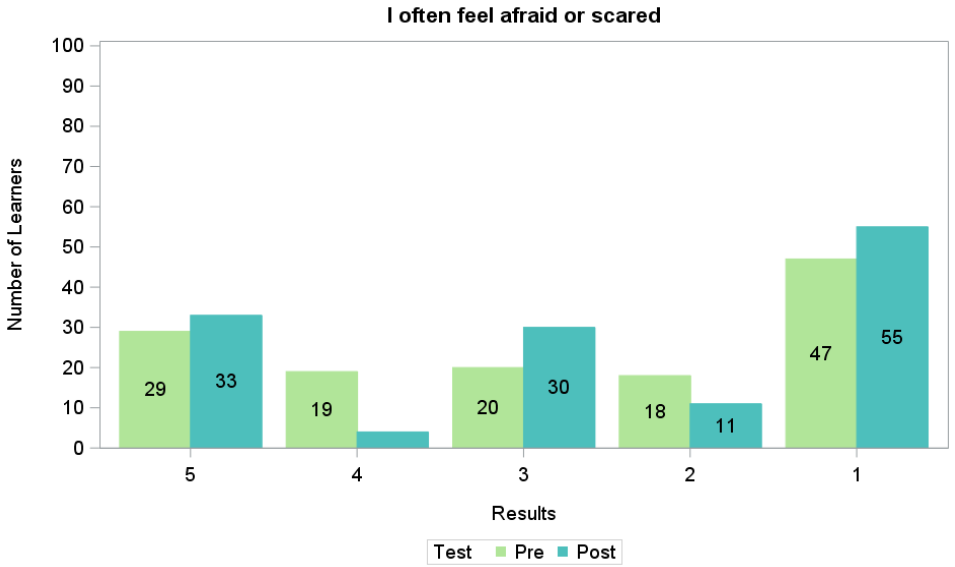
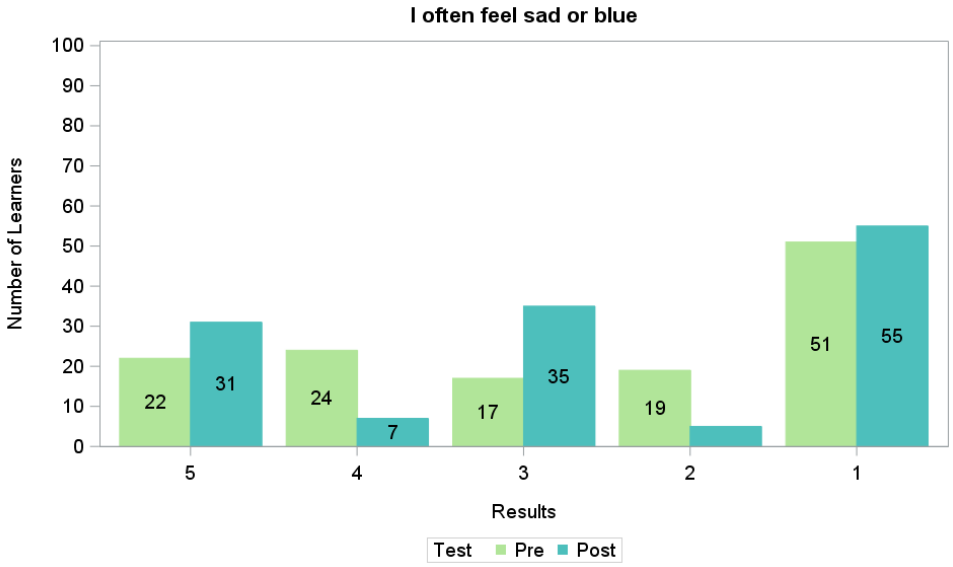
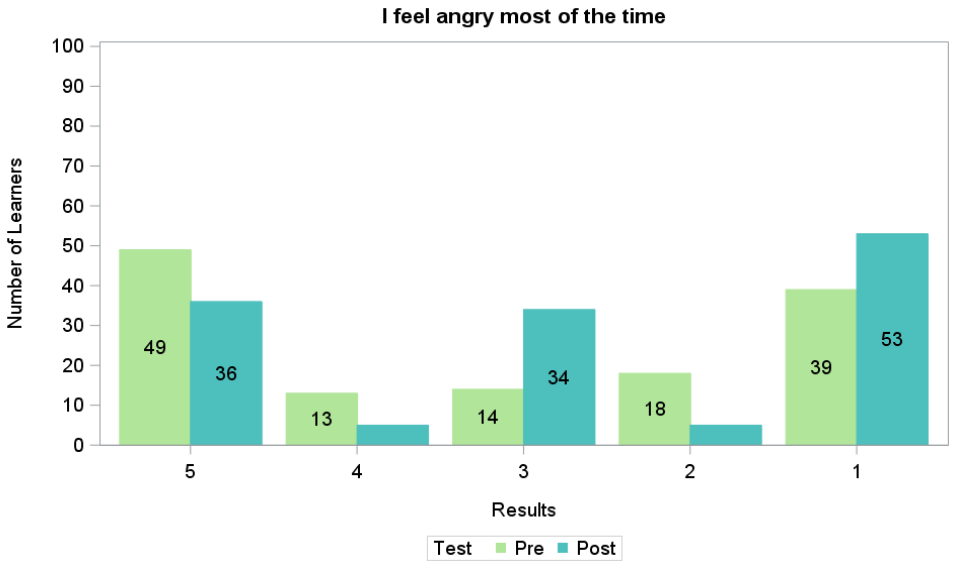


Figure 4.1a: Proportions of respondents choosing the various options for the items on the NPWB questionnaire, pre- and post-intervention







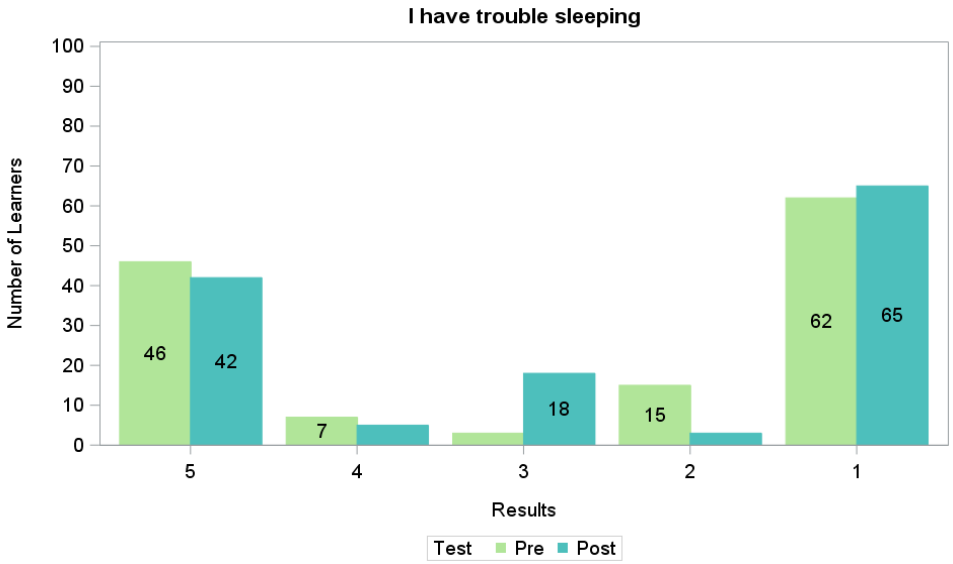
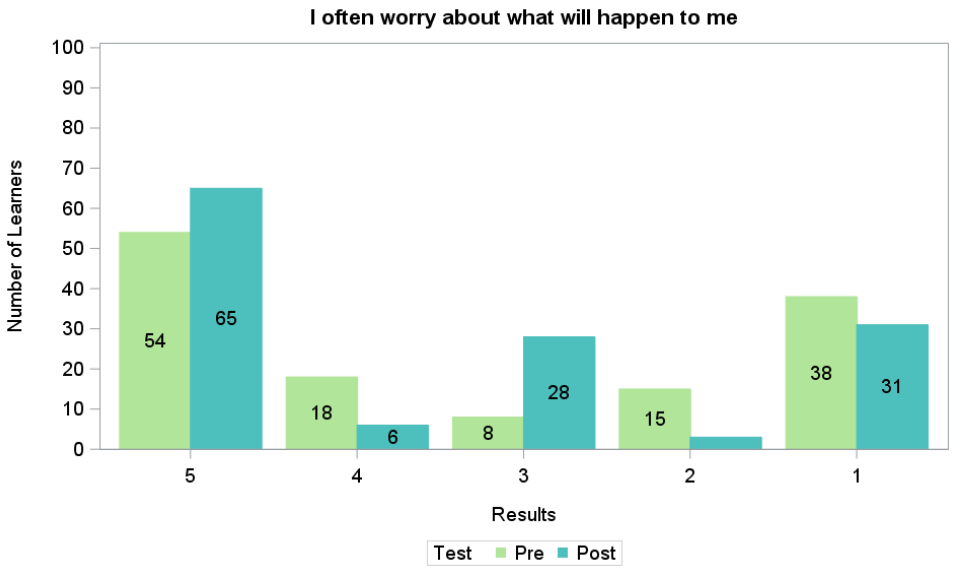
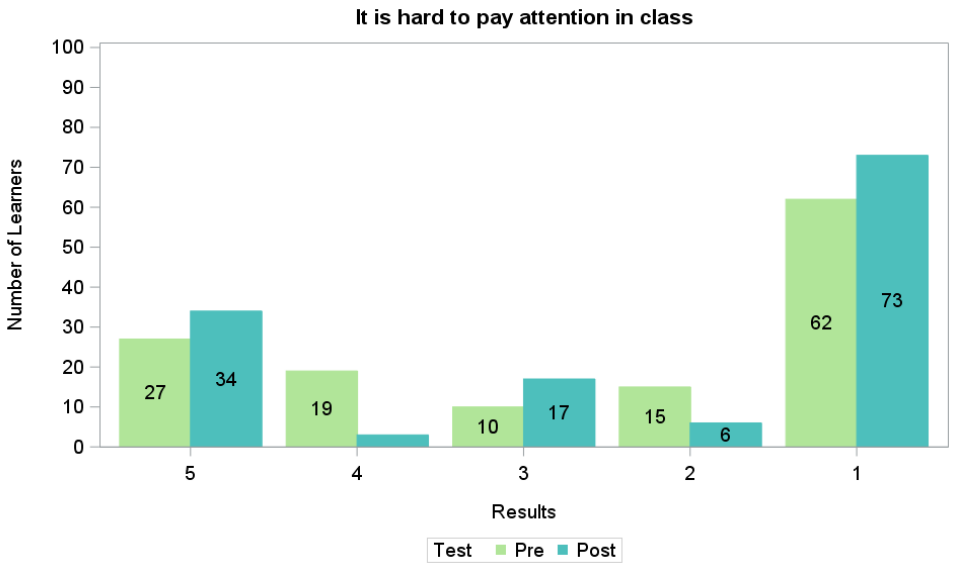
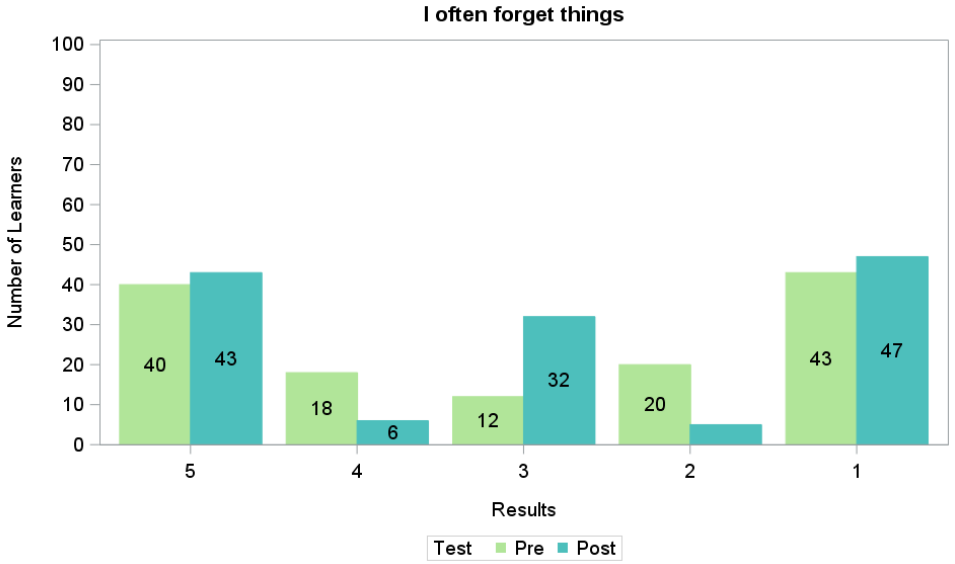


Figure 4.1b: Proportions of respondents choosing the various options for the items on the NPWB questionnaire, pre- and post-intervention







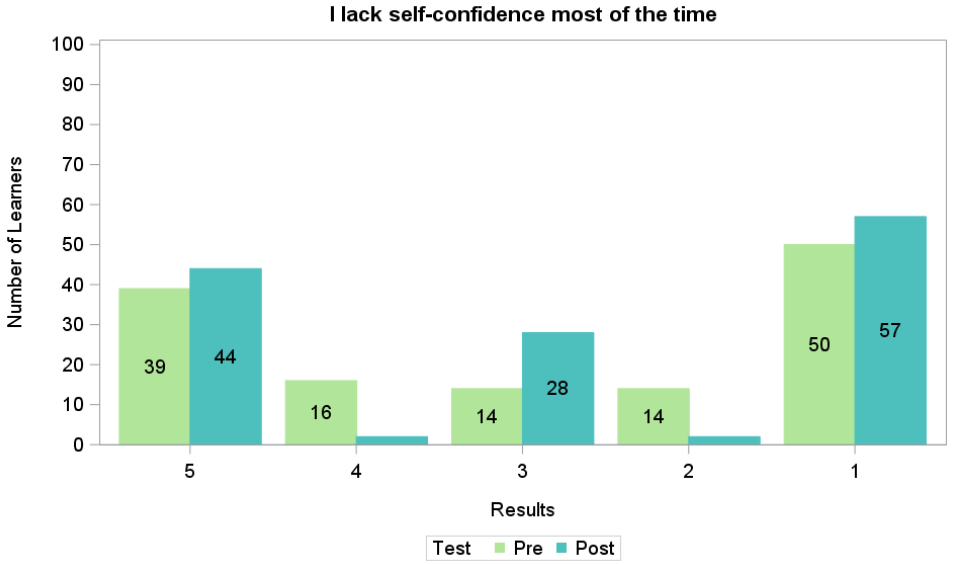


Figure 4.1c: Proportions of respondents choosing the various options for the items on the NPWB questionnaire, pre- and post-intervention

In support of the graphs presented in Figure 4.1, Tables 4.2 and 4.3 provide a summary of the descriptive statistics of the different item options for the pre- and post-tests of the NPWB questionnaire. My discussion of the results presented in Tables 4.2 and 4.3 follows.

Table 4.2: Descriptive statistics of the different items for the pre-test on the NPWB questionnaire

Variable	N	Min	Max	Mean	Median	Mode	Variance	Std Dev	Range
I feel calm most of the time	133	1.00	5.00	4.17	5.00	5.00	1.96	1.40	4.00
I am satisfied with my life	133	1.00	5.00	4.29	5.00	5.00	1.66	1.29	4.00
I feel cheerful most of the time	133	1.00	5.00	4.44	5.00	5.00	0.94	0.97	4.00
I feel at peace most of the time	133	1.00	5.00	3.93	5.00	5.00	1.93	1.39	4.00
I often feel afraid or scared	133	1.00	5.00	2.74	3.00	1.00	2.51	1.59	4.00
I often feel sad or blue	133	1.00	5.00	2.60	2.00	1.00	2.38	1.54	4.00
I feel angry most of the time	133	1.00	5.00	3.11	3.00	5.00	2.89	1.70	4.00
I have trouble sleeping	133	1.00	5.00	2.70	2.00	1.00	3.35	1.83	4.00
I often worry about what will happen to me	133	1.00	5.00	3.26	4.00	5.00	2.97	1.72	4.00
It is hard to pay attention in class	133	1.00	5.00	2.50	2.00	1.00	2.71	1.65	4.00
I often forget things	133	1.00	5.00	2.94	3.00	1.00	2.80	1.67	4.00
I lack self-confidence most of the time	133	1.00	5.00	2.85	3.00	1.00	2.90	1.70	4.00

Table 4.3: Descriptive statistics of the different items for the post-test on the NPWB questionnaire

Variable	N	Min	Max	Mean	Median	Mode	Variance	Std Dev	Range
I feel calm most of the time	133	1.00	5.00	3.87	5.00	5.00	2.29	1.51	4.00
I am satisfied with my life	133	1.00	5.00	4.15	5.00	5.00	2.36	1.53	4.00
I feel cheerful most of the time	133	1.00	5.00	4.25	5.00	5.00	1.57	1.25	4.00

Variable	N	Min	Max	Mean	Median	Mode	Variance	Std Dev	Range
I feel at peace most of the time	133	1.00	5.00	4.07	5.00	5.00	2.02	1.42	4.00
I often feel afraid or scared	133	1.00	5.00	2.62	3.00	1.00	2.63	1.62	4.00
I often feel sad or blue	133	1.00	5.00	2.65	3.00	1.00	2.58	1.61	4.00
I feel angry most of the time	133	1.00	5.00	2.74	3.00	1.00	2.71	1.65	4.00
I have trouble sleeping	133	1.00	5.00	2.67	2.00	1.00	3.19	1.79	4.00
I often worry about what will happen to me	133	1.00	5.00	3.53	4.00	5.00	2.69	1.64	4.00
It is hard to pay attention in class	133	1.00	5.00	2.39	1.00	1.00	2.94	1.71	4.00
I often forget things	133	1.00	5.00	2.95	3.00	1.00	2.81	1.68	4.00
I lack self-confidence most of the time	133	1.00	5.00	2.80	3.00	1.00	3.05	1.75	4.00

As derived from Tables 4.2 and 4.3, fewer respondents indicated that they often feel sad or blue after the health promotion intervention than before the intervention was facilitated, indicating a positive change in this aspect of their psychosocial functioning. When considering the mode difference between the pre- and post-test results, it could however be seen that the majority of the learners selected the sad face when describing whether or not they feel angry after the intervention, while the majority of respondents selected the happy face before the intervention.

When considering the number of learners indicating the various options (as captured in Figure 4.1), it can be concluded that the distribution between the happy face and sad face are closely equal, despite a definite shift in proportions from the happy face to the sad face following the intervention. The median for this item ("I feel angry most of the time") remained the same after the health promotion intervention had been implemented, which illustrates that the central tendency remained consistent.

A difference in the median score can, however, be observed in terms of respondents indicating that they more often found it difficult to pay attention in class after the intervention when compared to the time before the intervention. For this item option, the mode however remained the same. The standard deviation and variance are respectively the same for all other items, and no statistically significant difference

could be found between pre- and post-intervention results on the two-sided p-value, as discussed in more detail in Section 4.2.2.

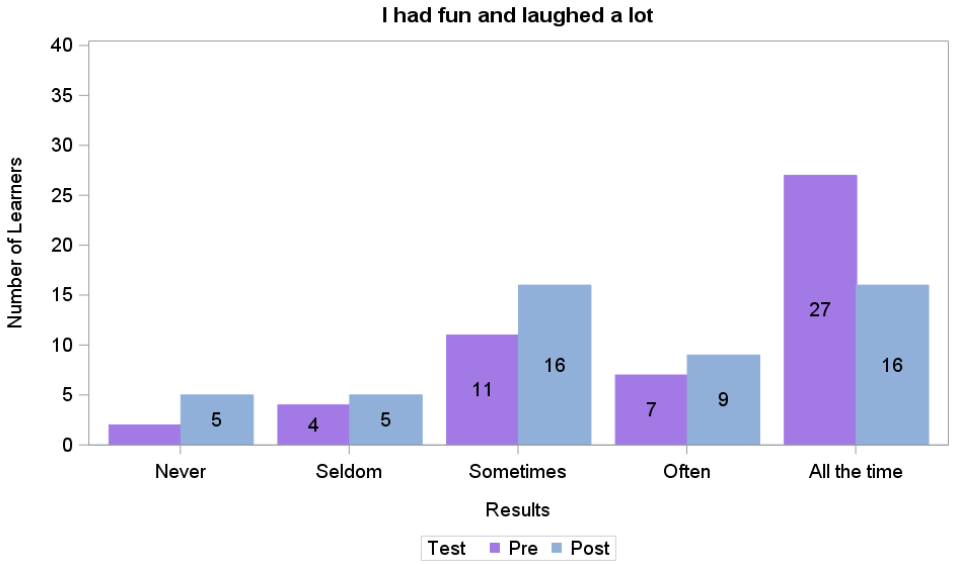
Finally, the mode and median of the first four item options indicate that the respondents felt calm, cheerful and at peace most of the time, and were satisfied with their lives both before and after they participated in the health promotion intervention. In terms of these aspects, no difference can be reported regarding the respondents' well-being following the health promotion intervention.

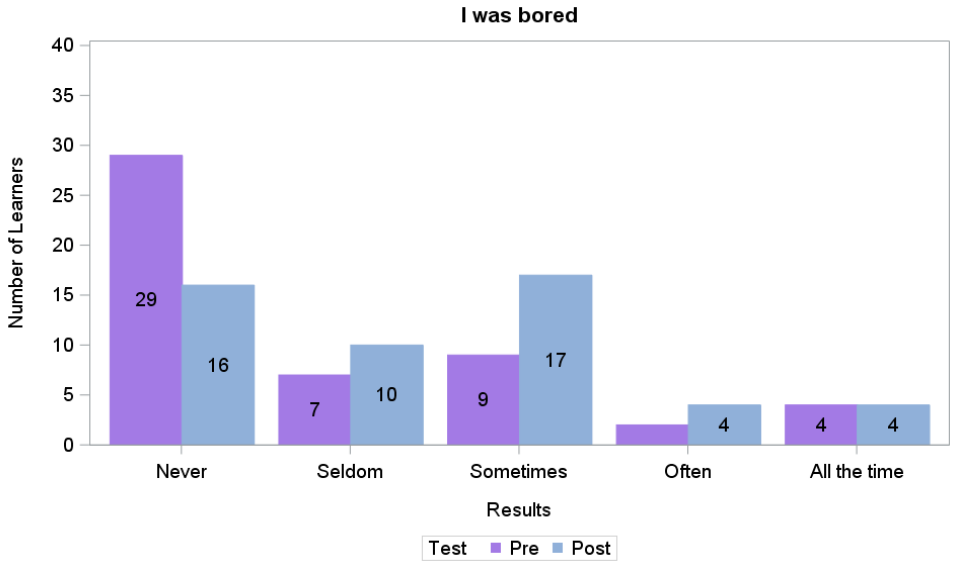
4.2.1.2 Results of the Kid-KINDL® questionnaire

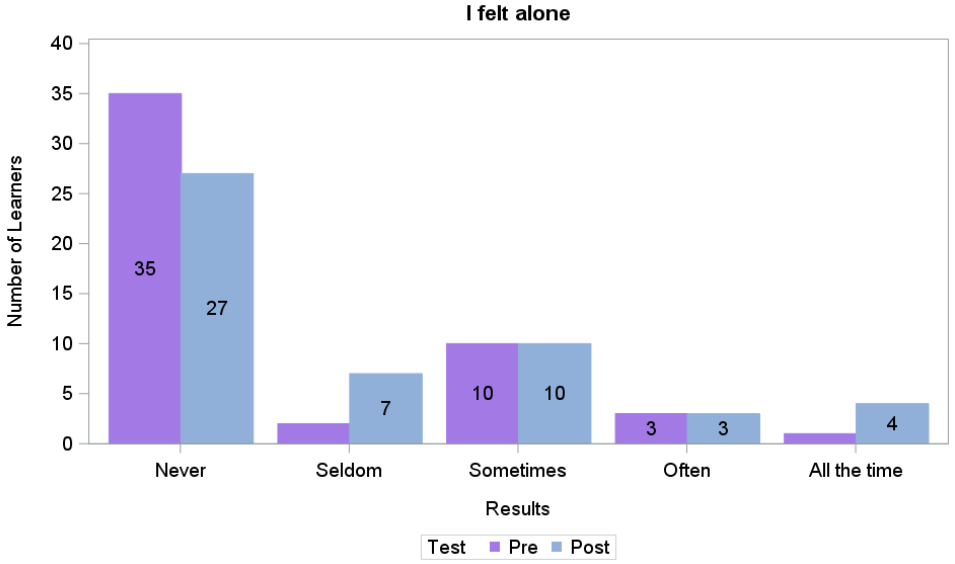
The Kid-KINDL® questionnaire focused on obtaining information on how respondents felt in general, about themselves as well as about their families and peers. Sections two to five of the Kid-KINDL® questionnaire, that formed part of the data for the current study, were completed by 51 respondents (small sample size) before and after implementation of the health promotion intervention. Table 4.4 indicates the item options and how the data were captured, and subsequently represented in the graphs included as Figures 4.2 to 4.5. In these figures, the proportions achieved for each of the components of sections two to five of the Kid-KINDL® questionnaire are thus displayed, thereby indicating the number of learners who selected each option before, as well as after the intervention. Figure 4.2 captures respondents' perceptions in terms of their feelings in general, Figure 4.3 their feelings about themselves, Figure 4.4 their feelings about their family, and Figure 4.5 their feelings about their friends.

Table 4.4: Response options for the Kid-KINDL® questionnaire

Never	Seldom	Sometimes	Often	All the time
1	2	3	4	5







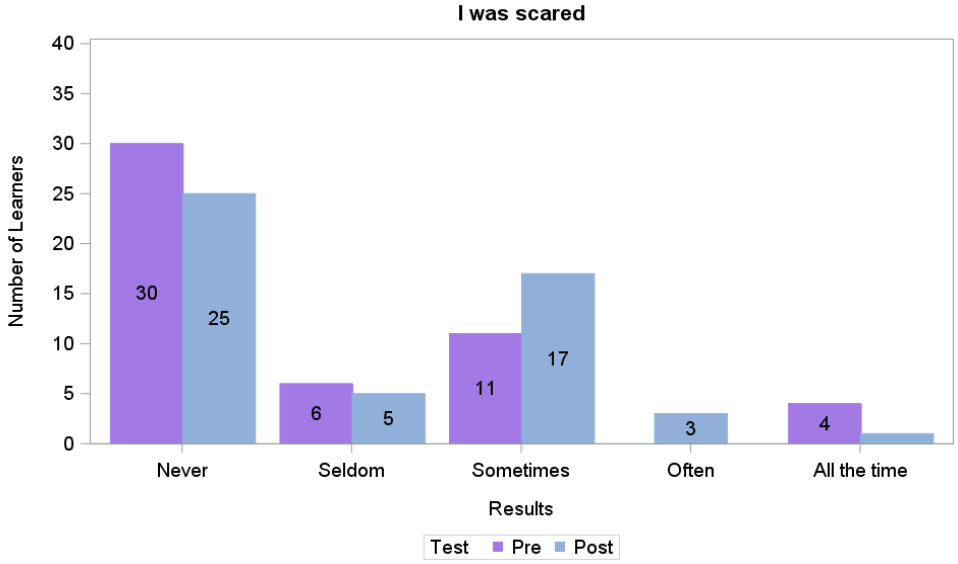
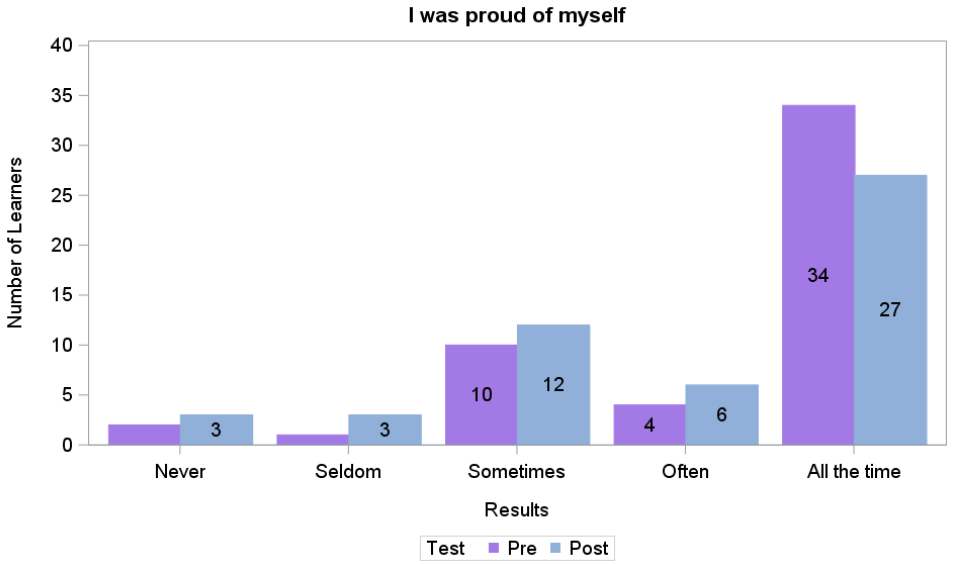
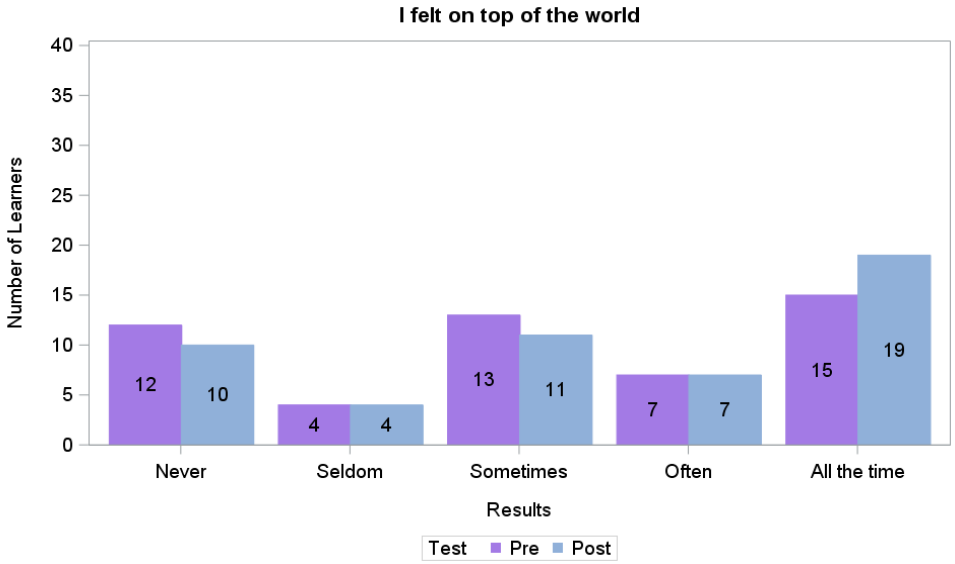
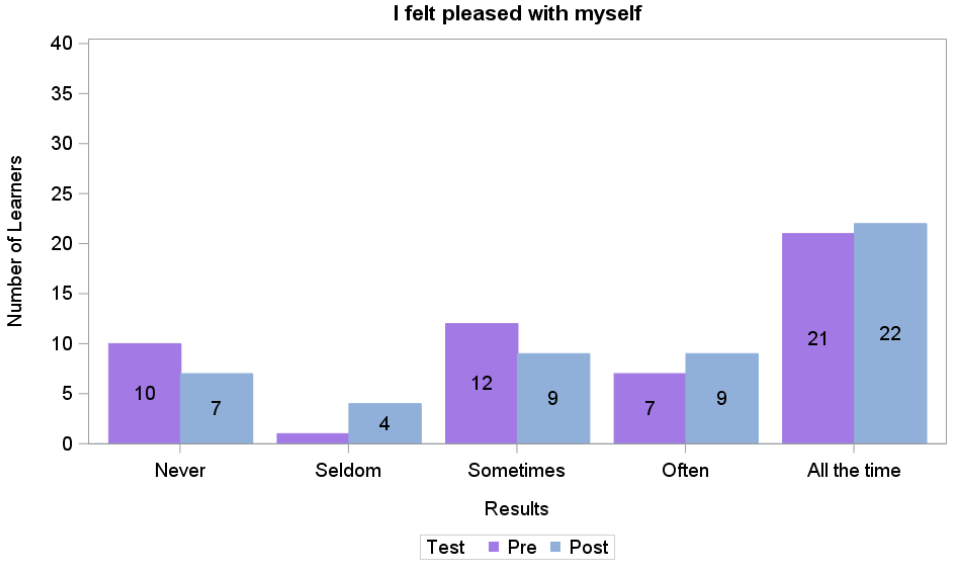


Figure 4.2: Proportions of respondents choosing the various options for the questions relating to how they were feeling in general, both pre- and post-intervention







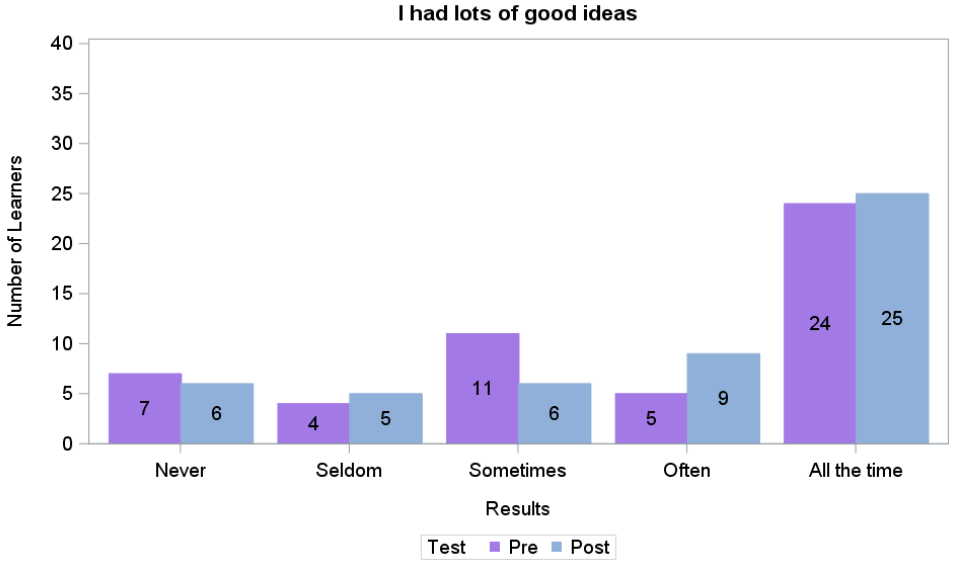


Figure 4.3: Proportions of respondents choosing the various options for the questions relating to how they felt about themselves, both pre- and post-intervention

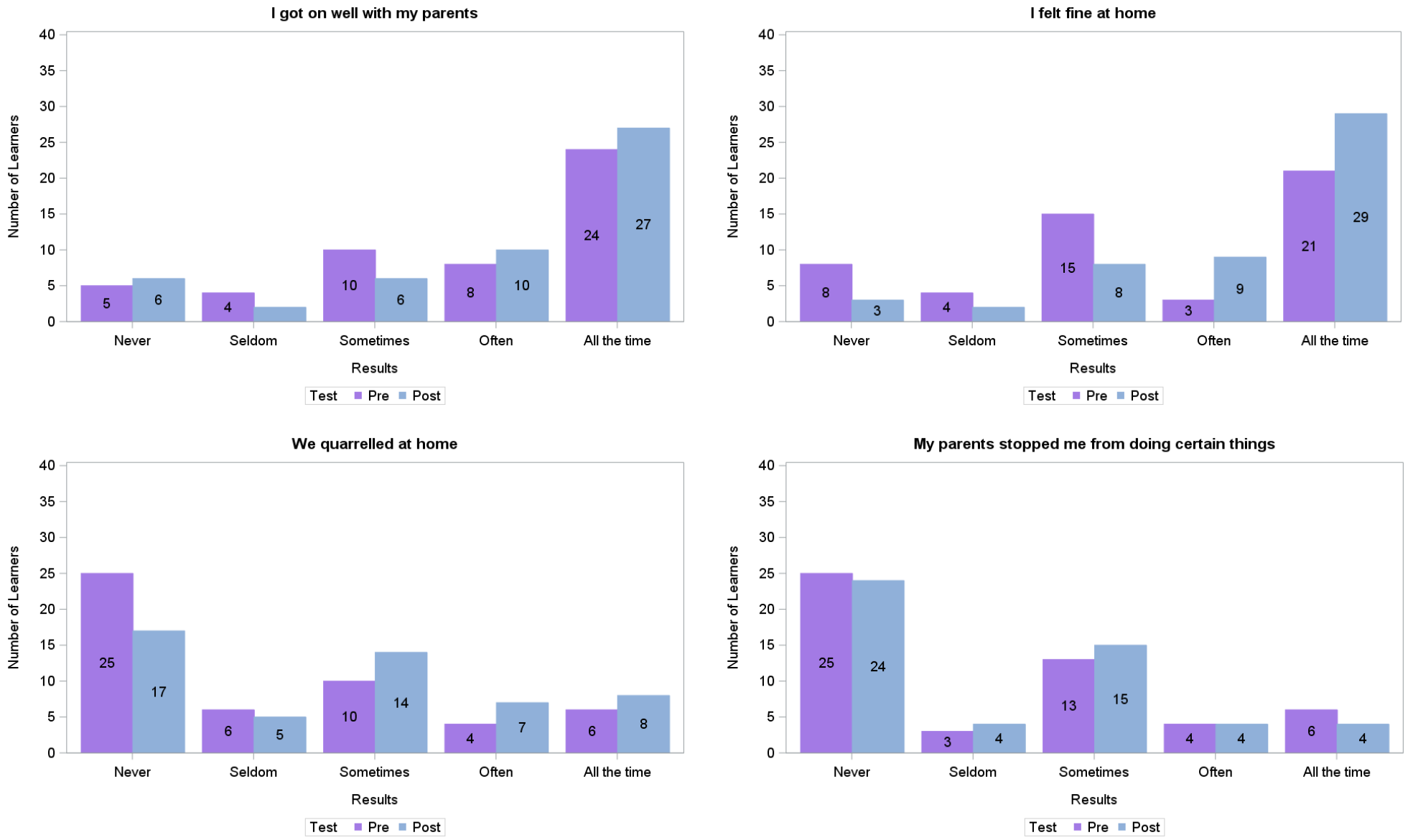
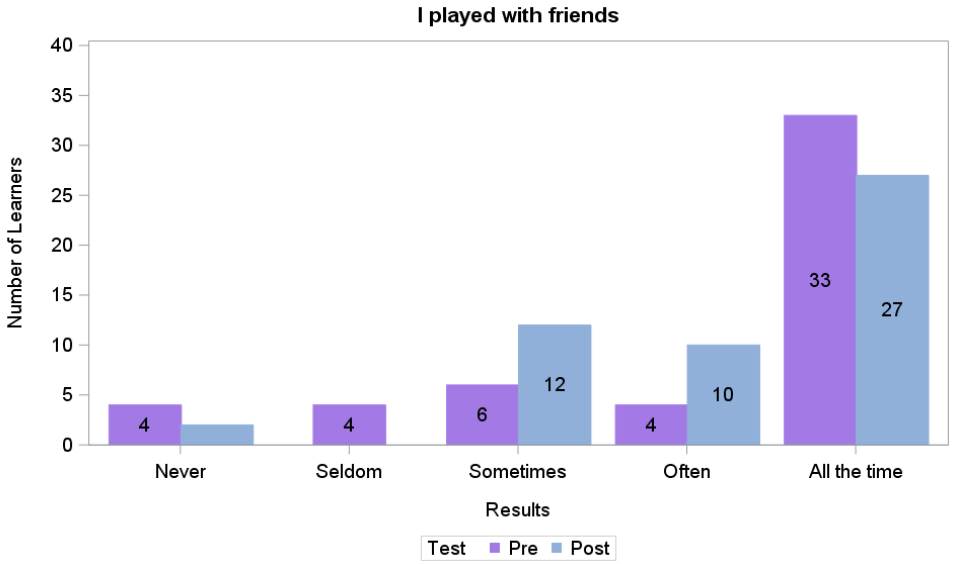
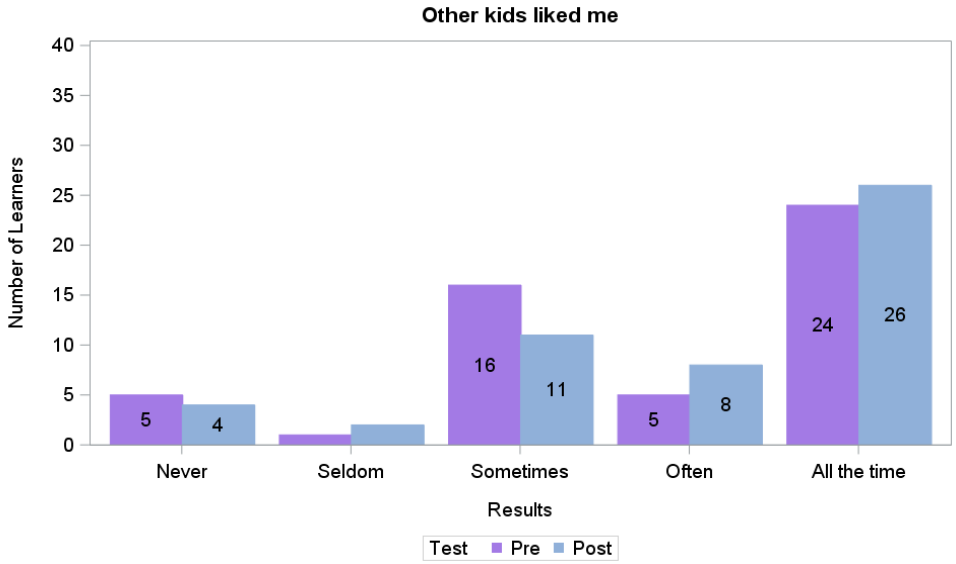
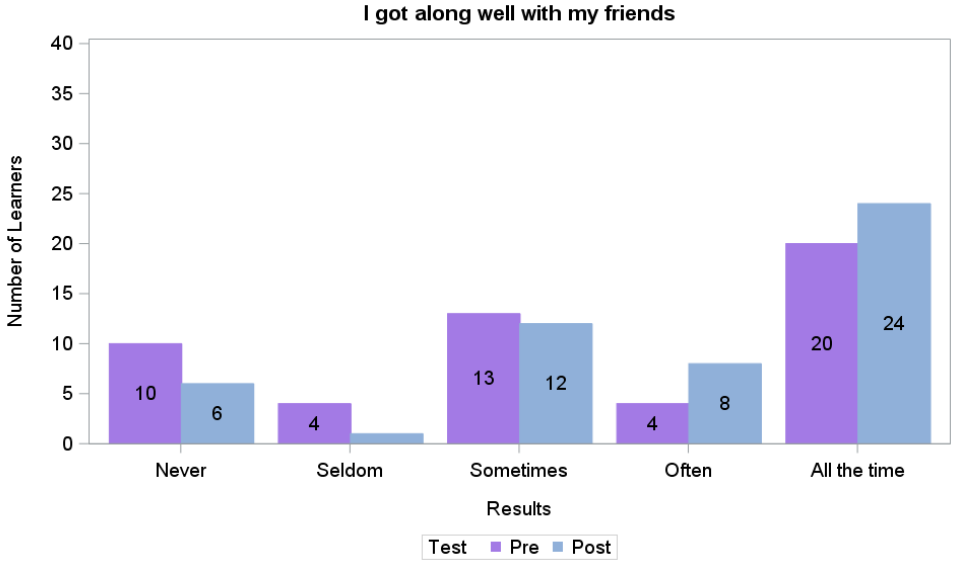


Figure 4.4: Proportions of respondents choosing the various options for the questions relating to how they felt about their families, both pre- and post-intervention







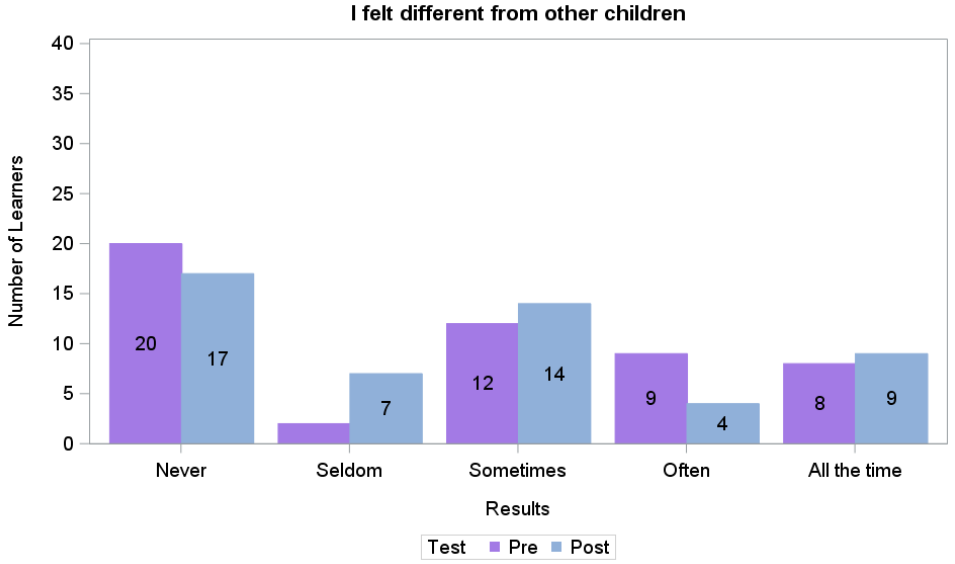


Figure 4.5: Proportions of respondents choosing the various options for the questions relating to how they felt about their friends, both pre- and post-intervention

In support of the graphs presented in Figures 4.2 to 4.5, Tables 4.5 and 4.6 provide a summary of the descriptive statistics of the different item options for the pre- and post-tests for the Kid-KINDL® questionnaire. My discussion of the information captured in these follows.

Table 4.5: Descriptive statistics of the different items for the pre-test on the Kid-KINDL® questionnaire

Variable	N	Min	Max	Mean	Median	Mode	Variance	Std Dev	Range
During the past week…									
...I had fun and laughed a lot	51	1.00	5.00	4.04	5.00	5.00	1.44	1.20	4.00
...I was bored	51	1.00	5.00	1.92	1.00	1.00	1.63	1.28	4.00
...I felt alone	51	1.00	5.00	1.69	1.00	1.00	1.22	1.10	4.00
...I was scared	51	1.00	5.00	1.86	1.00	1.00	1.52	1.23	4.00
…I was proud of myself	51	1.00	5.00	4.31	5.00	5.00	1.22	1.10	4.00
...I felt on top of the world	51	1.00	5.00	3.18	3.00	5.00	2.35	1.53	4.00
...I felt pleased with myself	51	1.00	5.00	3.55	4.00	5.00	2.33	1.53	4.00
...I had lots of good ideas	51	1.00	5.00	3.69	4.00	5.00	2.18	1.48	4.00
...I got on well with my parents	51	1.00	5.00	3.82	4.00	5.00	1.87	1.37	4.00
...I felt fine at home	51	1.00	5.00	3.49	3.00	5.00	2.21	1.49	4.00
...we quarrelled at home	51	1.00	5.00	2.22	2.00	1.00	2.05	1.43	4.00
...my parents stopped me from doing certain things	51	1.00	5.00	2.27	2.00	1.00	2.08	1.44	4.00
...I played with friends	51	1.00	5.00	4.14	5.00	5.00	1.80	1.34	4.00
...other kids liked me	51	1.00	5.00	3.82	4.00	5.00	1.75	1.32	4.00
...I got along well with my friends	51	1.00	5.00	3.39	3.00	5.00	2.40	1.55	4.00
...I felt different from other children	51	1.00	5.00	2.67	3.00	1.00	2.35	1.53	4.00

Table 4.6: Descriptive statistics of the different items for the post-test on the Kid-KINDL® questionnaire

Variable	N	Min	Max	Mean	Median	Mode	Variance	Std Dev	Range
During the past week…									
...I had fun and laughed a lot	51	1.00	5.00	3.51	3.00	3.00	1.69	1.30	4.00
...I was bored	51	1.00	5.00	2.41	2.00	3.00	1.53	1.24	4.00
...I felt alone	51	1.00	5.00	2.02	1.00	1.00	1.70	1.30	4.00
...I was scared	51	1.00	5.00	2.02	2.00	1.00	1.26	1.12	4.00
…I was proud of myself	51	1.00	5.00	4.00	5.00	5.00	1.56	1.25	4.00
...I felt on top of the world	51	1.00	5.00	3.41	4.00	5.00	2.37	1.54	4.00
...I felt pleased with myself	51	1.00	5.00	3.69	4.00	5.00	2.10	1.45	4.00
...I had lots of good ideas	51	1.00	5.00	3.82	4.00	5.00	2.07	1.44	4.00
...I got on well with my parents	51	1.00	5.00	3.98	5.00	5.00	1.90	1.38	4.00
...I felt fine at home	51	1.00	5.00	4.16	5.00	5.00	1.41	1.19	4.00
...we quarrelled at home	51	1.00	5.00	2.69	3.00	1.00	2.14	1.46	4.00
...my parents stopped me from doing certain things	51	1.00	5.00	2.22	2.00	1.00	1.77	1.33	4.00
...I played with friends	51	1.00	5.00	4.18	5.00	5.00	1.11	1.05	4.00
...other kids liked me	51	1.00	5.00	3.98	5.00	5.00	1.62	1.27	4.00
...I got along well with my friends	51	1.00	5.00	3.84	4.00	5.00	1.85	1.36	4.00
...I felt different from other children	51	1.00	5.00	2.63	3.00	1.00	2.16	1.47	4.00

It should be noted that all the items for this questionnaire start with “During the past week”. As such, a specific timeframe was provided to the respondents when completing the questionnaires to indicate how they felt about themselves and about life, as well as about the relationships between them, their families and their peers.

Considering the results captured in Tables 4.5 and 4.6, it can be derived that more of the respondents had fun and laughed more often before the health promotion intervention than after the intervention had been implemented. Accordingly, the median and mode for this item was lower after the health promotion intervention had been completed. In addition, respondents seemed to be bored more regularly following

the health promotion intervention when compared to their feelings of boredom prior to the implementation. Both of these items indicate a statistically significant difference between the pre- and post-test results, as discussed in Section 4.2.2. Even though respondents were reportedly also more scared in general after the health promotion intervention than before it was implemented, this difference is not statistically significant.

Concerning the respondents' feelings about themselves, more respondents indicated that they felt positive ("on top of the world") more regularly after implementation of the health promotion intervention. In terms of their families, a greater number of respondents indicated that they got along well more often with their parents following the health promotion intervention. They however also indicated that quarrelling occurred at home more often after the intervention. On the other hand, more respondents seemingly felt fine at home more regularly after implementation of the intervention, on a statistically significant level. More detailed discussions in terms of these statistics follow in Section 4.2.2.

The social part of the respondents' psychosocial well-being seemingly improved following implementation of the health promotion intervention, yet the increase is not statistically significant. In addition, more respondents indicated the perception that other learners liked them and that they got along well with their friends more often after implementation of the intervention, yet also not on a statistically significant level.

Combined results on the way in which the majority of the respondents felt about themselves, are positive with a mode of 5 throughout for these four items. As such, the majority of the respondents seemed proud of and pleased with themselves, felt "on top of the world" and had many good ideas all of the time.

Respondents reportedly got on well with their parents and experienced positive feelings at home. At school, most respondents played with friends, they mostly believed that other learners liked them and got along well with their friends all of the time. When considering the combined results regarding the mode, the majority of the respondents never felt different from their peers.

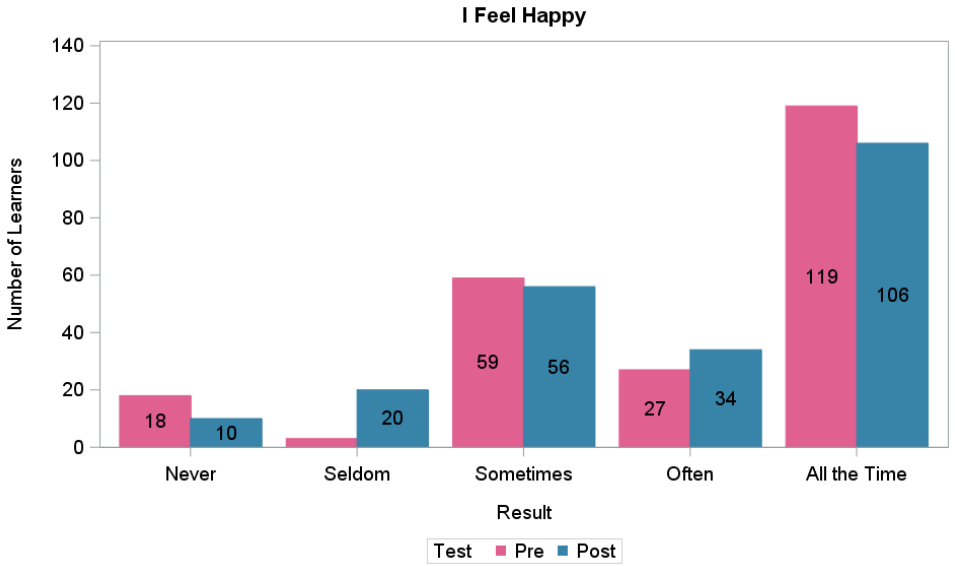
4.2.1.3 Results of the Feelings questionnaire

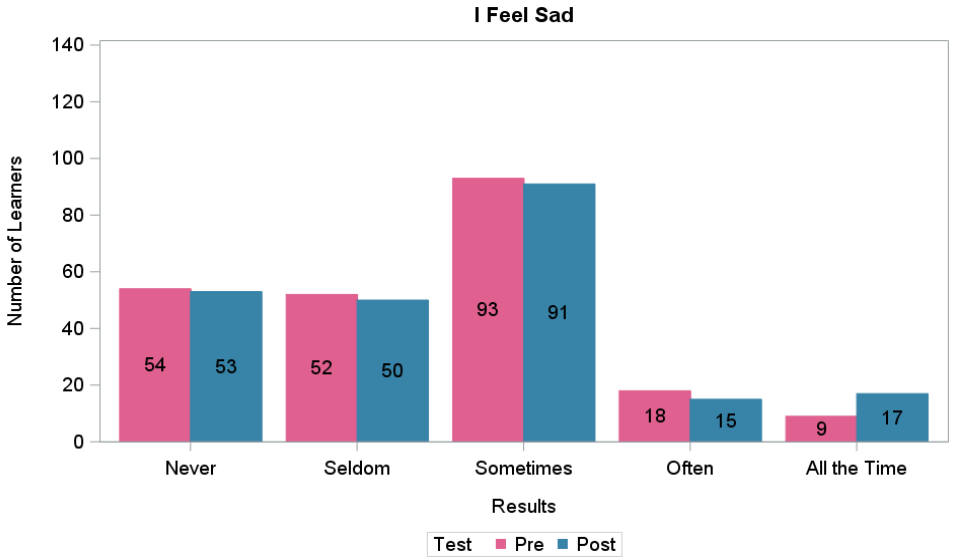
As discussed previously, the Feelings questionnaire provided data on the respondents' specific emotions, namely happiness, sadness, anger, loneliness, fear and excitement. This questionnaire was completed by 226 respondents before and following implementation of the health promotion intervention. Table 4.7 indicates the item options and how the data were captured, and correspond with the graphs indicated in Figure 4.6.

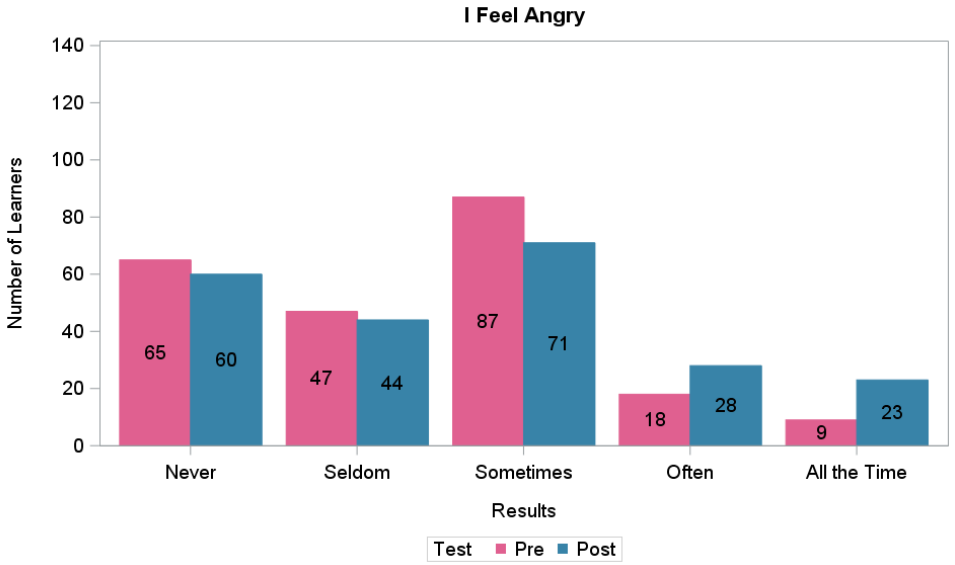
Table 4.7: Response options for the Feelings questionnaire

Never	Seldom	Sometimes	Often	All the time
1	2	3	4	5

The graphs below (Figure 4.6) display the proportions indicated by the respondents for each of the components measured on the Feelings questionnaire. The graphs indicate the number of learners who selected each option before, as well as after the intervention that they participated in.







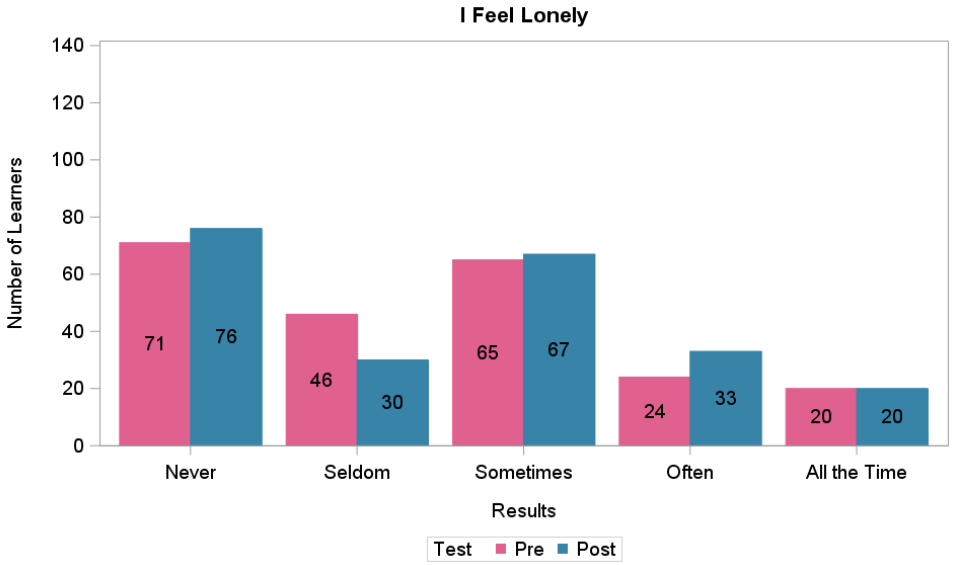


Figure 4.6a: Proportions of respondents choosing the various options for the items on the Feelings questionnaire, pre- and post-intervention

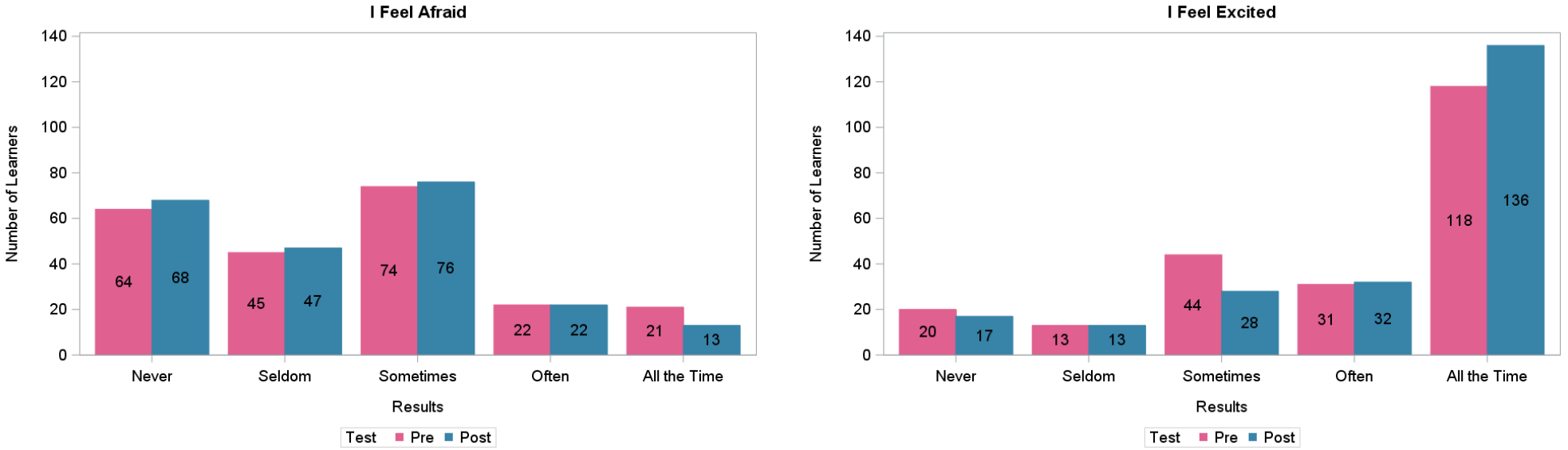


Figure 4.6b: Proportions of respondents choosing the various options for the items on the Feelings questionnaire, pre- and post-intervention

In support of the graphs presented in Figure 4.6, Tables 4.8 and 4.9 provide a summary of the descriptive statistics of the different item options for the pre- and post-tests for the Feelings questionnaire. My discussion of the information presented in Tables 4.8 and 4.9 follows.

Table 4.8: Descriptive statistics of the different items for the pre-test on the Feelings questionnaire

Variable	N	Min	Max	Mean	Median	Mode	Variance	Std Dev	Range
Happy	226	1.00	5.00	4.00	5.00	5.00	1.56	1.25	4.00
Sad	226	1.00	5.00	2.45	3.00	3.00	1.13	1.06	4.00
Angry	226	1.00	5.00	2.38	3.00	3.00	1.21	1.10	4.00
Lonely	226	1.00	5.00	2.45	2.00	1.00	1.63	1.28	4.00
Afraid	226	1.00	5.00	2.52	3.00	3.00	1.58	1.26	4.00
Excited	226	1.00	5.00	3.95	5.00	5.00	1.75	1.32	4.00

Table 4.9: Descriptive statistics of the different items for the post-test on the Feelings questionnaire

Variable	N	Min	Max	Mean	Median	Mode	Variance	Std Dev	Range
Happy	226	1.00	5.00	3.91	4.00	5.00	1.47	1.21	4.00
Sad	226	1.00	5.00	2.53	3.00	3.00	1.31	1.14	4.00
Angry	226	1.00	5.00	2.60	3.00	3.00	1.64	1.28	4.00
Lonely	226	1.00	5.00	2.52	3.00	1.00	1.75	1.32	4.00
Afraid	226	1.00	5.00	2.40	2.00	3.00	1.39	1.18	4.00
Excited	226	1.00	5.00	4.14	5.00	5.00	1.62	1.27	4.00

As captured in Tables 4.8 and 4.9, the results I obtained indicate that most of the respondents felt happy all the time before implementation of the health promotion intervention, whereas they often felt happy after the intervention had been completed. As such, similar levels of happiness were maintained. In addition, most respondents seldom felt lonely before the intervention, whereas most respondents sometimes felt lonely after implementation of the intervention. Fewer respondents indicated that they felt afraid after the health promotion intervention than before it was implemented. In addition, most respondents often felt sad, sometimes felt angry and were excited all the time both before and after implementation of the intervention.

4.2.2 INFERENTIAL STATISTICS

In this section I present the results of the inferential statistics for the three questionnaires both before and following the health promotion intervention, in an attempt to illuminate which areas of psychosocial well-being (if any) were affected by the intervention, and what the nature and extent of the effect (if any) was. As such, the following research question is addressed in this section:

- **Secondary question 3:** Which areas of psychosocial well-being (if any) were affected by the health promotion intervention and if so, what is the nature and extent of the effect?

In order to address the research questions, I formulated the following hypotheses and tested these for statistical differences:

- **Null hypothesis (H_0):** There is no significant difference between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention.
- **Alternative hypothesis (H_1):** There is a significant difference between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention.

As the data were not normally distributed, ordinal in nature and the pre- and post-test respondents were a dependent sample, the Wilcoxon signed-rank test was used during data analysis. As described in Chapter 3, this test is appropriate when comparing two related measures of attitude from the same group of respondents (Corder & Foreman, 2014; Maree, 2010; Connolly & Sluckin, 1971). Drew et al. (2008) suggest that a 5% level of probability can be accepted for use in behavioural studies. As part of my analysis, the difference in measurements for each respondent was thus computed and the relative magnitude of the differences considered. All three questionnaires were analysed per item.

As illustrated in Tables 4.10 to 4.12, the null hypothesis can be rejected where the p-value is less than or equal to 0.05. In these instances, a significant difference is indicated between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention. However, where the p-value is greater than 0.05, the null hypotheses cannot be rejected. In such cases, no significant difference between the psychosocial well-being of Grade 1 to 3 learners prior to and after the intervention was

found. In Table 4.10, the results for each item of the NPWB questionnaire are captured.

Table 4.10: Summary of the p-values for the items of the NPWB questionnaire

Label	Item as per the NPWB questionnaire	p-value (2-sided)	Conclusion	p-value (1-sided)	Conclusion
A	I feel calm most of the time	0.0773	Cannot reject	0.03865 (lower tailed)	Reject
B	I am satisfied with my life	0.3516	Cannot reject		
C	I feel cheerful most of the time	0.1563	Cannot reject		
D	I feel at peace most of the time	0.4345	Cannot reject		
E	I often feel afraid or scared	0.5032	Cannot reject		
F	I often feel sad or blue	0.8401	Cannot reject		
G	I feel angry most of the time	0.0883	Cannot reject	0.04415 (lower tailed)	Reject
H	I have trouble sleeping	0.8451	Cannot reject		
I	I often worry about what will happen to me	0.2155	Cannot reject		
J	It is hard to pay attention in class	0.5424	Cannot reject		
K	I often forget things	0.9615	Cannot reject		
L	I lack self-confidence most of the time	0.8024	Cannot reject		

As indicated in Table 4.10, the null hypothesis cannot be rejected and no statistically significant difference was found between the psychosocial well-being prior to and after the intervention for all of the items, in terms of the two-sided p-value. However, a significant difference is evident for items A (“I feel calm most of the time“) and G (“I feel angry most of the time”) when considering the one-sided p-value. More specifically, respondents seemingly felt angry more often and calm less often after implementation of the health promotion intervention when compared to the responses obtained pre-intervention.

Table 4.11 captures the results for each item option of the Kid-KINDL® questionnaire. My discussion of the results follows.

Table 4.11: Summary of the p-values for the items of the Kid-KINDL® questionnaire

Label	Item as per the Kid-KINDL® questionnaire	p-value (2-sided)	Conclusion	p-value (1-sided)	Conclusion
How have you been feeling in general During the past week…					
AA	… I had fun and laughed a lot	0.0293	Reject	0.01465 (lower tailed)	Reject
AB	… I was bored	0.0432	Reject	0.0216 (upper tailed)	Reject
AC	… I felt alone	0.1313	Cannot reject		
AD	… I was scared	0.3699	Cannot reject		
How have you been feeling about yourself During the past week…					
BA	… I was proud of myself	0.2828	Cannot reject		
BB	… I felt on top of the world	0.2912	Cannot reject		
BC	… I felt pleased with myself	0.7284	Cannot reject		
BD	… I had lots of good ideas	0.5689	Cannot reject		
Questions about your family During the past week…					
CA	… I got on well with my parents	0.4232	Cannot reject		
CB	… I felt fine at home	0.0083	Reject	0.00415 (upper tailed)	Reject
CC	… we quarrelled at home	0.1070	Cannot reject		
CD	… my parents stopped me from doing certain things	0.7342	Cannot reject		
Questions about friends During the past week…					
DA	… I played with friends	0.9620	Cannot reject		
DB	… other kids liked me	0.3695	Cannot reject		
DC	… I got along well with my friends	0.1122	Cannot reject		
DD	… I felt different from other children	0.7950	Cannot reject		

As per Table 4.11, the null hypothesis cannot be rejected for the majority of the items. No statistically significant difference is indicated for the psychosocial well-

being in terms of the majority of items prior to and after the intervention. However, the null hypothesis is rejected for the items AA (“During the past week I had fun and laughed a lot”), AB (“During the past week I was bored”) and CB (“During the past week I felt fine at home”) due to the two-sided and one-sided p-values for these items being smaller than 0.05. As such, it is evident that more of the respondents indicated that they had fun and laughed a lot less often, and was bored more often after implementation of the health promotion intervention when compared to their feelings prior to implementation of the intervention. Similarly, an increased number of respondents reported that they often felt fine at home after the health promotion intervention had taken place.

Finally, the results for each item option of the Feelings questionnaire are summarised in Table 4.12.

Table 4.12: Summary of the p-values for the items of the Feelings questionnaire

Item as per the Feelings questionnaire	p-value (2-sided)	Conclusion	p-value (1-sided)	Conclusion
Happy	0.2898	Cannot reject		
Sad	0.3745	Cannot reject		
Angry	0.0269	Reject	0.01345 (upper tailed)	Reject
Lonely	0.5808	Cannot reject		
Afraid	0.2426	Cannot reject		
Excited	0.0761	Reject	0.03805 (upper tailed)	Reject

As indicated in Table 4.12, the null hypothesis cannot be rejected for the majority of the items. No significant difference exists for psychosocial well-being in terms of the respondents’ feelings of happiness, sadness, loneliness or being afraid prior to and after the intervention. However, the two-sided and one-sided p-values for the items measuring how often respondents felt excited and angry are smaller than 0.05, leading to the null hypothesis being rejected for these two items. As such, a significant difference prior to and after implementation of the health promotion intervention for these items was found. To this end, more of the respondents reportedly felt excited more often, but also angry more often, after the health

promotion intervention had been implemented, when compared to their feelings prior to implementation.

Upon consideration of all the results provided in the preceding sections, it can be concluded that an overall difference between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention is not evident. Overall, the health promotion intervention therefore did not seem to have a significant effect on Grade 1 to 3 learners' psychosocial well-being in the participating at-risk school community contexts, despite individual aspects indicating some differences and effects.

4.3 AREAS OF PSYCHOSOCIAL WELL-BEING AFFECTED BY THE HEALTH PROMOTION INTERVENTION ACROSS THE THREE QUESTIONNAIRES

In this section, I discuss the various areas of psychosocial development as part of the intrapersonal and interpersonal social ecological levels of the respondents. Even though some areas did not show a significant difference prior to and following the health promotion intervention, I aim to provide a holistic view of the results I obtained.

4.3.1 INTRAPERSONAL AREAS OF PSYCHOSOCIAL WELL-BEING

The results I obtained from the NPWB and Feelings questionnaires indicate that more of the respondents were angry more often after the health promotion intervention had been implemented, when compared to their feelings of anger before implementation of the intervention. Most of the respondents, however, also indicated that they were excited more often following implementation of the intervention.

According to the results of the NPWB questionnaire, most of the respondents did not experience trouble sleeping. As such, their sleeping habits seemed to be conducive to their psychosocial functioning. Fewer respondents however indicated that they could pay attention in class after the implementation than before, implying that the attention span of most of the respondents was shorter at the end. In addition, according to the Kid-KINDL® questionnaire, more respondents were bored more often after the intervention; yet, respondents indicated that they had a lot of good ideas.

Regarding the respondents' perceptions about themselves and their lives, most of them indicated that they were not concerned about what would happen to them.

According to the NPWB questionnaire, most respondents were cheerful, satisfied and at peace with their lives. On the other hand, the Feelings and Kid-KINDL® questionnaires indicate that an increased number of respondents were happy less often, and had fun and laughed less often after the health promotion intervention had been implemented. Respondents did however indicate that they were proud of and pleased with themselves, and felt “on top of the world”.

4.3.2 INTERPERSONAL AREAS OF PSYCHOSOCIAL WELL-BEING

The perceptions and feelings of the respondents towards their families formed part of the results I obtained. Most of the respondents indicated that their parents did not stop them from doing things they wanted to do at home, which is an indication of the disciplinary measures they experienced at home. Even though a greater number of respondents reported that they quarrelled more at home after implementation of the intervention, they reported that they got along well with their parents and that they felt fine at home.

The perceptions and feelings of the respondents about their friends were also explored. Their sense of belonging seemed to be positive since most of the respondents did not feel different from other learners or isolated from them, as per the Kid-KINDL® questionnaire. Even though, according to the Feelings questionnaire, more of the respondents felt lonely more often after the health promotion intervention had been implemented than before, more of them also felt that others liked them and that they got along with their friends, according to the Kid-KINDL® questionnaire. Respondents furthermore indicated that they often played with their friends both prior to and following the implementation of the intervention.

4.4 CONCLUSION

In this chapter, I presented the statistical analysis of the data. I represented the results I obtained graphically and also described the meaning of the representations. I relied on the scores obtained from descriptive statistics and the Wilcoxon signed-rank test to provide insight into the effect (or not) of the health promotion intervention on the psychosocial well-being of Grade 1 to 3 learners in at-risk school community contexts.

In the next chapter, I revisit existing literature and interpret the results of the current study in terms of what is known, and how existing studies are supported or contradicted. I furthermore provide potential explanations for the results I obtained. I highlight the contribution of the current study and reflect on the limitations. Finally, I formulate recommendations for training, practice and further research.

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CHAPTER 5
FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The aim of my study was to describe the psychosocial well-being of Grade 1 to 3 learners in at-risk school community contexts through a post-positivist lens. To this end, Chapter 1 provided an overview of the problem statement and the purpose of the study. I also introduced the conceptual framework and paradigmatic perspectives I relied on. I furthermore provided an overview of the methodological choices that guided the current study.

In Chapter 2, I discussed the literature I consulted, focusing on the role of early childhood development (ECD), the psychosocial well-being of young learners, and the effect of poverty and its related challenges on the psychosocial well-being of learners in at-risk school community contexts. I furthermore described health promotion interventions, specifically in the South African context.

In Chapter 3, I explained the research process I followed, as well as the research design and methodological perspectives of my study. Throughout, I related my choices to the research questions and purpose of the current study. In Chapter 4, I presented the results I obtained as background to the discussion that follows in this chapter.

In this final chapter of the mini-dissertation, I interpret the results of the study in terms of existing literature. This is done to locate the current study in relation to similar studies, to address the research questions and to reach conclusions regarding the hypotheses presented in Chapter 1. I also explain the findings of the current study in relation to the conceptual framework that guided me, reflect on limitations, and make recommendations for future training, practice and research.

5.2 INTEPRETING RESULTS AGAINST THE BACKGROUND OF EXISTING LITERATURE

In this section, I discuss the results of my study in terms of supporting or contracting existing literature. Even though I presented the results on the various questionnaires

in Chapter 4, I reflect on the findings in this chapter, in order to present a comprehensive picture.

5.2.1 RESULTS THAT SUPPORT EXISTING LITERATURE

During the developmental phase in which Grade 1 to 3 learners find themselves, the importance of developing a healthy self-concept, self-acceptance and personal competence is emphasised (Negovan, 2010; Louw & Louw, 2007). In confirmation, I found that Grade 1 to 3 learners were proud of and pleased with themselves, and felt on "top of the world", both prior to and following the implementation of the intervention. Perceived abilities, pride in accomplishment and positive self-descriptions that learners generally use to define themselves however form part of self-concept development (Louw & Louw, 2007). To this end, the results I obtained indicate the learners' ability to be creative and that they seemingly had a lot of good ideas.

Young learners refine their self-concept by including internal and external traits, psychological traits and social aspects that form part of their self-descriptions (Louw & Louw, 2007) which can support positive functioning (Ryan & Deci, 2001). In this regard, I found that the learners who formed part of my study generally felt cheerful and happy. They did not seem to be concerned about what would happen to them and were seemingly satisfied with their lives. Feelings of fear and sadness did not appear to be a regular occurrence. They also did not experience trouble sleeping; something that is supported by the biological developmental needs of young learners, and can lead to healthy maturation and growth (Williamson & Robinson, 2006).

Prior to and following the implementation of the health promotion intervention, learners indicated that they got along with their parents, and that limited quarrelling occurred at home. More of the learners often felt fine at home after the health promotion intervention than prior to its implementation, pointing to a positive effect of the intervention. In addition, learners reported that they got along well with their friends and thought that other learners liked them, both prior to and following the intervention. These findings support the work of Louw and Louw (2007), as well as Keyes and Shapiro (2004), who claim that a learner's well-being is related to the quality and strength of immediate social relationships with friends and family.

In this regard, I furthermore found that learners did not feel that they were different from other learners, nor did they feel lonely. They therefore experienced a sense of cohesion, as also reported by Louw and Louw (2007). In further support, De Witt and Lessing (2010), as well as Crivello et al. (2009) state that age-appropriate psychosocial development of 6 to 12-year old learners includes the development of healthy interpersonal relationships with friends and family. These relationships imply feelings of attachment, care, humour, a sense of security, satisfaction and happiness (De Witt & Lessing, 2010).

5.2.2 RESULTS THAT CONTRADICT EXISTING LITERATURE

The results of the current study indicate that the learners felt angry more often after implementation of the health promotion intervention than prior to its implementation. The results also indicate that learners felt calm less often, had fun and laughed less often, and were bored more often after implementation of the intervention. In this regard, Ebersöhn (2007) however states that motivational self-directedness, cognitive competence and enthusiasm, emotional stability and social proficiency (positive adaptation competencies) are typically considered to enhance learners' capability to deal with life and can contribute to their well-being. Even though a positive self-concept was discussed in the previous section, it seems that many learners' self-confidence was low, in contrast with the work of Louw and Louw (2007) who emphasise the importance of a healthy self-esteem during this specific developmental phase.

In contemplating possible reasons for this apparent contradiction, the probability exists that the intervention may have sensitised learners thus enabling them to identify their true feelings, as opposed to them perhaps not being able to identify and name emotions before the intervention. As emotions are abstract, the possibility thus exists that these young learners did not fully comprehend what was asked during the pre-intervention phase. However, during the intervention, different emotions were discussed and emphasised, leading to the possibility of equipping the learners with the knowledge to identify and understand what was meant when asked about their emotions during the post-intervention assessment.

As learners' emotional regulation abilities in this developmental phase will lead to a sense of industry (Louw & Louw, 2007), a limitation in emotion identification abilities

may lead to delayed emotional regulation abilities. In addition, the fact that the questions were in English, while the respondents were non-English first language speakers, may furthermore have contributed to the possibility of the learners not fully understanding the questions or the choice of different responses. This raises the question whether or not the respondents were familiar with words such as “satisfied”, “cheerful”, “self-confidence” and “quarrelled”. This hypothesis however requires further investigation before drawing conclusions.

Contrary to the results I obtained that learners’ parents did not prevent them from doing certain things, the psychosocial development of learners, according to De Witt and Lessing (2010), as well as Louw and Louw (2007), implies supporting learners to learn how to make independent decisions by teaching them discipline in order to develop self-control. In addition, Williamson and Robinson (2006) state that biological and mental development are related to the psychosocial well-being of learners; yet I found that learners experienced difficulty in paying attention in class, which may in turn negatively influence their performance and psychosocial development. This contradiction may however also be ascribed to external influencing factors, such as the day of the week or the time of day during which the post-test was administered in relation to the pre-intervention testing. As I do not have exact information on such detail, this is a mere speculation that requires further research.

5.3 ADDRESSING THE RESEARCH QUESTIONS AND HYPOTHESES

In this section, I address the research questions formulated in Chapter 1. I report on the three questionnaires in an integrated way (even though the results for the various questionnaires were provided separately in Chapter 4), reflecting on the results obtained for the majority of the learners. I then draw conclusions in terms of the hypotheses I set out to test, and conclude the section by explaining my findings, before linking them to the conceptual framework that guided me in undertaking the study in Section 5.4.

5.3.1 SECONDARY RESEARCH QUESTION 1

What was the overall psychosocial profile of Grade 1 to 3 learners in at-risk school community contexts prior to the health promotion intervention?

The respondents' self-perceptions and perceptions about life point to learners feeling calm, cheerful, at peace, "on top of the world", and pleased with themselves. Learners furthermore indicated that they had ample good ideas, felt proud of themselves and were satisfied with their lives prior to the implementation of the intervention. However, many of the learners seemed to have low levels of self-confidence.

At the pre-intervention phase of the study, learners reportedly had fun and laughed often, felt happy and excited, and did not feel bored. They did not feel afraid, scared, sad or blue often, and were not worried about what will happen to them – all these being feelings that are associated with well-being. Some learners, however, reported that they felt angry and experienced sadness. The majority of learners furthermore did not experience trouble sleeping but experienced some difficulty paying attention in class. Forgetfulness and remembering things seemed to be equal occurrences for the learners at the start of the study, based on the pre-intervention data.

Concerning the intrapersonal areas of learners' psychosocial well-being, respondents seemingly got along well with their parents and felt content at home. Quarrelling at home did not occur often and learners' parents apparently did not stop them from doing certain things. This result may give some indication of the discipline at home. Learners furthermore seemed to get along well with their friends and believed that other learners liked them. They were not of the opinion that they were different from other learners, nor did they feel lonely at the time of pre-intervention data collection.

5.3.2 SECONDARY RESEARCH QUESTION 2

What was the overall psychosocial profile of Grade 1 to 3 learners in at-risk school community contexts following to the health promotion intervention?

Similar to the profile of the learners prior to implementation of the health promotion intervention, learners indicated that they felt calm, cheerful, happy, at peace and

satisfied with their lives following the intervention. Learners did not seem to be concerned about what would happen to them, and even though they appeared to have fun and laughed sometimes, they were also bored at times. Feelings of fear or sadness did not seem to be present for most learners, yet feelings of anger were experienced by the majority of the learners. Learners also reported low self-confidence, however, they were proud of themselves, felt pleased with themselves and felt "on top of the world".

Even though the results indicate that most of the Grade 1 to 3 learners did not experience trouble sleeping, many found it difficult to pay attention in class according to the post-intervention data. However, the number of learners who seemingly often forgot things and those not often forgetting things did not differ significantly, and most of the learners indicated that they had many good ideas.

In terms of the intrapersonal areas of psychosocial well-being, learners indicated that they often played with their friends and got along well with friends post-intervention. In addition, learners reported that they did not feel as if they were different from other learners, they did not feel alone, and they experienced other learners as liking them. Learners apparently got along well with their parents and felt content at home. Quarrelling at home was reported as occurring often, and learners' parents reportedly did not stop them from doing certain things.

5.3.3 SECONDARY RESEARCH QUESTION 3

Which areas of psychosocial well-being (if any) were affected by the health promotion intervention and if so, what was the nature and extent of the effect?

For many of the items included in the three questionnaires, the results remained relatively constant prior to and following the intervention. In terms of intrapersonal factors, no significant differences were found in terms of the respondents' positive feelings related to cheerfulness ($p = 0.1563$), feeling at peace ($p = 0.1563$), feeling pleased with themselves ($p = 0.7264$), and feeling proud of themselves ($p = 0.2826$). The majority of the learners, however, reported low self-confidence ($p = 0.8024$) prior to and following the intervention. In addition, most learners seemingly perceived their interpersonal relationships as positive, both prior to and following the health promotion intervention.

Based on the statistical inferences completed for this study, the results indicate that the feelings of anger that learners experienced were affected by the intervention. A negative effect on learners feeling angry more often (1-sided p-value = 0.04415) was found in the NPWB, as well as the Feelings questionnaire, as more respondents indicated that they felt angry more often (p = 0.0269) after the intervention was implemented. In addition, on the Kid-Kindl® questionnaire, more of the learners indicated that they were bored more often (p = 0.0432) after implementation of the health promotion intervention when compared to their feelings prior to its implementation. In addition, the Feelings questionnaire's results indicate that more of the respondents felt excited more often (p = 0.0761) after the intervention was implemented in relation to before its implementation.

A negative effect was observed in learners experiencing feelings of calmness. In this regard, the statistically significant difference (1-sided p-value = 0.03865) indicates that learners felt calm less often after the health promotion intervention than prior to its implementation, according to the results obtained on the NPWB questionnaire. Based on the results of the Kid-Kindl® questionnaire, it is furthermore evident that the number of times that learners had fun and laughed (p = 0.0293) were also affected. To this end, most learners reported that this occurred less often after the health promotion intervention had been implemented compared to their experiences before implementation.

A positive effect of the intervention is indicated by the finding that more of the learners often felt fine at home (p = 0.0083) after the health promotion intervention than prior to its implementation. In addition, the results indicate that a higher number of learners often felt excited (p = 0.0761) after implementation of the health promotion intervention as opposed to prior to its implementation. These two conclusions are deducted from the results of the Kid-Kindl® questionnaire (refer to Section 4.2.2).

5.3.4 CONCLUSIONS IN TERMS OF FORMULATED HYPOTHESES

In this section, I draw conclusions regarding the following hypotheses:

- **Null Hypothesis (H_0)**: There is no significant difference between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention.

- **Alternative Hypothesis (H_1)**: There is a significant difference between the psychosocial well-being of Grade 1 to 3 learners prior to and following the intervention.

As statistical inferences could not be made across the three questionnaires as one population, the null hypothesis of all three questionnaires cannot be rejected or failed to be rejected. However, an overall difference between the psychosocial well-being of the Grade 1 to 3 learners prior to and following the intervention could also not be observed.

Overall, the health promotion intervention thus seemed not to have an effect on Grade 1 to 3 learners' psychosocial well-being in at-risk school community contexts despite some changes indicated in some areas of functioning. The reason for my conclusion that there is no overall difference (as related to the null hypothesis), is based on the majority of the measured characteristics not showing a significant difference (refer to Section 4.2.2).

5.3.5 POSSIBLE EXPLANATIONS FOR THE FINDINGS

The absence of an overall effect of the intervention is unexpected since a positive effect on the psychosocial well-being of the learners was observed on the qualitative measurements that were used in parallel to the quantitative instruments, as part of the broader research project. In addition, positive feedback and reports on positive changes among the learners were reported by both their parents and educators, in terms of their psychosocial well-being. However, some aspects of the intervention seemed have a better effect than others.

As such, I hypothesise that components of the quantitative measurement instruments that were used, might not have been suitable for measuring the psychosocial well-being of the respondents, taking into account their ages, developmental level and language differences. To this end, I contemplate the appropriateness of quantitative measurement tools with learners this young, more specifically when aiming to measure abstract concepts such as emotions following a self-reported functioning format. The respondents, being learners in this particular developmental phase, would generally express themselves by being creative and through play. I therefore

propose that developmentally appropriate tools should be used in similar studies, or that quantitative tools be standardised and used in addition to qualitative tools.

I further suggest using less options to choose from when including Likert scales in questionnaires for young children, since most of the learners' responses were either scored one or five (on the extreme ends of the range), suggesting that respondents probably did not understand the exact meaning of all the descriptive words, thereby possibly resulting in extremity responses that may have influenced the results. Initial consideration of this possible influential factor prior to commencing with the broad research project may have yielded different results.

Since the respondents' first language is not English, I raise the question of comprehension of the questions in the questionnaires. As such, I contemplate that the learners may not have understood the questions or descriptions of the appropriate responses, or that they may have understood it differently than intended, which would have provided unreliable results. Words such as 'quarrelled' and 'self-confidence' may for example have been too unfamiliar to them and feelings such as 'cheerful', 'blue', 'at peace' or 'satisfied' may have been too abstract when considering the age of the respondents and the possible language barrier. This possibility is based on the fact that measures which are Western-based, may be understood differently by different ethnic or cultural groups (Stead & Watson, 2006), which is possibly the case in this study. In addition, possible technical language and terminology used by the facilitators during implementation of the intervention as well as during data analysis might also have influenced the respondents' comprehension of the material and instruments, and ultimately the manner in which they responded to items.

Similarly, as part of the Feelings questionnaire, respondents may not necessarily have understood the concepts 'never', 'seldom', 'sometimes', 'often' and 'all the time' when answering the questions. More specifically, the differences between the various options may have posed a challenge to such young learners, whose home language is not English, since these descriptive words may not have been part of the vocabulary of their home language. In addition, the NPWB questionnaire provided the respondents with the opportunity to choose a face (ranging from smiling to frowning) as a means of responding to an item. These options may have been

misleading and thus confused the respondents in terms of what the various facial expressions meant in terms of a response option.

The question of whether or not the respondents considered the smiling face to mean 'yes' and the frowning face to mean 'no', is also uncertain, for example answers such as "I often feel sad or blue", "I have trouble sleeping" or "I am satisfied with my life". Should a respondent choose the smiling face for feeling sad or blue, having trouble sleeping and being satisfied with his/her life, it would indicate that positive and negative items are answered with the same option. On the other hand, if different faces were chosen for different items (positive or negative) or alternative symbols were to be used; the items should also have been reverse-scored for the correlating items when data were captured. This was however not done, implying possible effects on the reliability and validity of the data.

I subsequently posit that the implemented measurement instruments may not have delivered reliable and valid results due to the questionnaires not being standardised for use with the particular group of respondents. In this regard, the measurement instruments may not have been sensitive enough to identify a change following the health promotion intervention implementation, as it is generally not ideal to use such quantitative measures with respondents under the age of 10 years since cognitive limitations may influence the validity of the results, according to Gorely et al. (2009). As such, I question the construct validity of the instruments used to gather data since the instruments might not have measured what it was supposed to measure. Only the Kid-KINDL® questionnaire was tested for internal reliability, but this was done in a setting different from the one where this study took place. Neither the NPWB questionnaire nor the Feelings questionnaire was tested for internal reliability prior to commencement of the study, which may have had an impact on the reliability of the results. As I relied on data that had already been captured; I also did not have control over the way in which it was captured. As such, the results obtained may not be reliable or valid and may not necessarily represent a true reflection of the respondents' psychosocial well-being.

It should also be considered that the period of implementation of the health promotion intervention might have influenced the effect (or lack thereof) on the psychosocial well-being of learners. Even though I was not able to determine the exact details of this aspect, I consider this as a possible contributing factor to the

sustainability of the intervention's effects, based on the work of McIntosh et al. (2016). In addition, I argue that if the biological and material needs of the respondents had not been met at the time, the health promotion intervention may not have been as effective as it could have been (Williamson & Robinson, 2006). As such, I contemplate whether or not these needs of the respondents had been met during implementation since they reside in at-risk community contexts, characterised by a poor socio-economic status.

Yeager and Walton (2011) confirm that an important source in terms of theory lies in the explanation of failed interventions. Even though this intervention did not fail, as reported as part of the broader research project in terms of the qualitative data and related comparisons, the failure to statistically substantiate an effect as a result of the health promotion intervention by merely relying on the quantitative data still informs theory. As such, some contributions of my study lie in the aforesaid discussion. In conclusion, I emphasise the use of valid and reliable measures, in a format that is suitable for the age, developmental level and language proficiency of respondents, as critical in determining the effect of a health promotion intervention. In addition, I advocate for the use of contextually appropriate and culturally sensitive inclusionary practices accommodating all respondents during health education projects.

5.4 SITUATING THE FINDINGS WITHIN THE CONCEPTUAL FRAMEWORK

Interpreting the findings of this study in terms of the conceptual framework discussed in Chapter 2, indicates that factors within the system (Bronfenbrenner, 1986) in which learners function, can contribute to or inhibit psychosocial development. Based on this argument, I theorise that, on a community level, many factors can hinder learners' psychosocial development, which may in turn result in a sense of inferiority (Erikson, 1968), as can be seen in the reports of low self-confidence by the learners. Such factors include poverty, food insecurity, unsupportive social norms regarding physical activity and healthy nutrition, and an unsafe physical environment. Closely related, I propose that the school system in which learners function, will influence their psychosocial well-being. In this regard, I attribute the sustainability of any intervention to a large extent to the school, its resources, management and related systems. I contend that resource constraints, as evident in my study, may pose a challenge to the sustainability of health promotion interventions, and I contemplate

whether or not such challenges also exist in resource-rich schools that are not experiencing similar circumstances.

For example, probable language barriers and limited stimulation as well as exposure to learning opportunities that learners receive to foster development associated with at-risk communities may have influenced the data related to my study. The systems within which these learners function probably offer limited support regarding psychosocial and overall development. In addition, the level of educators' training in at-risk school contexts may not be optimal, which may further hinder the psychosocial and overall development of learners. To this end, the educators at the schools included in my study may not have been adequately trained to assist with the sustainability of the intervention. In this regard, I am of the opinion that teacher buy-in in such processes and interventions are critical to the long-term psychosocial development of learners.

Interpersonal and intrapersonal factors related to psychosocial development were assessed as part of my study. In this regard, I attribute the psychosocial development of learners largely to interpersonal factors forming part of their systems. In this regard, I agree with De Witt and Lessing (2010) that parents and family, as well as friends and role models, will play a primary role in learners' psychosocial development during these particular developmental years.

I propose that supportive relationships between learners and their parents, healthy perceptions and feelings about friends and family, parental encouragement, and a sense of belonging can facilitate psychosocial well-being and a sense of industry for learners. The results obtained in my study indicate that learners' interpersonal relationships with the aforesaid people in their lives seemed positive and that learners experienced a sense of belonging at school and at home, which would have contributed to their psychosocial development. In relation to the aforesaid, I deduct that the relationship between learners' emotional needs and their social worlds is implied when emphasis is placed on their psychosocial development, and their developmental level.

In addition, maintaining discipline at home can contribute to the development of self-control that can in turn facilitate socialisation (Louw & Louw, 2007). The necessary structure needed for learners in Grades 1 to 3 will assist in maintaining discipline and

self-control. The majority of the learners in the current study implied that there was a shortage of discipline at home based on their responses that they were not stopped form doing certain things by their parents, which may have negatively influenced their self-control and socialisation skills, and in turn may have hindered their psychosocial development.

Healthy sleeping habits, physical activity and a healthy diet may positively influence learners' psychosocial development in terms of their intrapersonal systems. The majority of the learners in this study reported that they had healthy sleeping habits, which can contribute to psychosocial development. However, I found that many of the learners had trouble paying attention in class and since their sleeping habits would not have influenced their attention span, the possibility exists that inadequate nutrition may have influenced this ability. As such, I propose that nutritional habits should also be considered when psychosocial well-being is addressed.

Finally, I propose that most of the learners that formed part of my study experienced positive self-perceptions as they reported that they felt at peace, pleased with themselves, "on top of the world", proud of themselves and satisfied with their lives. A sense of industry can be derived from these feelings. As such, the low self-confidence reported by the learners may potentially be explained by other intrapersonal factors, or the results may not be reliable or valid, as contemplated earlier.

I therefore attribute the development of learners' psychosocial well-being to factors present in all the learners' systems, resulting in either feelings of industry, or feelings of inferiority (Bronfenbrenner, 1986; Erikson, 1968). From a post-positivistic perspective, I argue that the reality of a learner is therefore constructed in a context of influential factors within the systems of the learner (Maree, 2010) yet cannot be fully understood (Guba & Lincoln, 1994). As such, the psychosocial well-being of the learners that formed part of my study cannot be perfectly understood when the quantitative results alone are taken into account. Multiple realities may exist for these learners, in all systems of their functioning and development, as well as related to their developmental level. To this end, I propose the provision and promotion of supportive and conducive factors and circumstances to form part of learners' systems and to facilitate a sense of industry and healthy development of learners' psychosocial well-being.

5.5 CHALLENGES AND LIMITATIONS OF THE STUDY

One of the limitations of the current study that should be considered relates to the nature and extent of the data. Since I relied on secondary data for data analysis, I was limited in obtaining more data in an attempt to further explore the effect of the health promotion intervention with a large enough sample, more specifically the Kid-KINDL® questionnaire, which is the only instrument that was tested for reliability even though in a context other than the one of my study. Although I used non-probability sampling, it is reasonable to deduce, as argued by Gravetter and Forzano (2009), that samples from one context can be representative of samples from other similar contexts, leading to the assumption that generalisation of the findings may be possible to similar contexts. Yet, generalisability of the results of this study to similar settings is not possible as I posit that the results may not necessarily be reliable and valid, as discussed in earlier sections.

More specifically, as stated, reliability testing was done only on the Kid-KINDL® questionnaire prior to commencement of the NRF-funded research project. This reliability testing was done in a different context from the context that data for the current study were collected. Neither the Feelings questionnaire nor the NPWB questionnaire was tested for internal reliability prior to commencement of the study, implying a limitation on the validity and reliability of the results. Validity testing was also not done to determine the intended focus of the questionnaires. However, internal reliability on the sections of the Kid-KINDL® questionnaire and the NPWB questionnaire, as well as the entire Feelings questionnaire associated with my study, was conducted after data collection. I contemplate that the low reliability score that I reported on in Chapter 3, may thus be ascribed to poor interrelatedness between the different questions on the Feelings questionnaire, as well as the possibility of a language barrier.

The administration and applicability of the instruments for the respondents is another limitation to be taken into account. As stated, I propose that the respondents' developmental level and potential language difficulties may have influenced the responses. As such, I interpreted the data with sensitivity by considering cross-cultural and socio-economic influences and the developmental level of the respondents, as well as the possible language barriers that may have been present, as the measures were not standardised for the South African context.

In addition, extremity response bias may have influenced the results, since most of the responses were either a one or a five on the one-to-five scale. In this regard, I speculate that the qualitative data, in addition to the quantitative data, could potentially have provided a more accurate picture of learners' psychosocial well-being. The time during which the questionnaires were completed may also have influenced the results. In this regard, I argue that if the pre- and post-tests were not completed on the same day of the week, during the same time of day, it may have influenced the way in which respondents completed the questionnaires and therefore may have had an influence on the results. The research project furthermore included a pre- and post-test, yet did not allow for follow-up assessments; hence, no information is available about the sustained effect of the health promotion intervention. As such, the maturation of the intervention was not necessarily taken into account when post-testing was conducted and might have been done too soon after the implementation of the health promotion intervention. In conclusion, it is also possible that a type II error (retaining the null hypothesis when it is false), may have occurred (Maree, 2010) due to possible unreliable and invalid results.

5.6 RECOMMENDATIONS

The interplay between research, theory and the application thereof in practice may benefit psychological science (Yeager & Walton, 2011) and educational practice. To this end, in the following sub-sections, I make recommendations for future training, practice, and research that relate to implementing health promotion interventions in at-risk school community contexts.

5.6.1 RECOMMENDATIONS FOR TRAINING

Based on the study I completed, I recommend that educational psychologists and educational psychology students should be trained in the implementation of health promotion interventions and the related research activities in various South African contexts, with appropriate consideration of diversity, multiculturalism and multilingualism. In addition, educational psychology students and psychometrists can be trained in the development of contextually appropriate psychometric tests in order to facilitate standardised test development for use in various cultures. I furthermore propose that educators, educational psychology students and facilitators associated

with health promotion intervention implementation and research, receive training in qualitative and quantitative research methodology.

It is also advised that community training (including, for example, parents, educators, principals and government officials) to facilitate support for sustainability of health promotion interventions should be provided. As such, leaders of communities and principals of schools can be trained in effective health-related policy implementation. On a school level, training in cross-curricula relations between the theory and practice of health promotion interventions and the school subjects that are taught can be provided in order to create further opportunities for cognitive, social and physical growth. This may in turn contribute to the psychosocial well-being of learners and furthermore enhance the positive effects of health promotion interventions. I also propose that parents be trained to support the implementation and sustainability of the positive effects of health promotion interventions since interpersonal relationships are particularly important during this phase of learners' development. As such, a sense of industry can partly be attributed to a feeling of competence in interpersonal relationships.

5.6.2 RECOMMENDATIONS FOR PRACTICE

Educational psychologists (and/or psychometrists and/or research psychologists working in the field of education) are encouraged to develop and standardise instruments that are effective, affordable and culturally sensitive for use not only in at-risk, but also in resource-rich communities. It will not only be feasible to standardise such instruments in English, but also in the first language of the respondents in different communities. The number of response options to include in quantitative measures should also be considered carefully in order to limit extremity response bias.

Feasible community-oriented interventions addressing the community, school, inter- and intrapersonal levels of functioning, can be undertaken in order to promote the health and well-being of individuals in at-risk communities. In addition, health promotion intervention practitioners are encouraged to consider the context of learners and supplement quantitative measures with qualitative instruments to appropriately account for the developmental level of all learners (Yeager & Walton, 2011; Gorely et al., 2009). However, if standardised quantitative measures are used,

I urge practitioners to reconsider using such measures with young learners (under the age of 10 [Gorely et al., 2009]). In addition, qualitative methods (Yeager & Walton, 2011) and sustained opportunities to learn should be made accessible to learners to potentially increase the positive effects of health promotion interventions.

Next, the use and value of translators can be considered when implementing health promotion interventions, as well as during data collection. Practitioners and facilitators should avoid using technical language and terminology (Williamson & Robinson, 2006) during research and the implementation of health promotion interventions, especially where English is not the respondents' first language.

The active participation of respondents may influence the effect of interventions to a great extent in changing health-related behaviour (Gorely et al., 2009). In this regard, long-term partnerships and extended time in schools may increase trust and alliance among researchers and educators resulting in the increased effectiveness of health promotion interventions (Ebersöhn, 2015).

In the case of repeating the current study, I thus advise researchers and practitioners to make use of standardised quantitative measures and age-appropriate supplementary qualitative measures, as well as assistance from translators to ensure that respondents clearly understand the questions and response options. Instruments should furthermore be completed under facilitators' assistance. In addition, I advise practitioners who want to repeat the study to obtain additional data on the long-term effects of the health promotion intervention. Training can furthermore be provided to individuals who form part of the respondents' support systems in order to enhance the sustained long-term effects of the intervention.

5.6.3 RECOMMENDATIONS FOR FUTURE RESEARCH

Based on the results discussed in Chapter 4, as well as the conclusions I came to, I recommend the following areas for possible future research:

- An exploratory study to identify key areas in terms of the developmental level of Grade 1 to 3 learners in order to inform appropriate data collection methods for determining the effect of health promotion interventions in at-risk contexts.

- An exploratory study to identify appropriate ways of supporting the sustained effects of health promotion interventions on community, school, inter- and intrapersonal levels of Grade 1 to 3 learners in at-risk contexts.
- Comparative research to investigate the effects of poverty on the sustainability of health promotion interventions in at-risk communities, as well as in resource-rich communities.
- An exploratory study investigating whether or not different times of the day or different days of the week for conducting pre- and post-intervention testing can affect the results of a study.
- A follow-up study to establish the possible long-term effects of the implemented health promotion intervention on respondents.
- A follow-up study to determine if the use of qualitative measurement instruments only would yield more valid and reliable results.
- Descriptive studies to determine additional ways in which young learners can express themselves in terms of the meaning they ascribe to health promotion interventions.
- An exploratory and/or case study on the effect of multiculturalism and multilingualism on the outcome of a health promotion intervention in at-risk communities.
- Pilot studies within similar contexts can be undertaken in order to test measurement instruments before undertaking a large scale research project in this area.

5.7 CONCLUDING COMMENTS

In this study, I explored the effects of a health promotion intervention on the psychosocial well-being of Grade 1 to 3 learners in at-risk school community contexts. I found that most of the quantitative results did not indicate a significant effect in terms of the respondents' psychosocial well-being. The qualitative data associated with the broader research project however show a positive effect. As such, I can conclude that the use of quantitative measures with young learners should be considered carefully as it may not lead to just results. To this end, I urge future facilitators of interventions to consider the developmental level, age and

language proficiency of learners when undertaking research and to include qualitative measures to supplement standardised quantitative measures when following a mixed-method approach to conduct similar research.

In addition, systemic interventions may prove to be fruitful in supporting the psychosocial well-being of young learners. In this regard, I contend that interventions that are appropriate within diverse, multicultural and multilingual South African contexts can enhance such development and combat some of the challenges faced by individuals living in at-risk communities. In addition, health promotion interventions that are implemented during learners' various developmental phases considering all the systems within which learners function, may prove to have a sustainable positive effect on the psychosocial, and overall development of learners.

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APPENDICES

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APPENDIX A: NPWB QUESTIONNAIRE

BIOGRAPHICAL INFORMATION OF LEARNER

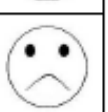
Subject number:

Initials: INT Name: NAME Surname: SURNAME

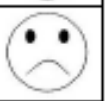
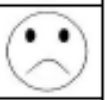
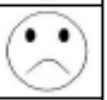
Age: AGE Date of birth: DD MM YEAR Gender: M Male F Female

The NPWB Questionnaire:

Nutritional habits

I like junk food					
My current diet mainly consists of healthy meals					
I eat at least three healthy meals per day					
I like junk food more than I like a healthy meal					
I eat a healthy breakfast					
I eat unsalted food					
When I snack, I choose fruits, vegetables, low-fat yogurt, or cheese					
I include foods with fibre, such as fruits, vegetables, whole grain products, and beans in my diet					
I avoid foods that contain large amounts of honey and sugar					

Physical activity

I spend my free time indoors					
I spend my free time with peers/friends					
I watch television during my free time					
I participate in some kind of sport during my free time					
I play computerized/board games during my free time					
I spend my free time outdoors walking long distances					
I spend my free time sleeping					
I spend my free time reading					
It is hard for me to walk more than one block					
It is hard for me to run					
It is hard for me to do sport activities or exercise					
It is hard for me to lift something heavy					
It is hard for me to take a bath or shower by myself					
It is hard for me to do chores around the house					
I often hurt or ache					

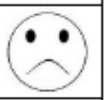
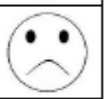
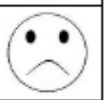
I do not have much energy					
It is hard to keep up when I play with other kids					

How many times per week do you exercise?				
6-7 days per week	3-5 days per week	1-2 days per week	Few times per month	Less than once a month

How hard do you exercise?				
				
High intensity	Average to high intensity	Average/ moderate	Average to low intensity	Light intensity

How long do you exercise at a time?			
More than 30 minutes	20-30 minutes	10-20 minutes	Less than 10 minutes

Well-being

I feel calm most of the time					
I am satisfied with my life					
I feel cheerful most of the time					
I feel at peace most of the time					
I often feel afraid or scared					
I often feel sad or blue					
I feel angry most of the time					
I have trouble sleeping					
I often worry about what will happen to me					
It is hard to pay attention in class					
I often forget things					
I lack self-confidence most of the time					

BIOGRAPHICAL INFORMATION OF LEARNER

Subject number:

Initials: INT Name: NAME Surname: SURNAME

Age: AGE Date of birth: DD MM YEAR Gender: M Male F Female

INDOOR TESTING

Height and Weight for BMI and Maturity offset

Height: cm Weight: kg Sitting height: cm

Skinfolds for body fat%

Triceps: mm Sub-scapular: mm Calve: mm

Visual Skills and Coordination

Egg-carton catch: sec Hand-Wall Toss: #

Balance and Flexibility

	LEFT LEG	RIGHT LEG		
Stork balance test:	sec	sec	Sit and Reach:	cm

Blood Pressure

Systolic BP: mmHg Diastolic BP: mmHg

OUTDOOR TESTING

Strength and Endurance

Sit-ups: # Push-ups # Ball throw: m

Standing long jump m 3min Step Test Pulse/15 sec

Flexed-arm hang test sec

Speed and Agility

	SPLIT 1	SPLIT 2	SPLIT 3	SPLIT 4	SPLIT 5	TOTAL
50m Shuttle run:	sec	sec	sec	sec	sec	sec

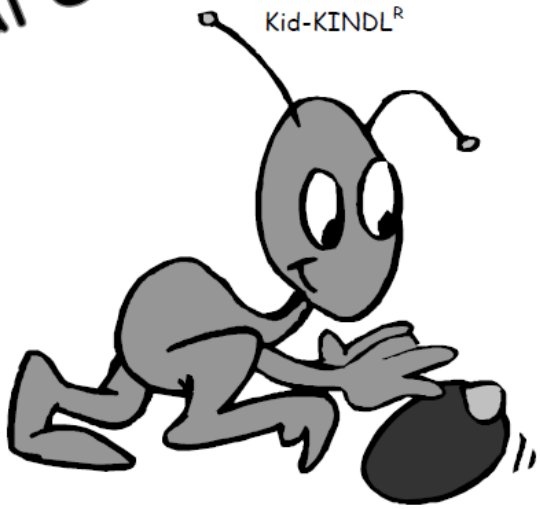
	10M SPLIT	30M SPLIT	TOTAL
50m Sprint:	sec	sec	sec

APPENDIX B: KID-KINDL® QUESTIONNAIRE

ID: __ __ __ __ __

Children's Questionnaire

Kid-KINDL^R



Hello there!

we would like to know how you have been feeling during the past week, so we have worked out a few questions which we would like you to answer.

- ⇨ Please read each question carefully.
- ⇨ Think about how things have been for you over the past week.
- ⇨ Choose the answer that fits you best in each line and put a cross in the box.

There are no right or wrong answers. It's what you think that matters.

For example:	never	seldom	some-times	often	all the time
During the past week, I liked to listen to music.	☐	☐	☐	☒	☐

Date of fill out:

_____

(day / month / year)

Please tell us something about you. Please put a cross or fill in!

I am a ☐ girl ☐ boy

Age: _____ years old

How many siblings do you have? ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ more than 5

Which type of school do you go to? _____

1. First of all, we would like to know something about your physical health...

During the past week...	never	seldom	some-times	often	all the time
1. ... I felt ill	☐	☐	☐	☐	☐
2. ... I had a headache or tummy-ache	☐	☐	☐	☐	☐
3. ... I was tired and worn-out	☐	☐	☐	☐	☐
4. ... I felt strong and full of energy	☐	☐	☐	☐	☐

2. ... then something about how you've been feeling in general...

During the past week...	never	seldom	some-times	often	all the time
1. ... I had fun and laughed a lot	☐	☐	☐	☐	☐
2. ... I was bored	☐	☐	☐	☐	☐
3. ... I felt alone	☐	☐	☐	☐	☐
4. ... I was scared	☐	☐	☐	☐	☐

3. ... and how you have been feeling about yourself.

During the past week...	never	seldom	some-times	often	all the time
1. ... I was proud of myself	☐	☐	☐	☐	☐
2. ... I felt on top of the world	☐	☐	☐	☐	☐
3. ... I felt pleased with myself	☐	☐	☐	☐	☐
4. ... I had lots of good ideas	☐	☐	☐	☐	☐

4. The next questions are about your family ...

	During the past week...	never	seldom	some-times	often	all the time
1.	... I got on well with my parents	☐	☐	☐	☐	☐
2.	... I felt fine at home	☐	☐	☐	☐	☐
3.	... We quarrelled at home	☐	☐	☐	☐	☐
4.	... My parents stopped me from doing certain things	☐	☐	☐	☐	☐

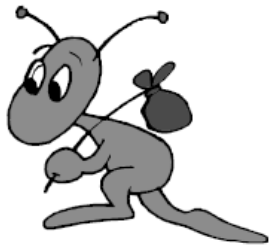
5. ... and then about friends.

	During the past week...	never	seldom	some-times	often	all the time
1.	... I played with friends	☐	☐	☐	☐	☐
2.	... Other kids liked me	☐	☐	☐	☐	☐
3.	... I got along well with my friends	☐	☐	☐	☐	☐
4.	... I felt different from other children	☐	☐	☐	☐	☐

6. Last of all, we would like to know something about school.

	During the last week in which I was at school...	never	seldom	some-times	often	all the time
1.	... doing my schoolwork was easy	☐	☐	☐	☐	☐
2.	... I enjoyed my lessons	☐	☐	☐	☐	☐
3.	... I worried about my future	☐	☐	☐	☐	☐
4.	... I worried about bad marks or grades	☐	☐	☐	☐	☐

Thank you for helping us!



APPENDIX C: FEELINGS QUESTIONNAIRE

QUESTIONNAIRE: CHILDREN (8 and 9 years)

(To be completed by teachers for 7 year olds)

Name: _____

Age: _____ School: _____

I feel....	Never	Seldom	Sometimes	Often	All the time
...happy 					
...sad 					
...angry 					
...lonely 					
...afraid 					
...excited 					

Generally I feel...	
	

Today I feel...	
	

APPENDIX D: ETHICAL CLEARANCE FROM ETHICS COMMITTEE OF THE FACULTY OF EDUCATION AT THE UNIVERSITY OF PRETORIA

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Education

Ethics Committee

16 May 2017

Ms E Williams

Dear Ms Williams

REFERENCE: UP 12/09/02 Botha 17-002 Williams

This letter serves to confirm that your application was carefully considered by the Faculty of Education Ethics Committee. The final decision of the Ethics Committee is that your application has been **approved.** The decision covers the entire research process, until completion of the study report, and not only the days that data will be collected.

The approval by the Ethics Committee is subject to the following conditions being met:

1. The research will be conducted as stipulated on the application form submitted to the Ethics Committee with the supporting documents.
2. Proof of how you adhered to the Department of Basic Education (DBE) policy for research must be submitted.
3. In the event that the research protocol changed for whatever reason the Ethics Committee must be notified thereof by submitting an amendment to the application (Section E), together with all the supporting documentation that will be used for data collection namely; questionnaires, interview schedules and observation schedules, for further approval before data can be collected. Non-compliance implies that the Committee's approval is null and void. The changes may include the following but are not limited to:
    - Change of investigator,
    - Research methods any other aspect therefore and,
    - Participants.

The Ethics Committee of the Faculty of Education does not accept any liability for research misconduct, of whatsoever nature, committed by the researcher(s) in the implementation of the approved protocol.

Upon completion of your research you will need to submit the following documentations to the Ethics Committee for your Clearance Certificate:

- Integrated Declaration Form (Form D08),
- Initial Ethics Approval letter and,
- Approval of Title.

Please quote the reference number **UP 12/09/02 Botha 17-002 Williams** in any communication with the Ethics Committee.

Best wishes

Prof Liesel Ebersöhn
Chair: Ethics Committee
Faculty of Education

Room 3-3, Level 3, Building 10
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
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Faculty of Education
Fakulteit Opvoedkunde
Lefapha la Thuto

APPENDIX E: RESULTS OBTAINED FROM THE DEPARTMENT OF STATISTICS

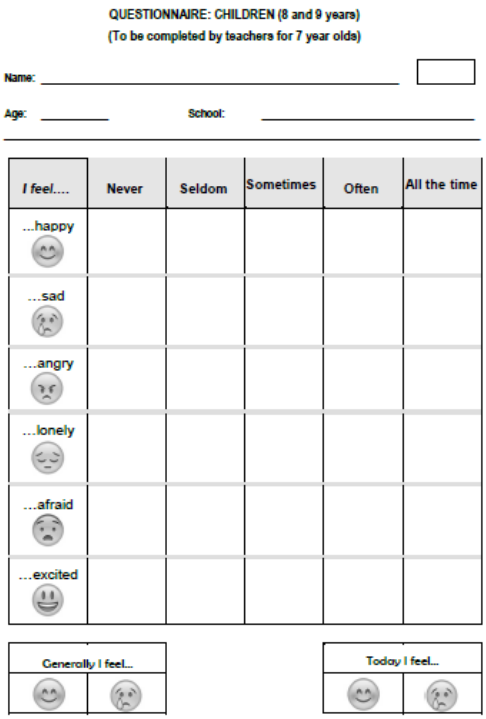
Results

The study aimed to evaluate the effect of a health promotion intervention on Grade 1 to 3 learners' psychosocial well-being. The analysis consist of 3 questionnaires which were administered before as well as after the intervention. The goal is to evaluate if the intervention had an effect on the results. Additionally, the internal consistency (reliability), of the three questionnaires used, will be evaluated.

Contents

1. Feelings Questionnaire

1.1 What the questionnaire consists of



QUESTIONNAIRE: CHILDREN (8 and 9 years)
(To be completed by teachers for 7 year olds)

Name: _____

Age: _____ School: _____

I feel....	Never	Seldom	Sometimes	Often	All the time
...happy					
...sad					
...angry					
...lonely					
...afraid					
...excited					

Generally I feel... Today I feel...

This questionnaire had three components:

1) 6 emotions
2) How you generally feel
3) How you feel today

never	seldom	sometimes	often	all the time
1	2	3	4	5

1.2 Investigating Missing Values

1) 9 Learners were only recorded once and removed from the rest of the study. This means that the learner was either not recorded in the pre or the post test results. Please note that these 9 learners do not include the cases were a learner number was present but no answers were recorded. These 9 learners numbers were not recorded at all:

- LN2-63
- LN2-64
- LN3-58
- LN3-59
- LN3-60
- LN3-61
- LW3-54
- LW3-55
- LW3-56

2) Investigations then consider the number of learners which had missing results:

6 Emotions

The FREQ Procedure

Frequency Percent Row Pct Col Pct	Table of Missing_emotion by Test		
	Test		
Missing_emotion	Post	Pre	Total
Missing values	85 12.76 73.28 25.53	31 4.65 26.72 9.31	116 17.42
Not Missing	248 37.24 45.09 74.47	302 45.35 54.91 90.69	550 82.58
Total	333 50.00	333 50.00	666 100.00

Generally I Feel..

The FREQ Procedure

Frequency Percent Row Pct Col Pct	Table of Missing_Generally by Test		
	Test		
Missing_Generally	Post	Pre	Total
Missing value	332 49.85 91.21 99.70	32 4.80 8.79 9.61	364 54.65
Not Missing	1 0.15 0.33 0.30	301 45.20 99.67 90.39	302 45.35
Total	333 50.00	333 50.00	666 100.00

Today I Feel...

The FREQ Procedure

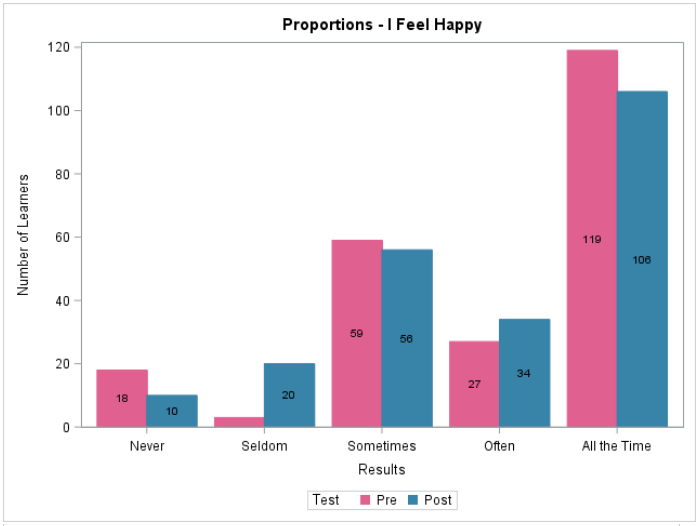
Frequency Percent Row Pct Col Pct	Table of Missing_Today by Test		
	Test		
Missing_Today	Post	Pre	Total
Missing value	75 11.26 78.95 22.52	20 3.00 21.05 6.01	95 14.26
Not Missing	258 38.74 45.18 77.48	313 47.00 54.82 93.99	571 85.74
Total	333 50.00	333 50.00	666 100.00

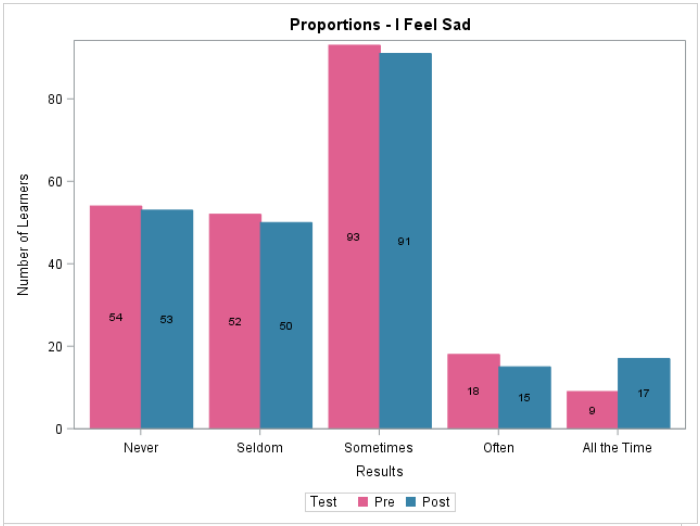
3) Since the analysis would like to use the same sample for the descriptive statistics and the pre vs. post-test, it's important to understand how many learners had complete results for the pre as well as the post test.

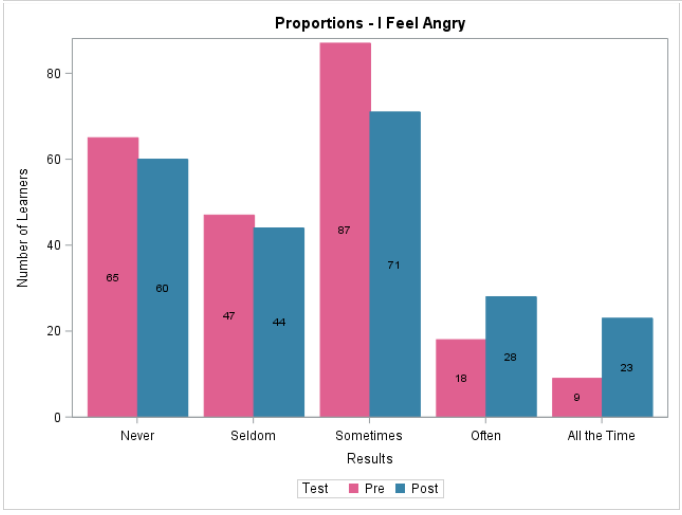
- ❖ For the 6 Emotions, the sample had 226 learners which had all 6 emotions results recorded for the pre as well as the post results.
- ❖ The "Generally I feel…" was not recorded at all in the post results hence this question will not form part of the analysis.
- ❖ The "Today I feel…" had a sample of 241 learners which had recorded results for the pre as well as the post results.

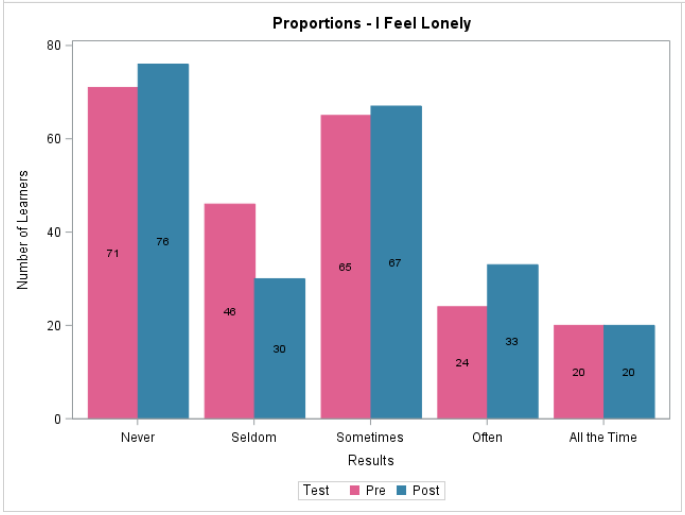
1.3 Descriptive Results

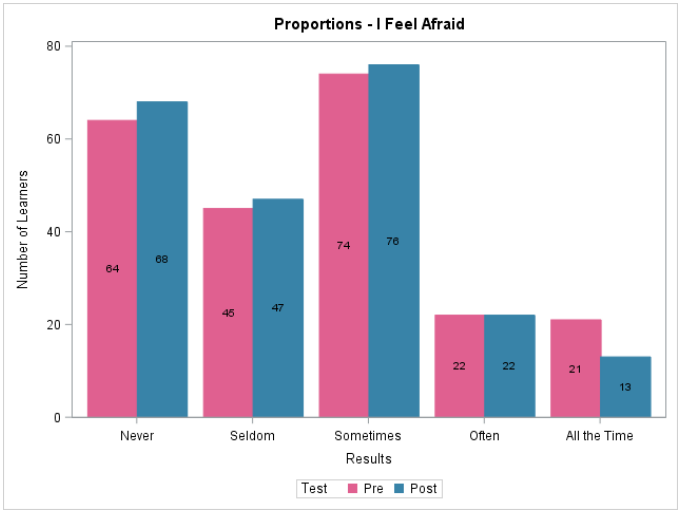
The following illustrates the compressions for each of the components, for the pre as well as the post test.

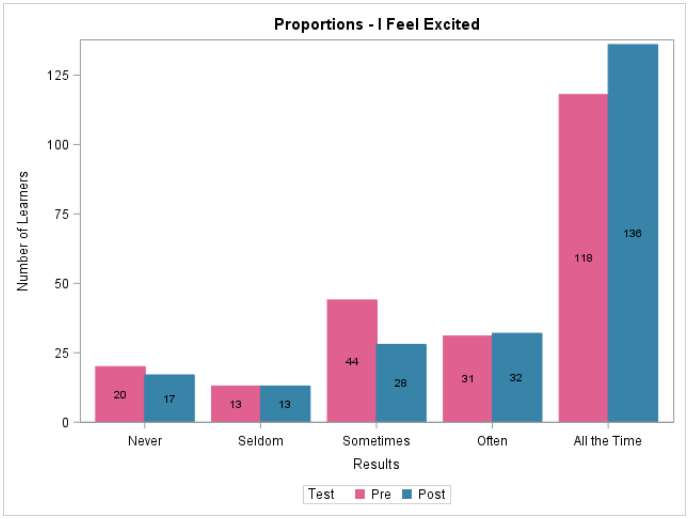












The following table summarises all the descriptive statistics of the different feelings – for the pre and post-tests combined.

Variable	N	Minimum	Maximum	Mean	Median	Mode	Variance	Std Dev	Range
Happy	452	1.00	5.00	3.96	4.00	5.00	1.51	1.23	4.00
Sad	452	1.00	5.00	2.49	3.00	3.00	1.22	1.10	4.00
Angry	452	1.00	5.00	2.49	3.00	3.00	1.43	1.20	4.00
Lonely	452	1.00	5.00	2.48	3.00	1.00	1.69	1.30	4.00
Afraid	452	1.00	5.00	2.46	3.00	3.00	1.48	1.22	4.00
Excited	452	1.00	5.00	4.04	5.00	5.00	1.69	1.30	4.00

The following table summarises all the descriptive statistics of the different feelings – for the pre-test.

Variable	N	Minimum	Maximum	Mean	Median	Mode	Variance	Std Dev	Range
Happy	226	1.00	5.00	4.00	5.00	5.00	1.56	1.25	4.00
Sad	226	1.00	5.00	2.45	3.00	3.00	1.13	1.06	4.00
Angry	226	1.00	5.00	2.38	3.00	3.00	1.21	1.10	4.00
Lonely	226	1.00	5.00	2.45	2.00	1.00	1.63	1.28	4.00
Afraid	226	1.00	5.00	2.52	3.00	3.00	1.58	1.26	4.00
Excited	226	1.00	5.00	3.95	5.00	5.00	1.75	1.32	4.00

The following table summarises all the descriptive statistics of the different feelings – for the post-test.

Variable	N	Minimum	Maximum	Mean	Median	Mode	Variance	Std Dev	Range
Happy	226	1.00	5.00	3.91	4.00	5.00	1.47	1.21	4.00
Sad	226	1.00	5.00	2.53	3.00	3.00	1.31	1.14	4.00
Angry	226	1.00	5.00	2.60	3.00	3.00	1.64	1.28	4.00
Lonely	226	1.00	5.00	2.52	3.00	1.00	1.75	1.32	4.00
Afraid	226	1.00	5.00	2.40	2.00	3.00	1.39	1.18	4.00
Excited	226	1.00	5.00	4.14	5.00	5.00	1.62	1.27	4.00

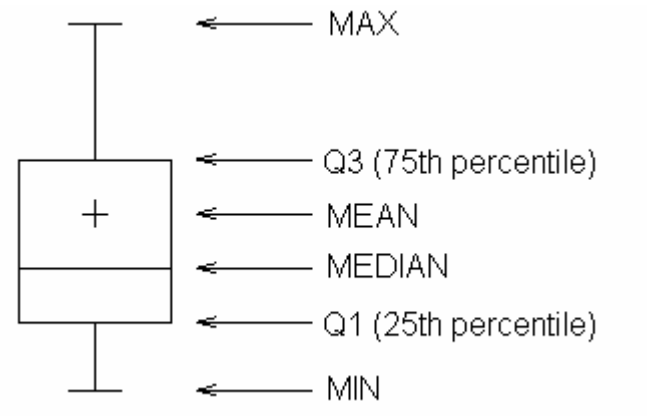
1.4 Comparing results Pre. Vs. Post

Wilcoxon signed rank test was recommended due to the fact that the data was not normally distributed. This is a non-parametric test for testing the difference between two depended (paired samples) groups. The pre- and post-test were depended on each other as each student had a pre as well as a post test result. To perform this test, we compute the difference in measurements for each student and we also consider the relative magnitude of the differences.

$H_0: Median\ difference = 0$ $vs.$ $H_A: Median\ difference \neq 0$	Indicated on the report as two-sided
$H_0: Median\ difference = 0$ $vs.$ $H_A: Median\ difference > 0$	Indicated on the report as one-sided (greater). The post test results are greater than the pre-test results.
$H_0: Median\ difference = 0$ $vs.$ $H_A: Median\ difference < 0$	Indicated on the report as one-sided (less). The post test results are less than the pre-tests results.

The variables were represented by using a boxplots. These views give a very quick, and efficient view of what the data looks like per question. Boxplot would typically be used for numerical data, but in this case (categorical data) the boxplot summary quickly summarises whether or not there is a difference between the pre- and post-test results. The proportions views above shows the difference for each of the categories.

The boxplot summarises the following descriptive statistics, all in one view. The dots outside the min and max arms illustrate outliers.



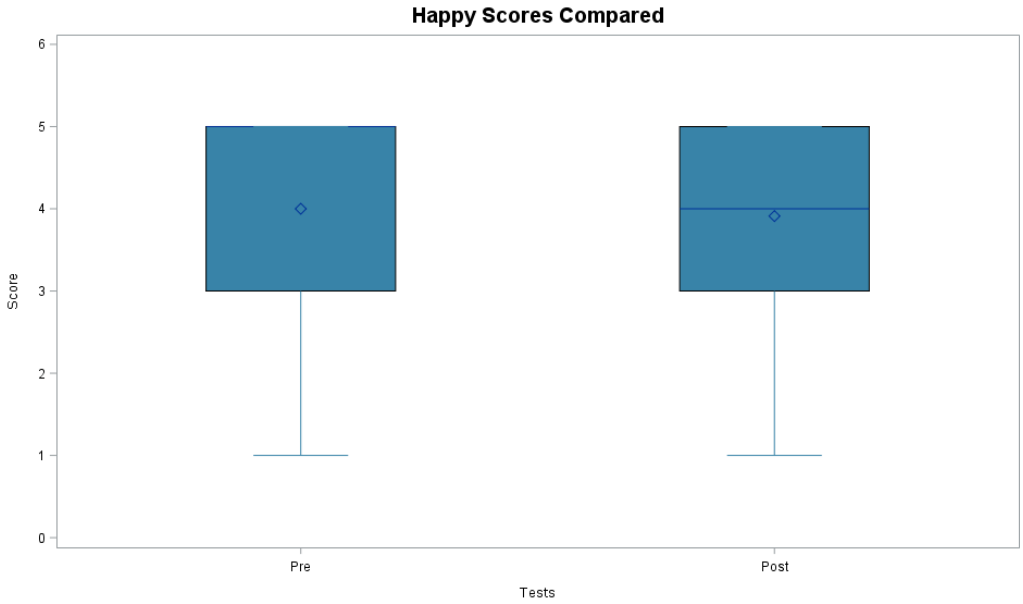
Happy

Test=Post

Analysis Variable : Happy						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	3.91	4.00	5.00	1.21

Test=Pre

Analysis Variable : Happy						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	4.00	5.00	5.00	1.25



2-sided p-value: 0.2898
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

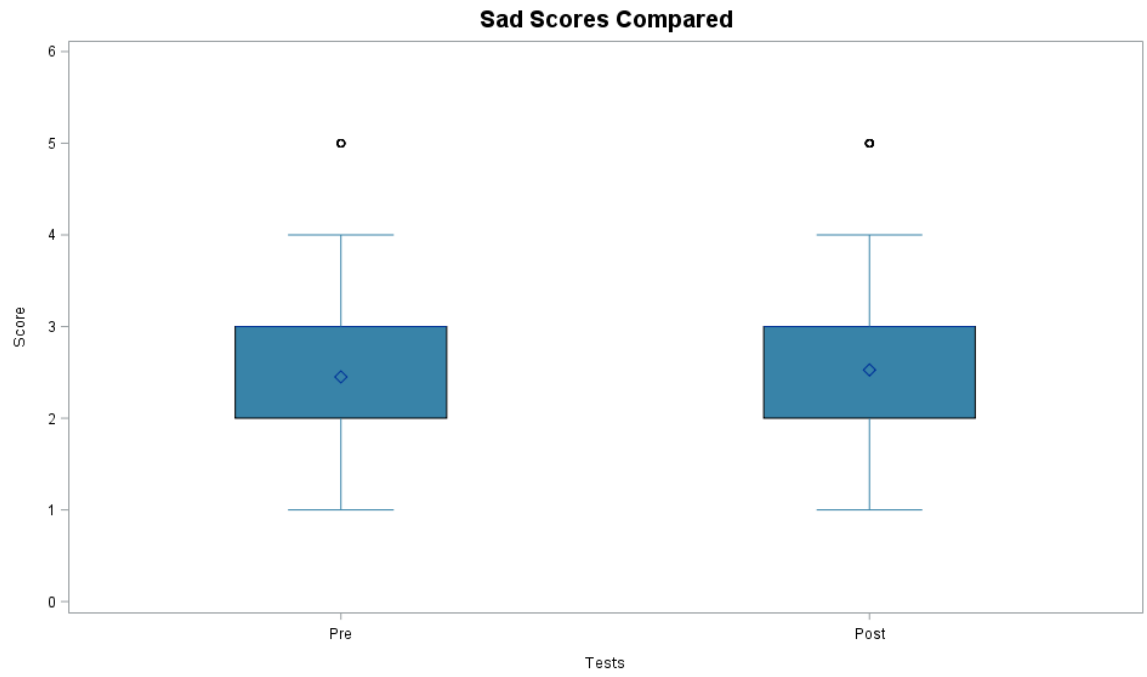
Sad

Test=Post

Analysis Variable : Sad						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	2.53	3.00	3.00	1.14

Test=Pre

Analysis Variable : Sad						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	2.45	3.00	3.00	1.06



2-sided p-value: 0.3745.
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

The two dots indicate that very few pupils indicted that they are sad all the time.

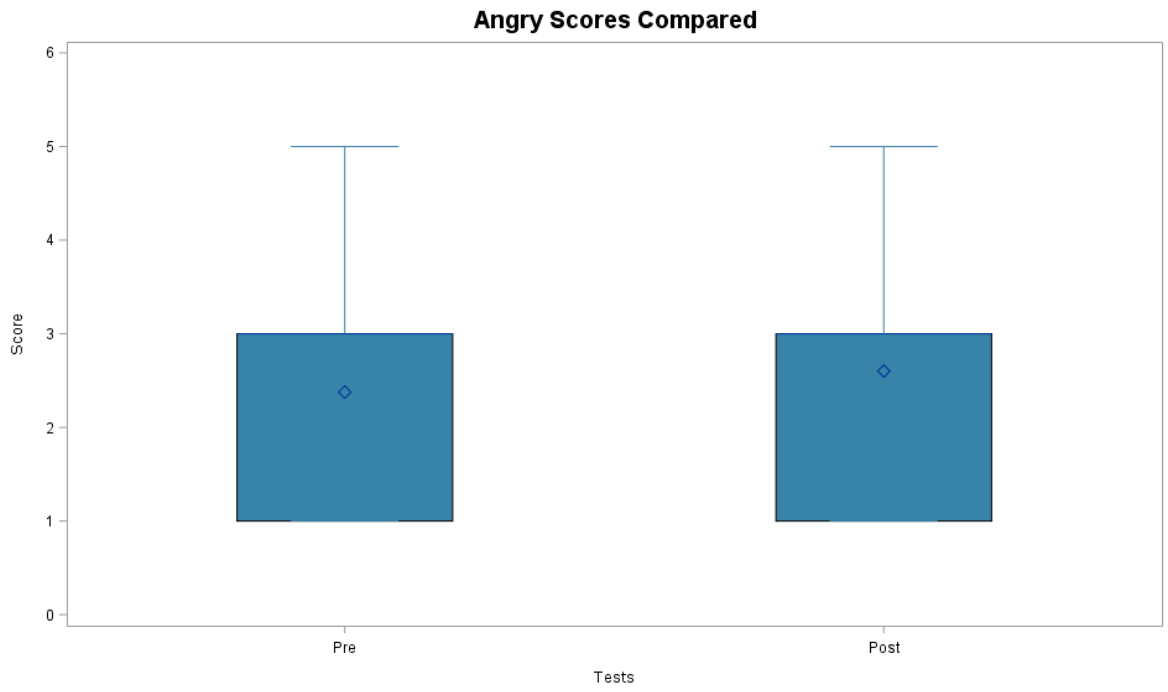
Angry

Test=Post

Analysis Variable : Angry						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	2.60	3.00	3.00	1.28

Test=Pre

Analysis Variable : Angry						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	2.38	3.00	3.00	1.10



2-sided p-value: 0.0269.
Reject the null hypothesis. At a 5% level of significance, there is significant difference between the difference in scores of the pre- and post-tests.

1-sided p-value (greater): 0.01345
Reject the null hypothesis. At a 5% level of significance, the post-test angry scores are significant higher than the pre – test scores.

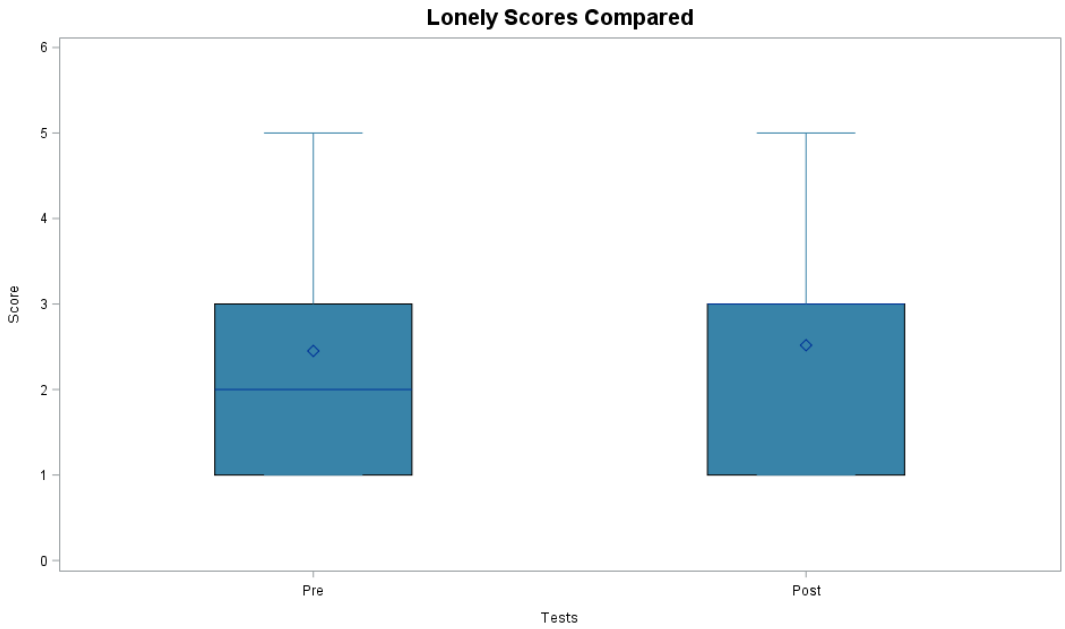
Lonely

Test=Post

Analysis Variable : Lonely						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	2.52	3.00	1.00	1.32

Test=Pre

Analysis Variable : Lonely						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	2.45	2.00	1.00	1.28



2-sided p-value: 0.5808.
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

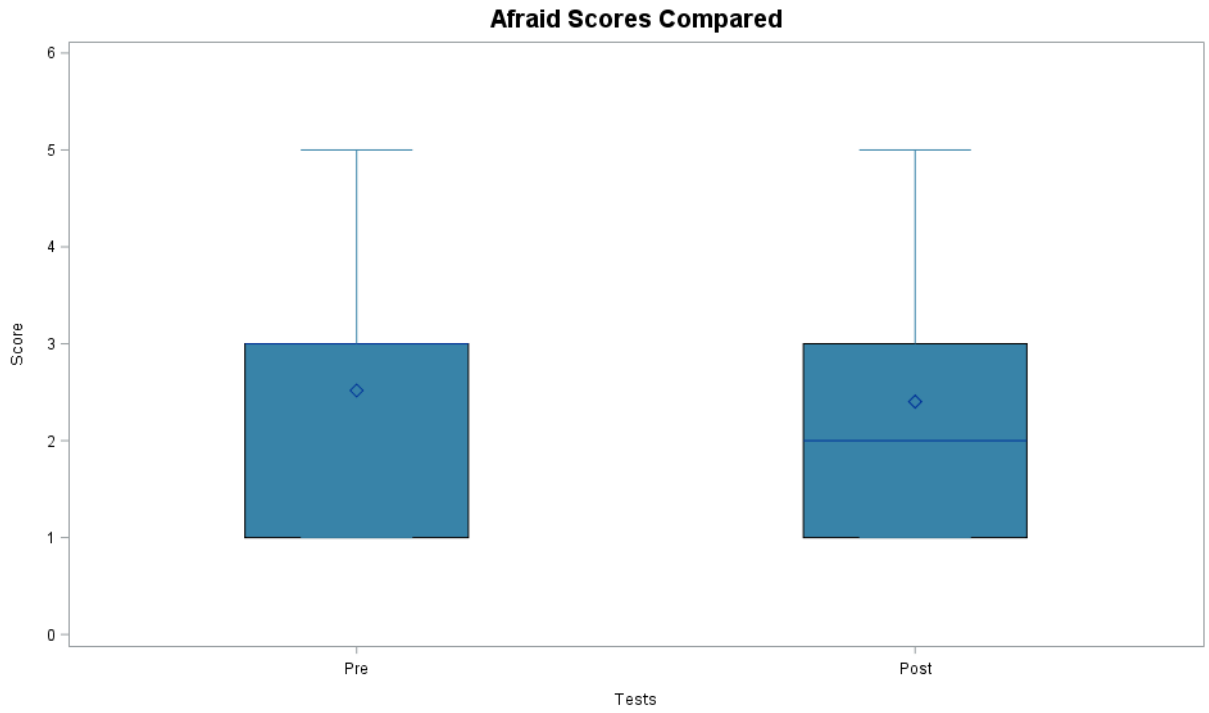
Afraid

Test=Post

Analysis Variable : Afraid						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	2.40	2.00	3.00	1.18

Test=Pre

Analysis Variable : Afraid						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	2.52	3.00	3.00	1.26



2-sided p-value: 0.2426.
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

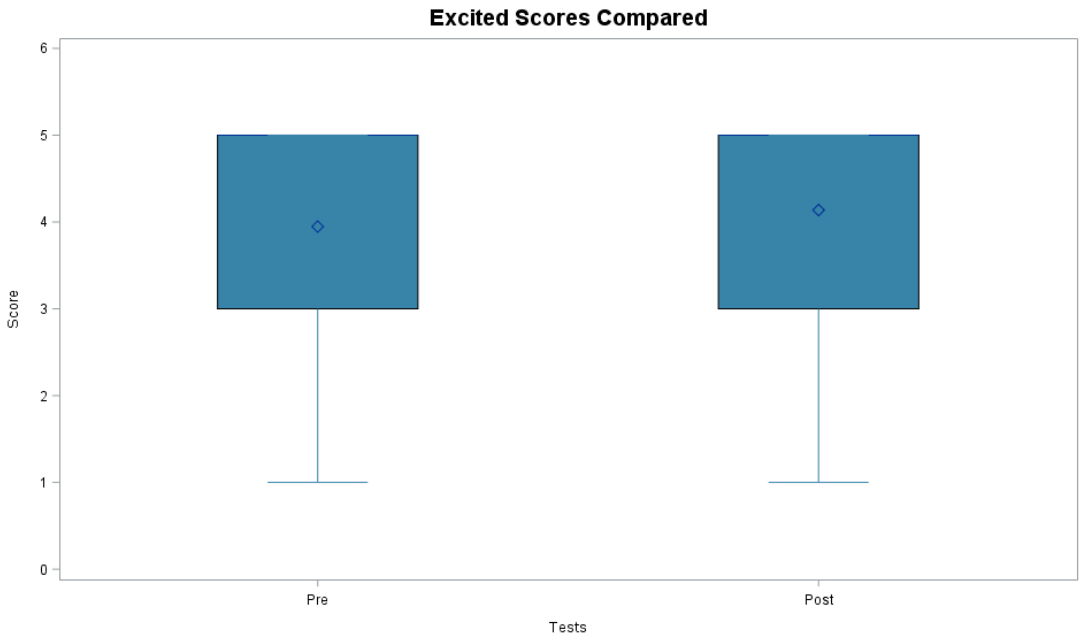
Excited

Test=Post

Analysis Variable : Excited						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	4.14	5.00	5.00	1.27

Test=Pre

Analysis Variable : Excited						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
226	1.00	5.00	3.95	5.00	5.00	1.32



2-sided p-value: 0.0761.
Reject the null hypothesis. At a 5% level of significance, there is a significant difference between the difference in scores of the pre- and post-tests.

1-sided p-value (greater): 0.03805
Reject the null hypothesis. At a 5% level of significance, the post-test Excited scores are significant higher than the pre – test scores.

1.5 Reliability of Questionnaire (Consistency)

The Cronbach's alpha is the most common measure of internal consistency ("reliability") or the average correlation of items in a survey instrument to gauge its reliability.

The rule of thumb values and descriptions can be found in the following table:

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

A high level of alpha may mean that the items in the questionnaire are highly correlated, but it's also very sensitive to the number of items/questions. This means a high value could mean the questionnaire has too many questions or is perhaps too lengthy. A low value may mean there are not enough questions in the questionnaire or it could be due to poor interrelatedness between he different questions which seems to be the case here. It's also important to note that these results were obtained from young learners for whom English is not their first language – this could also influence the results.

This questionnaire had a value of 0.1617 for the pre-test results and a value of 0.1125 for the post-test results.

2. NPWB Well-Being Questionnaire

The dataset contained 253 learners, with id's, which had records for pre as well as the post testing. These are just the counts for the records supplied. Next we will investigate how well these were populated for each of the sets of questions.

2.1 What the questionnaire consists of

Well-being

I feel calm most of the time					
I am satisfied with my life					
I feel cheerful most of the time					
I feel at peace most of the time					
I often feel afraid or scared					
I often feel sad or blue					
I feel angry most of the time					
I have trouble sleeping					
I often worry about what will happen to me					
It is hard to pay attention in class					
I often forget things					
I lack self-confidence most of the time					

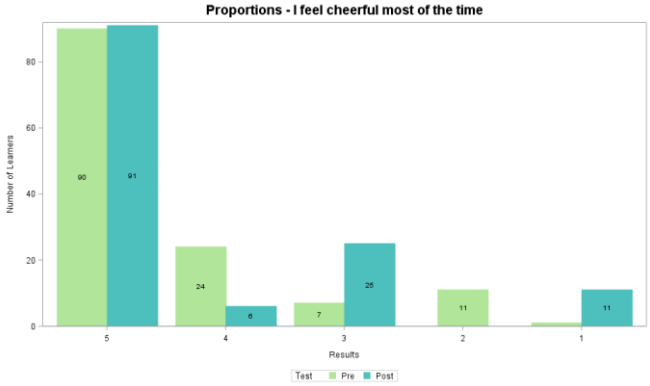
- Only the well-being component of this questionnaire will be investigated.
- We confirm the order used when coding the emotions:

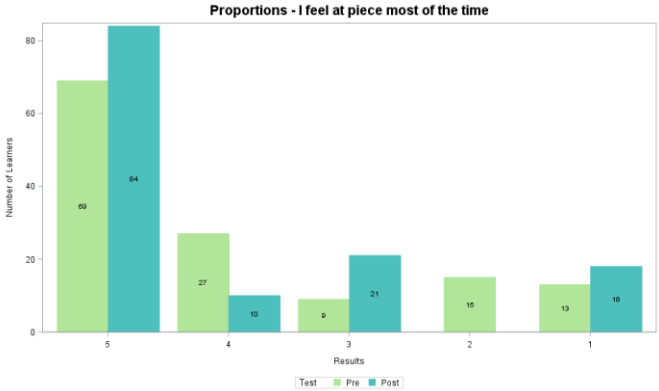
5	4	3	2	1

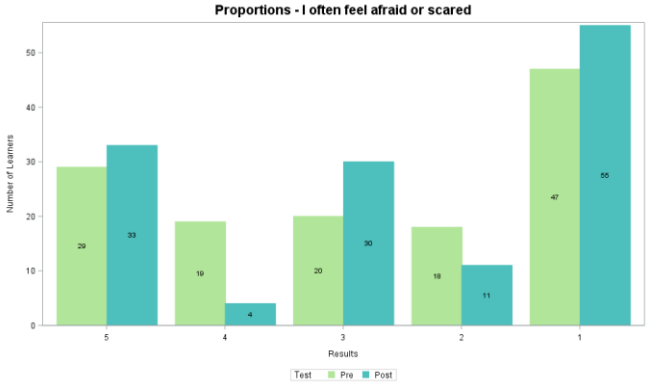
- 133 learners have pre and post results for all 12 questions.

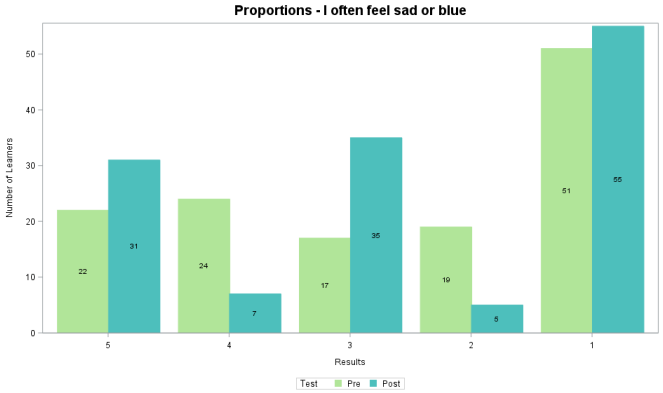
2.2 Descriptive Results

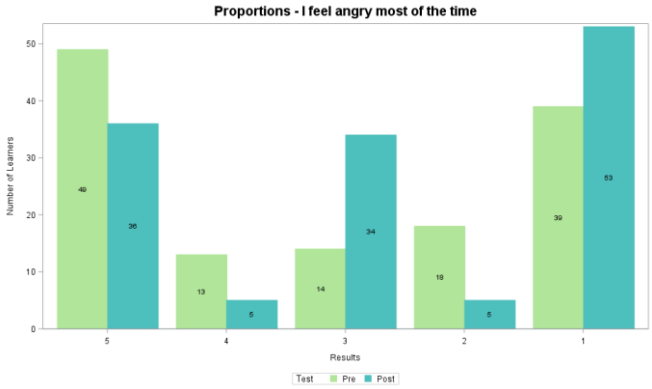
The following view displays the proportions allocated to each component.

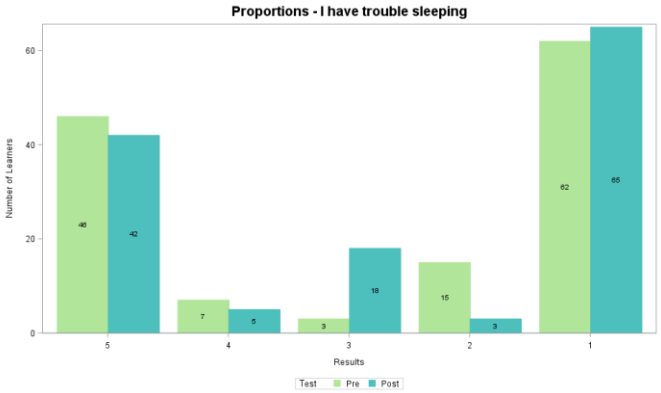

Proportions - I feel cheerful most of the time
Number of Learners
Results
Test Pre Post
90 91 24 6 7 25 11 1 11

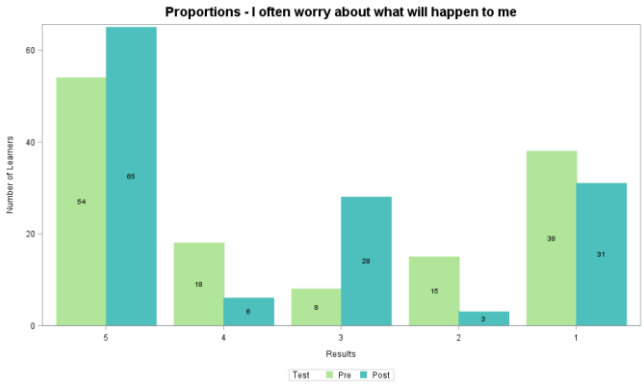

Proportions - I feel at piece most of the time
Number of Learners
Results
Test Pre Post
69 84 27 10 9 21 15 13 18

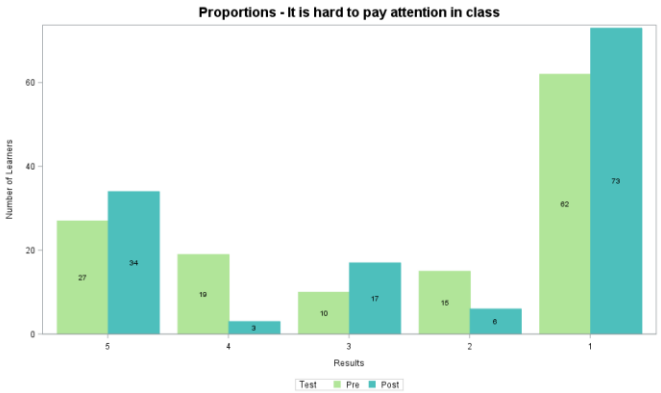

Proportions - I often feel afraid or scared
Number of Learners
Results
Test Pre Post
29 33 19 4 20 30 18 11 47 55

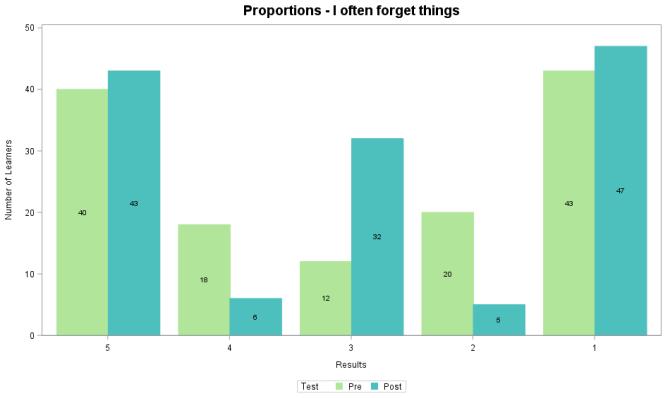

Proportions - I often feel sad or blue
Number of Learners
Results
Test Pre Post
22 31 24 7 17 35 19 5 51 55

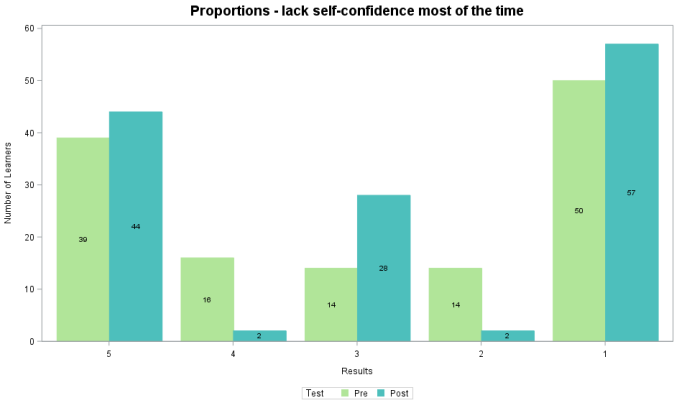

Proportions - I feel angry most of the time
Number of Learners
Results
Test Pre Post
49 36 13 5 14 34 18 5 39 53


Proportions - I have trouble sleeping
Number of Learners
Results
Test Pre Post
46 42 7 5 3 18 15 3 62 65


Proportions - I often worry about what will happen to me
Number of Learners
Results
Test Pre Post
54 65 18 6 8 28 15 3 38 31


Proportions - It is hard to pay attention in class
Number of Learners
Results
Test Pre Post
27 34 19 3 10 17 15 6 62 73





The following table summarises all the descriptive statistics of the different components – for the pre and post-tests combined. The variable names A-L speak to the items in the order they appear on the questionnaire.

Variable	N	Minimum	Maximum	Mean	Median	Mode	Variance	Std Dev	Range
A	266	1.00	5.00	4.02	5.00	5.00	2.14	1.46	4.00
B	266	1.00	5.00	4.22	5.00	5.00	2.01	1.42	4.00
C	266	1.00	5.00	4.34	5.00	5.00	1.26	1.12	4.00
D	266	1.00	5.00	4.00	5.00	5.00	1.97	1.40	4.00
E	266	1.00	5.00	2.68	3.00	1.00	2.57	1.60	4.00
F	266	1.00	5.00	2.63	3.00	1.00	2.47	1.57	4.00
G	266	1.00	5.00	2.93	3.00	1.00	2.82	1.68	4.00
H	266	1.00	5.00	2.68	2.00	1.00	3.26	1.81	4.00
I	266	1.00	5.00	3.40	4.00	5.00	2.84	1.68	4.00
J	266	1.00	5.00	2.45	1.00	1.00	2.81	1.68	4.00
K	266	1.00	5.00	2.94	3.00	1.00	2.79	1.67	4.00
L	266	1.00	5.00	2.83	3.00	1.00	2.97	1.72	4.00

The following table summarises all the descriptive statistics of the different components – for the pre-test.

Variable	N	Minimum	Maximum	Mean	Median	Mode	Variance	Std Dev	Range
A	133	1.00	5.00	4.17	5.00	5.00	1.96	1.40	4.00
B	133	1.00	5.00	4.29	5.00	5.00	1.66	1.29	4.00
C	133	1.00	5.00	4.44	5.00	5.00	0.94	0.97	4.00
D	133	1.00	5.00	3.93	5.00	5.00	1.93	1.39	4.00
E	133	1.00	5.00	2.74	3.00	1.00	2.51	1.59	4.00
F	133	1.00	5.00	2.60	2.00	1.00	2.38	1.54	4.00
G	133	1.00	5.00	3.11	3.00	5.00	2.89	1.70	4.00
H	133	1.00	5.00	2.70	2.00	1.00	3.35	1.83	4.00
I	133	1.00	5.00	3.26	4.00	5.00	2.97	1.72	4.00
J	133	1.00	5.00	2.50	2.00	1.00	2.71	1.65	4.00
K	133	1.00	5.00	2.94	3.00	1.00	2.80	1.67	4.00
L	133	1.00	5.00	2.85	3.00	1.00	2.90	1.70	4.00

The following table summarises all the descriptive statistics of the different components – for the post-test.

Variable	N	Minimum	Maximum	Mean	Median	Mode	Variance	Std Dev	Range
A	133	1.00	5.00	3.87	5.00	5.00	2.29	1.51	4.00
B	133	1.00	5.00	4.15	5.00	5.00	2.36	1.53	4.00
C	133	1.00	5.00	4.25	5.00	5.00	1.57	1.25	4.00
D	133	1.00	5.00	4.07	5.00	5.00	2.02	1.42	4.00
E	133	1.00	5.00	2.62	3.00	1.00	2.63	1.62	4.00
F	133	1.00	5.00	2.65	3.00	1.00	2.58	1.61	4.00
G	133	1.00	5.00	2.74	3.00	1.00	2.71	1.65	4.00
H	133	1.00	5.00	2.67	2.00	1.00	3.19	1.79	4.00
I	133	1.00	5.00	3.53	4.00	5.00	2.69	1.64	4.00
J	133	1.00	5.00	2.39	1.00	1.00	2.94	1.71	4.00
K	133	1.00	5.00	2.95	3.00	1.00	2.81	1.68	4.00
L	133	1.00	5.00	2.80	3.00	1.00	3.05	1.75	4.00

2.3 Comparing results Pre. Vs. Post

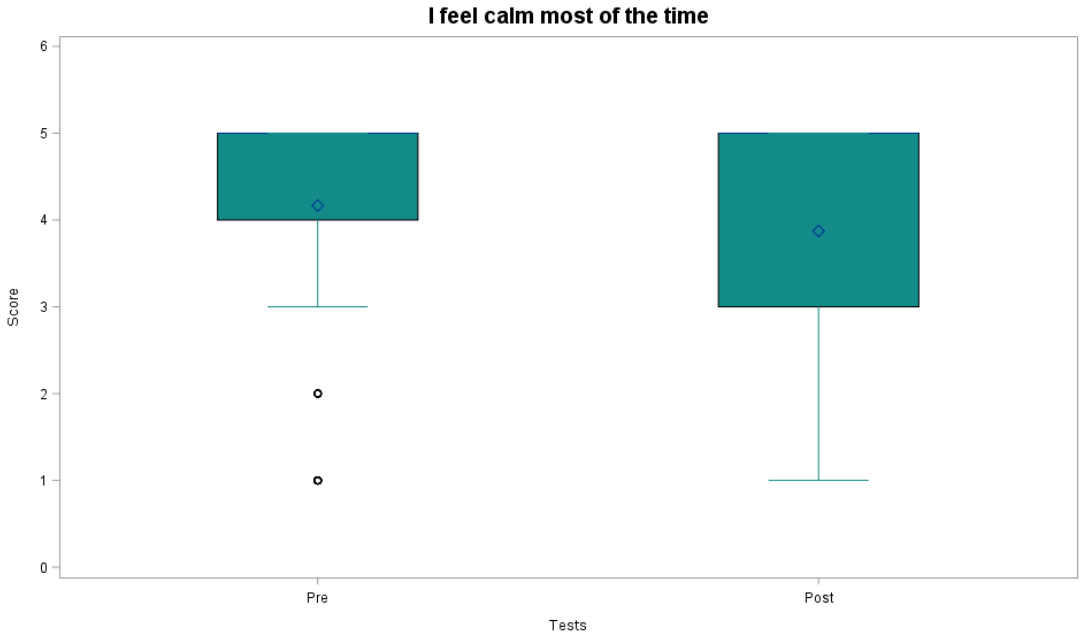
I feel calm most of the time

Test=Post

Analysis Variable : A						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	3.87	5.00	5.00	1.51

Test=Pre

Analysis Variable : A						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	4.17	5.00	5.00	1.40



2-sided p-value: 0.0773
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

1-sided p-value (less): 0.03865
Reject the null hypothesis. At a 5% level of significance, the post-test scores are significant less than the pre – test scores.

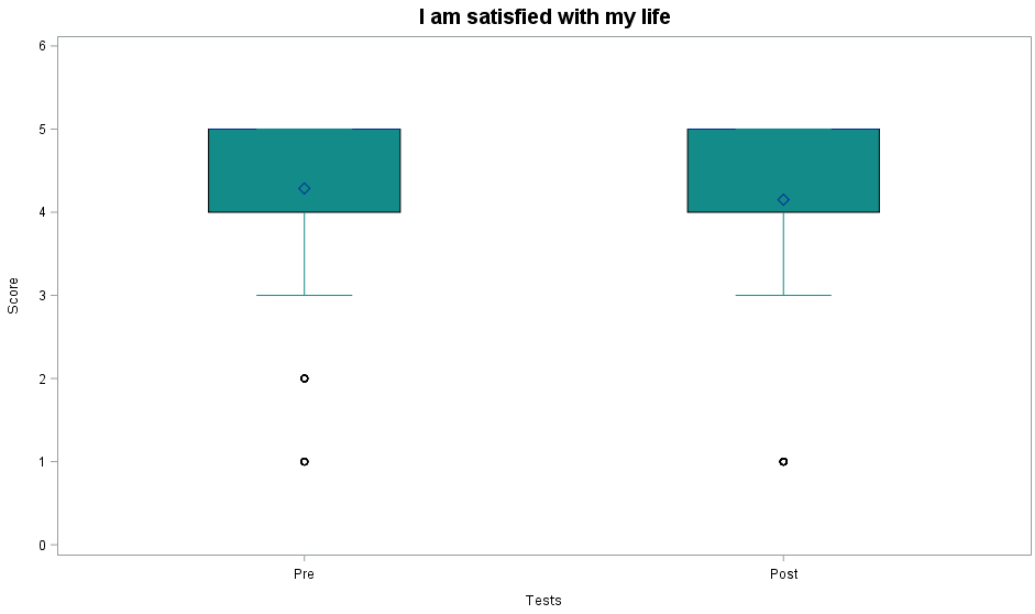
I am satisfied with my life

Test=Post

Analysis Variable : B						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	4.15	5.00	5.00	1.53

Test=Pre

Analysis Variable : B						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	4.29	5.00	5.00	1.29



2-sided p-value: 0.3516
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

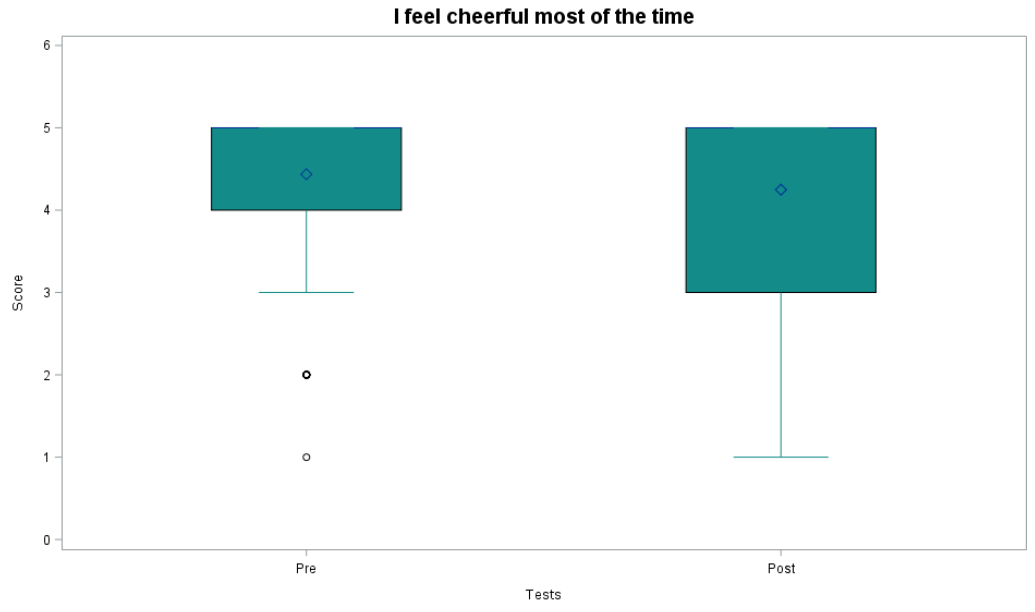
I feel cheerful most of the time

Test=Post

Analysis Variable : C						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	4.25	5.00	5.00	1.25

Test=Pre

Analysis Variable : C						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	4.44	5.00	5.00	0.97



2-sided p-value: 0.1563
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

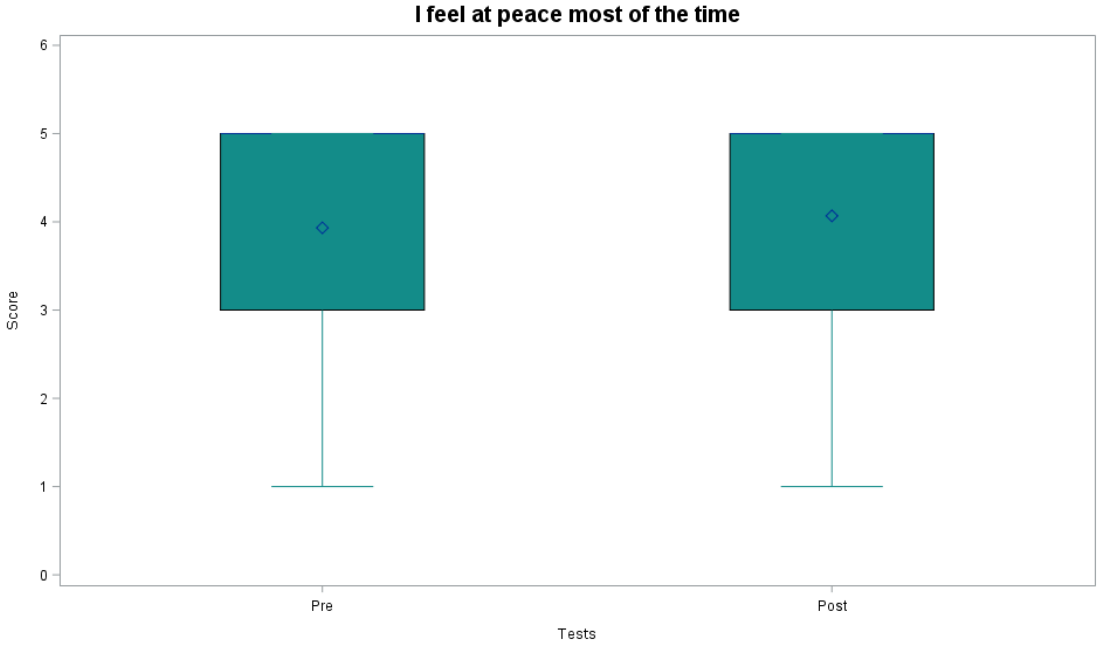
I feel at peace most of the time

Test=Post

Analysis Variable : D						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	4.07	5.00	5.00	1.42

Test=Pre

Analysis Variable : D						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	3.93	5.00	5.00	1.39



2-sided p-value: 0.4345
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

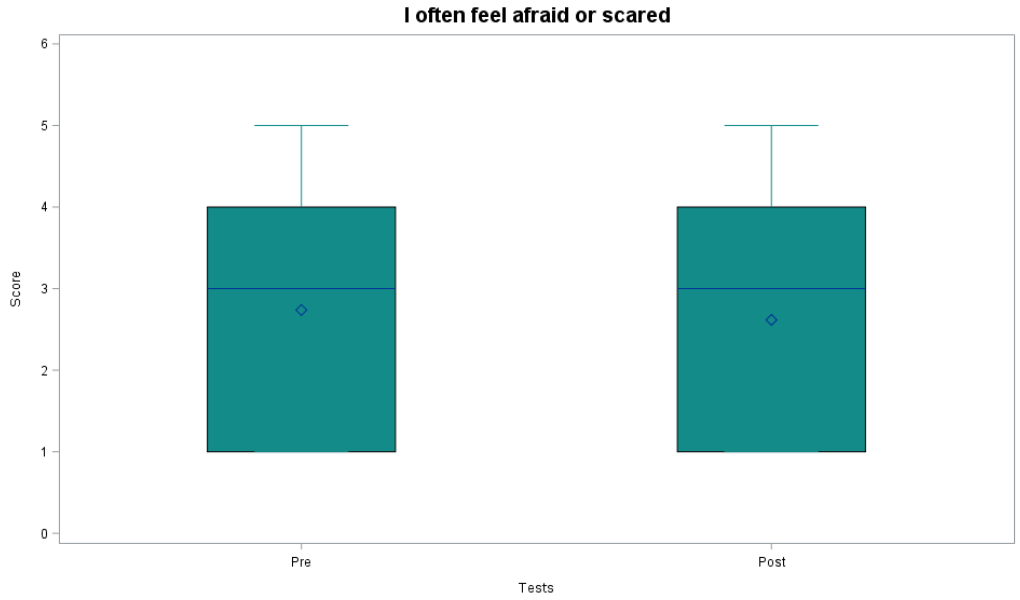
I often feel afraid or scared

Test=Post

Analysis Variable : E						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.62	3.00	1.00	1.62

Test=Pre

Analysis Variable : E						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.74	3.00	1.00	1.59



2-sided p-value: 0.5032
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

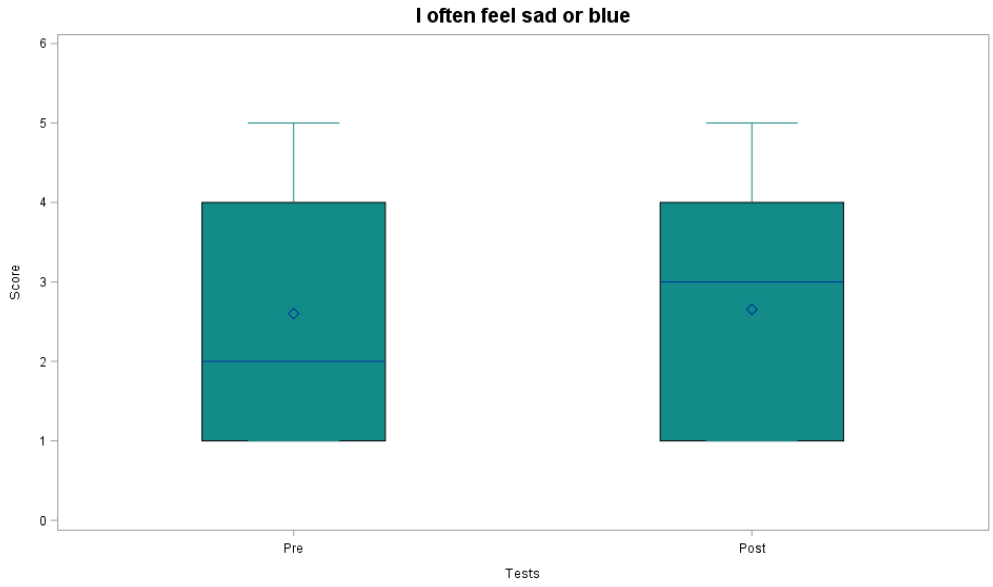
I often feel sad or blue

Test=Post

Analysis Variable : F						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.65	3.00	1.00	1.61

Test=Pre

Analysis Variable : F						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.60	2.00	1.00	1.54



2-sided p-value: 0.8401
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

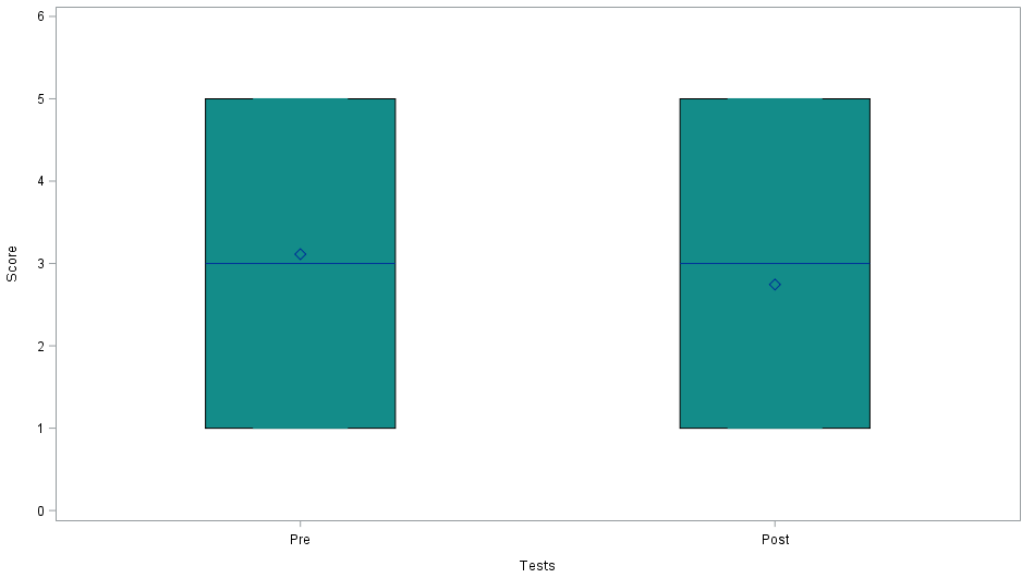
I feel angry most of the time

Test=Post

Analysis Variable : G						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.74	3.00	1.00	1.65

Test=Pre

Analysis Variable : G						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	3.11	3.00	5.00	1.70



2-sided p-value: 0.0883
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

1-sided p-value (less): 0.04415
Reject the null hypothesis. At a 5% level of significance, the post-test scores are significantly less than the pre – test scores.

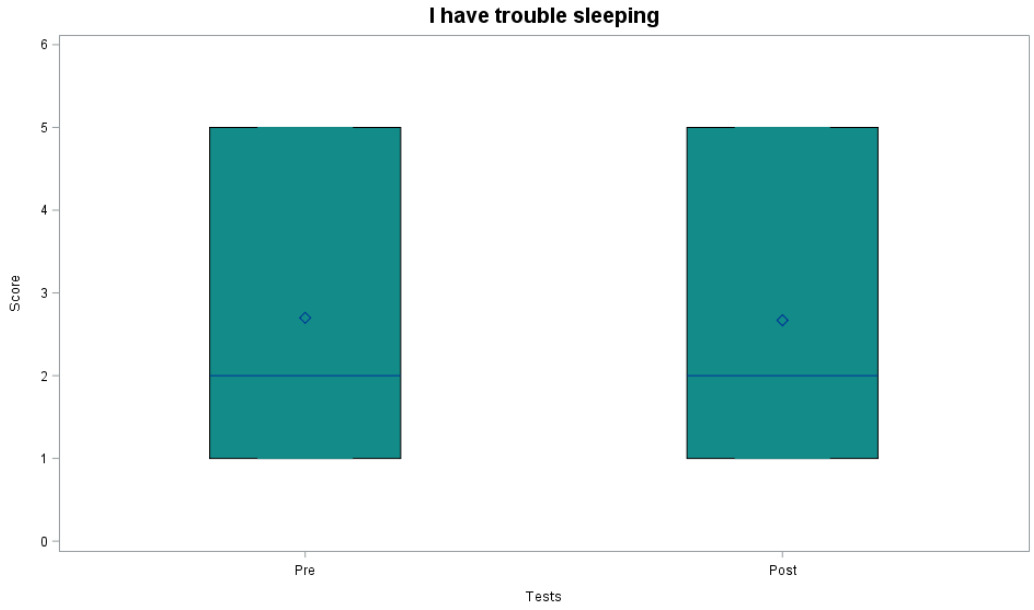
I have trouble sleeping

Test=Post

Analysis Variable : H						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.67	2.00	1.00	1.79

Test=Pre

Analysis Variable : H						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.70	2.00	1.00	1.83



2-sided p-value: 0.8451
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

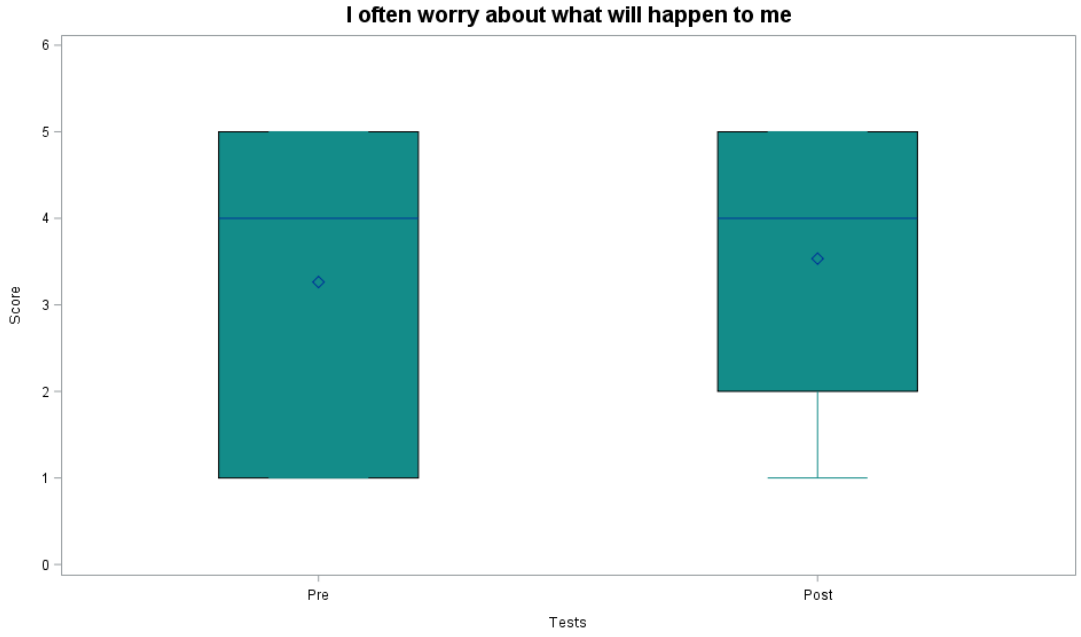
I often worry about what will happen to me

Test=Post

Analysis Variable : I						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	3.53	4.00	5.00	1.64

Test=Pre

Analysis Variable : I						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	3.26	4.00	5.00	1.72



2-sided p-value: 0.2155
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

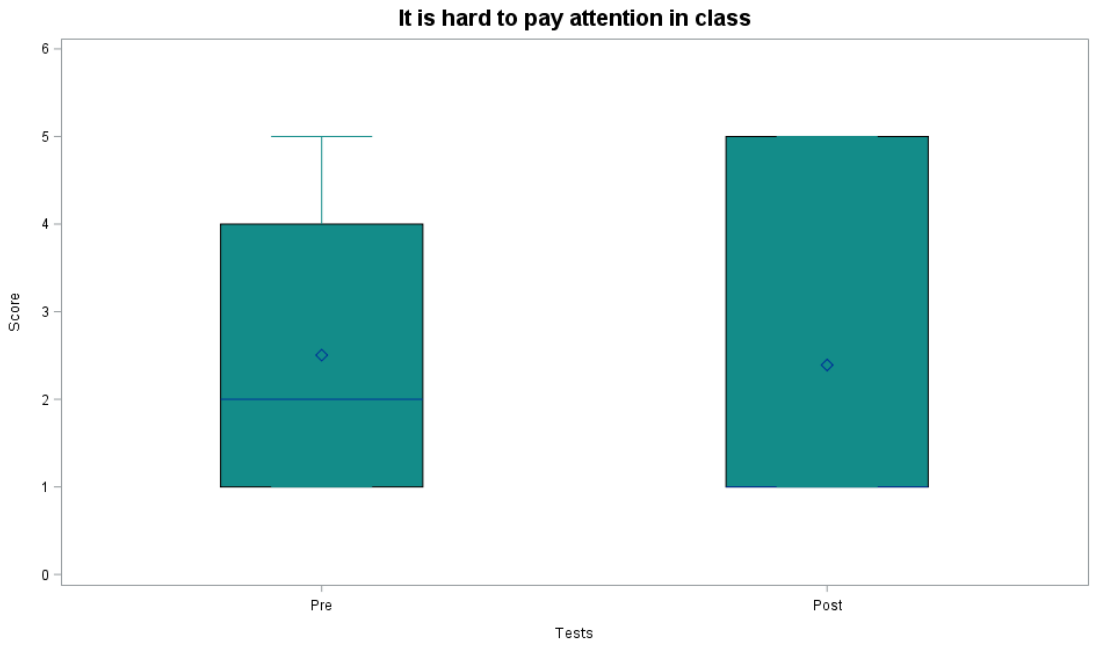
It is hard to pay attention in class

Test=Post

Analysis Variable : J						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.39	1.00	1.00	1.71

Test=Pre

Analysis Variable : J						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.50	2.00	1.00	1.65



2-sided p-value: 0.5424
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

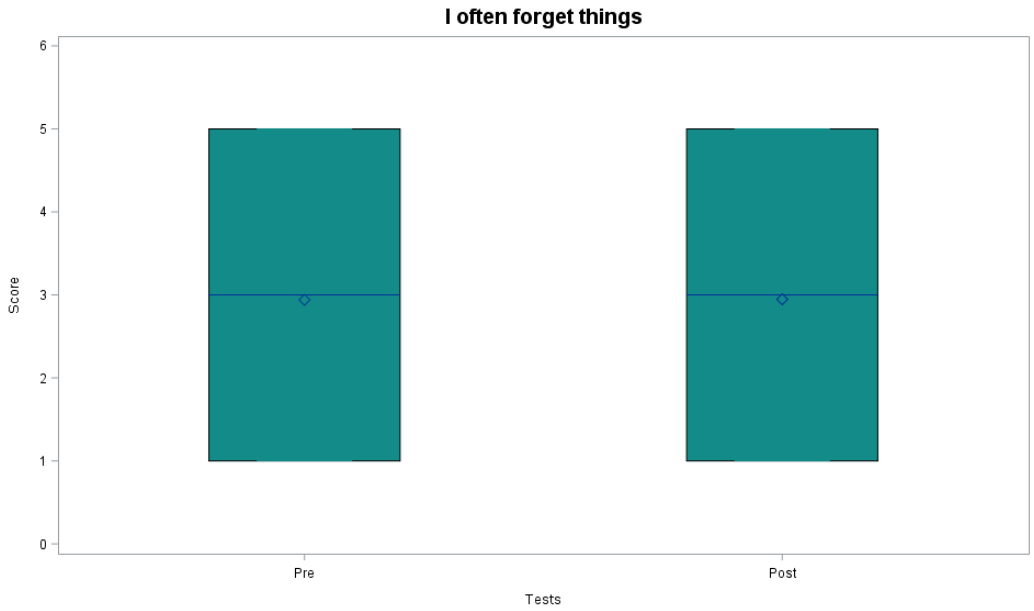
I often forget things

Test=Post

Analysis Variable : K						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.95	3.00	1.00	1.68

Test=Pre

Analysis Variable : K						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.94	3.00	1.00	1.67



2-sided p-value: 0.9615
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

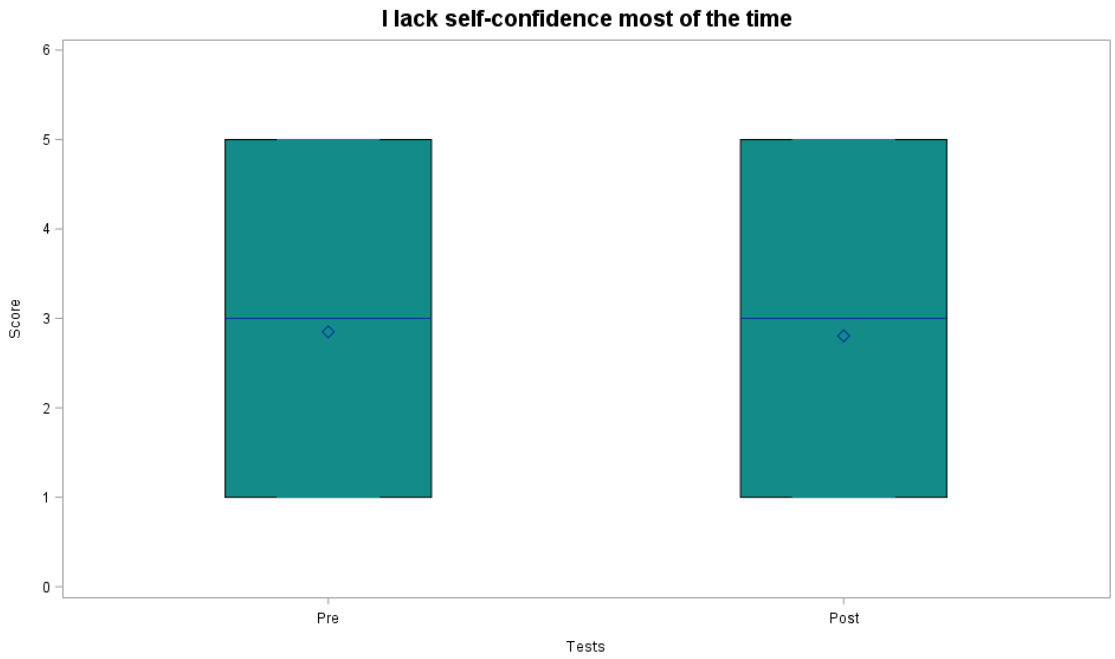
I lack self-confidence most of the time

Test=Post

Analysis Variable : L						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.80	3.00	1.00	1.75

Test=Pre

Analysis Variable : L						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
133	1.00	5.00	2.85	3.00	1.00	1.70



2-sided p-value: 0.8024
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

2.4 Reliability of Questionnaire (Consistency)

This questionnaire had a value of 0.58 for the pre-test results and a value of 0.6849 for the post-test results.

3. Kindl 7-13y Questionnaire

3.1 What the questionnaire consists of

2. ... then something about how you've been feeling in general...

During the past week...	never	seldom	some-times	often	all the time
1. ... I had fun and laughed a lot	☐	☐	☐	☐	☐
2. ... I was bored	☐	☐	☐	☐	☐
3. ... I felt alone	☐	☐	☐	☐	☐
4. ... I was scared	☐	☐	☐	☐	☐

3. ... and how you have been feeling about yourself.

During the past week...	never	seldom	some-times	often	all the time
1. ... I was proud of myself	☐	☐	☐	☐	☐
2. ... I felt on top of the world	☐	☐	☐	☐	☐
3. ... I felt pleased with myself	☐	☐	☐	☐	☐
4. ... I had lots of good ideas	☐	☐	☐	☐	☐

4. The next questions are about your family ...

During the past week...	never	seldom	some-times	often	all the time
1. ... I got on well with my parents	☐	☐	☐	☐	☐
2. ... I felt fine at home	☐	☐	☐	☐	☐
3. ... We quarrelled at home	☐	☐	☐	☐	☐
4. ... My parents stopped me from doing certain things	☐	☐	☐	☐	☐

5. ... and then about friends.

During the past week...	never	seldom	some-times	often	all the time
1. ... I played with friends	☐	☐	☐	☐	☐
2. ... Other kids liked me	☐	☐	☐	☐	☐
3. ... I got along well with my friends	☐	☐	☐	☐	☐
4. ... I felt different from other children	☐	☐	☐	☐	☐

- Only sections 2 – 5 of this questionnaire will be investigated.
- Coding the emotions:

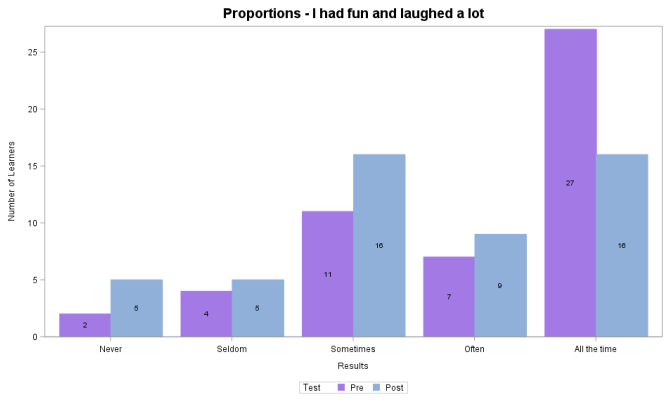
never	seldom	sometimes	often	all the time
1	2	3	4	5

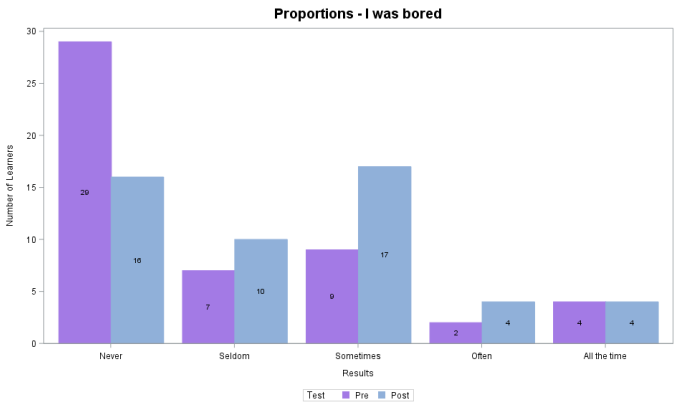
- 51 learners have pre and post results for all 16 questions.

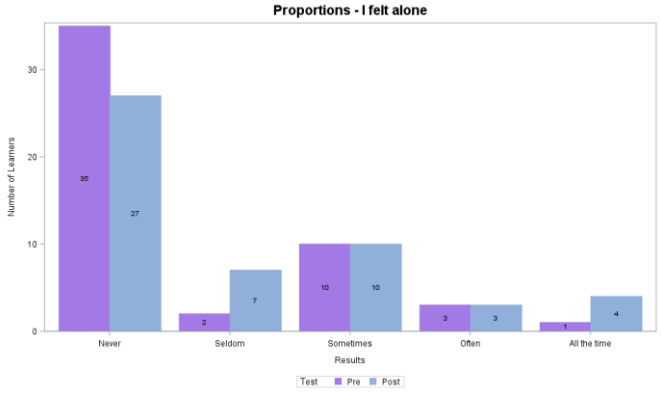
3.2 Descriptive Results

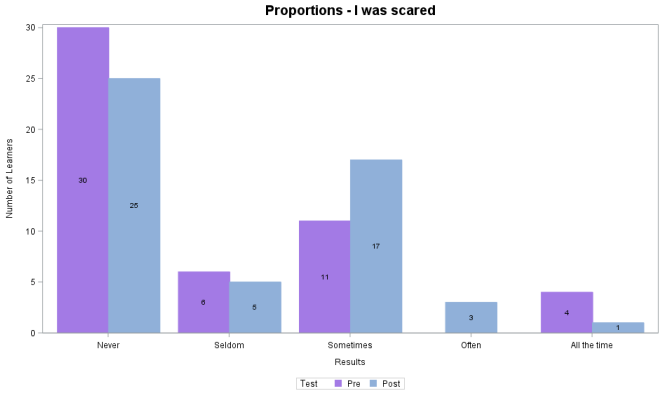
The following views displays the proportions allocated to each component.

- How you have been feeling in general

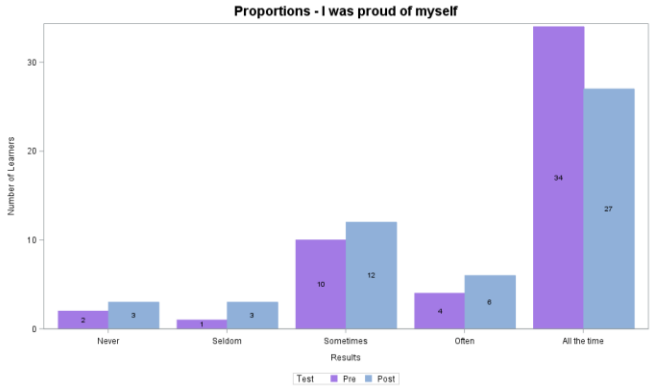


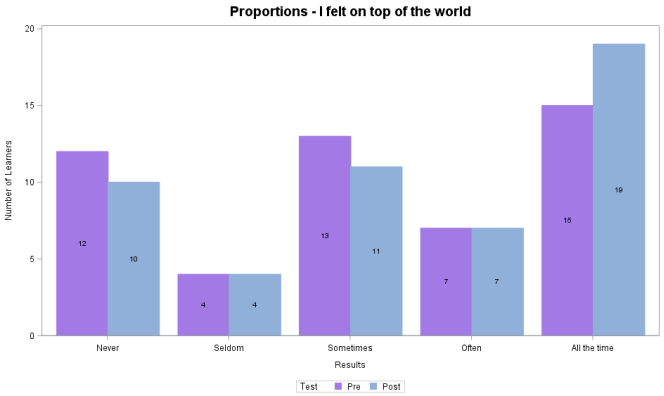


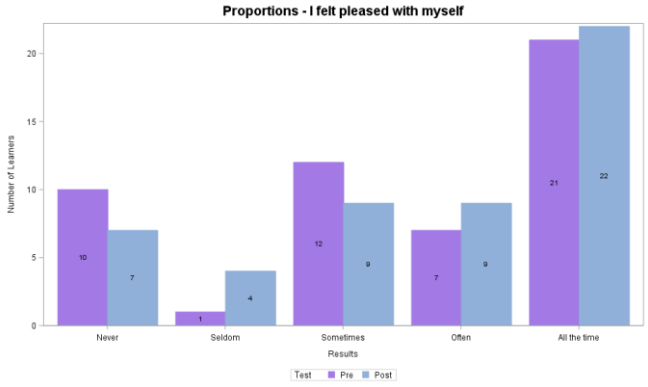


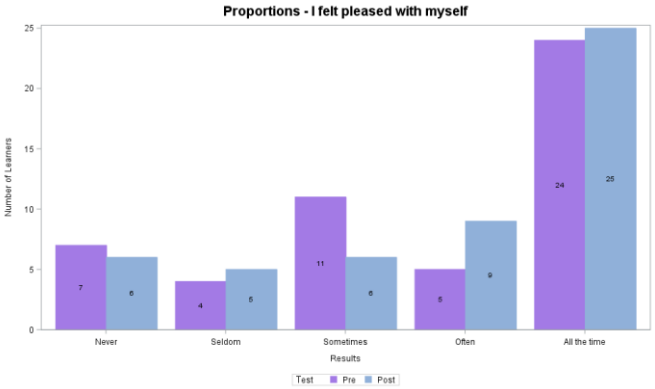


How you have been feeling about yourself

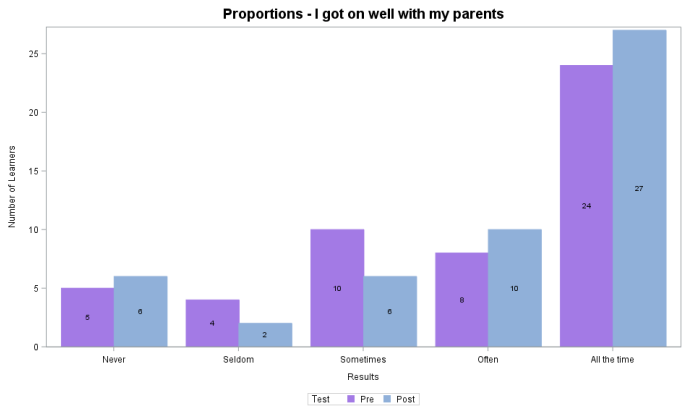


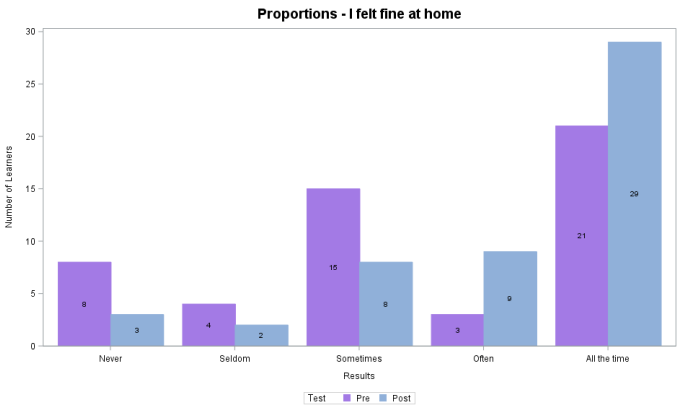


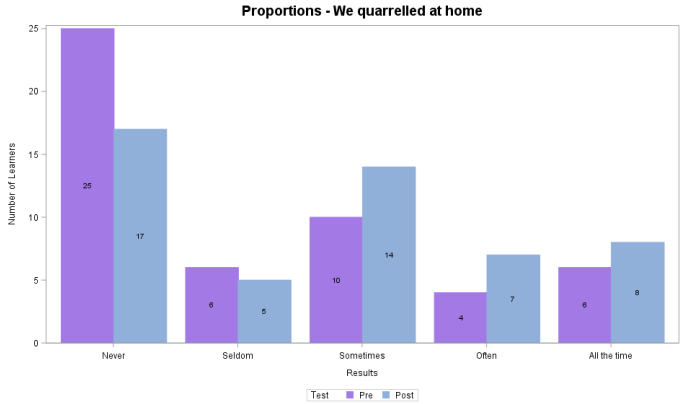


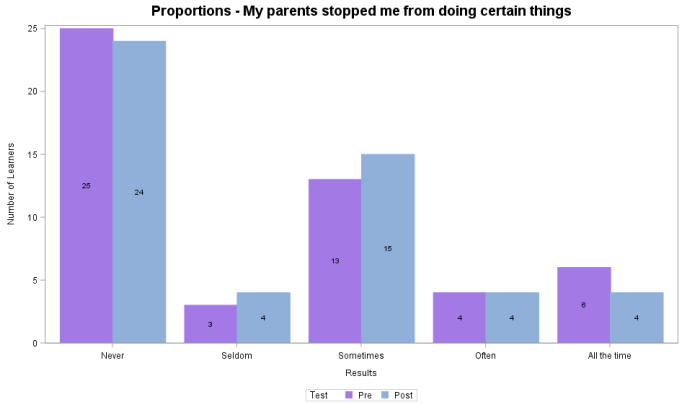


Questions about your family

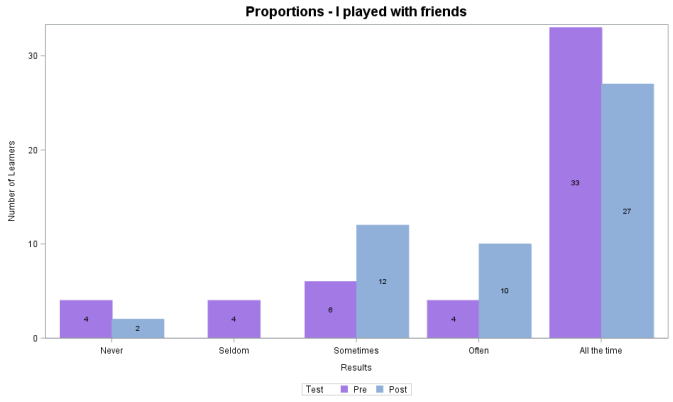


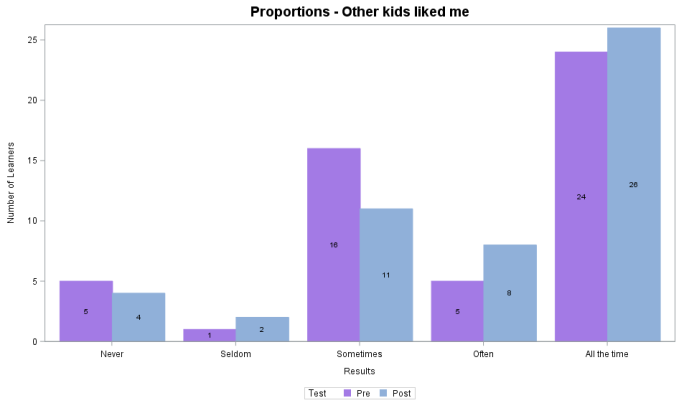


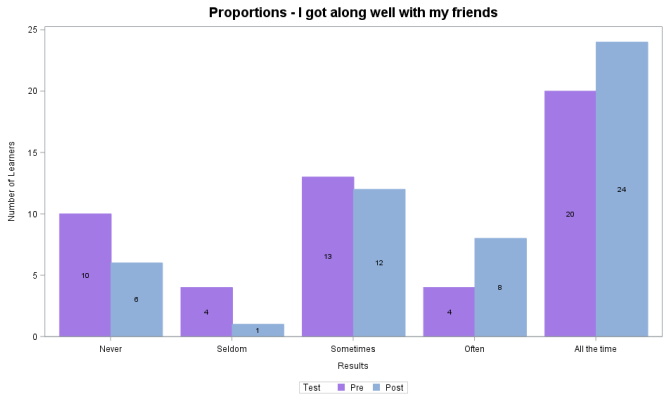


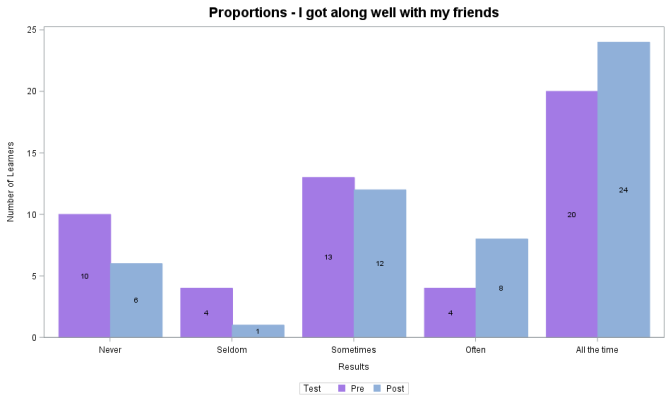


Questions about friends









The following table summarises all the descriptive statistics of the different components – for the pre and post-tests combined. The variable names speak to the different components in order of appearance in the questionnaire.

Variable	N	Minimum	Maximum	Mean	Median	Mode	Variance	Std Dev	Range
AA	102	1.00	5.00	3.77	4.00	5.00	1.62	1.27	4.00
AB	102	1.00	5.00	2.17	2.00	1.00	1.63	1.27	4.00
AC	102	1.00	5.00	1.85	1.00	1.00	1.47	1.21	4.00
AD	102	1.00	5.00	1.94	1.00	1.00	1.38	1.18	4.00
BA	102	1.00	5.00	4.16	5.00	5.00	1.40	1.18	4.00
BB	102	1.00	5.00	3.29	3.00	5.00	2.35	1.53	4.00
BC	102	1.00	5.00	3.62	4.00	5.00	2.20	1.48	4.00
BD	102	1.00	5.00	3.75	4.00	5.00	2.11	1.45	4.00
CA	102	1.00	5.00	3.90	4.50	5.00	1.87	1.37	4.00
CB	102	1.00	5.00	3.82	4.00	5.00	1.91	1.38	4.00
CC	102	1.00	5.00	2.45	2.00	1.00	2.13	1.46	4.00
CD	102	1.00	5.00	2.25	2.00	1.00	1.91	1.38	4.00
DA	102	1.00	5.00	4.16	5.00	5.00	1.44	1.20	4.00
DB	102	1.00	5.00	3.90	4.00	5.00	1.67	1.29	4.00
DC	102	1.00	5.00	3.62	4.00	5.00	2.16	1.47	4.00
DD	102	1.00	5.00	2.65	3.00	1.00	2.23	1.49	4.00

The following table summarises all the descriptive statistics of the different components – for the pre-test.

Variable	N	Minimum	Maximum	Mean	Median	Mode	Variance	Std Dev	Range
AA	51	1.00	5.00	4.04	5.00	5.00	1.44	1.20	4.00
AB	51	1.00	5.00	1.92	1.00	1.00	1.63	1.28	4.00
AC	51	1.00	5.00	1.69	1.00	1.00	1.22	1.10	4.00
AD	51	1.00	5.00	1.86	1.00	1.00	1.52	1.23	4.00
BA	51	1.00	5.00	4.31	5.00	5.00	1.22	1.10	4.00
BB	51	1.00	5.00	3.18	3.00	5.00	2.35	1.53	4.00
BC	51	1.00	5.00	3.55	4.00	5.00	2.33	1.53	4.00
BD	51	1.00	5.00	3.69	4.00	5.00	2.18	1.48	4.00
CA	51	1.00	5.00	3.82	4.00	5.00	1.87	1.37	4.00
CB	51	1.00	5.00	3.49	3.00	5.00	2.21	1.49	4.00
CC	51	1.00	5.00	2.22	2.00	1.00	2.05	1.43	4.00
CD	51	1.00	5.00	2.27	2.00	1.00	2.08	1.44	4.00
DA	51	1.00	5.00	4.14	5.00	5.00	1.80	1.34	4.00
DB	51	1.00	5.00	3.82	4.00	5.00	1.75	1.32	4.00
DC	51	1.00	5.00	3.39	3.00	5.00	2.40	1.55	4.00
DD	51	1.00	5.00	2.67	3.00	1.00	2.35	1.53	4.00

The following table summarises all the descriptive statistics of the different components – for the post-test.

Variable	N	Minimum	Maximum	Mean	Median	Mode	Variance	Std Dev	Range
AA	51	1.00	5.00	3.51	3.00	3.00	1.69	1.30	4.00
AB	51	1.00	5.00	2.41	2.00	3.00	1.53	1.24	4.00
AC	51	1.00	5.00	2.02	1.00	1.00	1.70	1.30	4.00
AD	51	1.00	5.00	2.02	2.00	1.00	1.26	1.12	4.00
BA	51	1.00	5.00	4.00	5.00	5.00	1.56	1.25	4.00
BB	51	1.00	5.00	3.41	4.00	5.00	2.37	1.54	4.00
BC	51	1.00	5.00	3.69	4.00	5.00	2.10	1.45	4.00
BD	51	1.00	5.00	3.82	4.00	5.00	2.07	1.44	4.00
CA	51	1.00	5.00	3.98	5.00	5.00	1.90	1.38	4.00
CB	51	1.00	5.00	4.16	5.00	5.00	1.41	1.19	4.00
CC	51	1.00	5.00	2.69	3.00	1.00	2.14	1.46	4.00
CD	51	1.00	5.00	2.22	2.00	1.00	1.77	1.33	4.00
DA	51	1.00	5.00	4.18	5.00	5.00	1.11	1.05	4.00
DB	51	1.00	5.00	3.98	5.00	5.00	1.62	1.27	4.00
DC	51	1.00	5.00	3.84	4.00	5.00	1.85	1.36	4.00
DD	51	1.00	5.00	2.63	3.00	1.00	2.16	1.47	4.00

3.3 Comparing results Pre. Vs. Post

- How you have been feeling in general

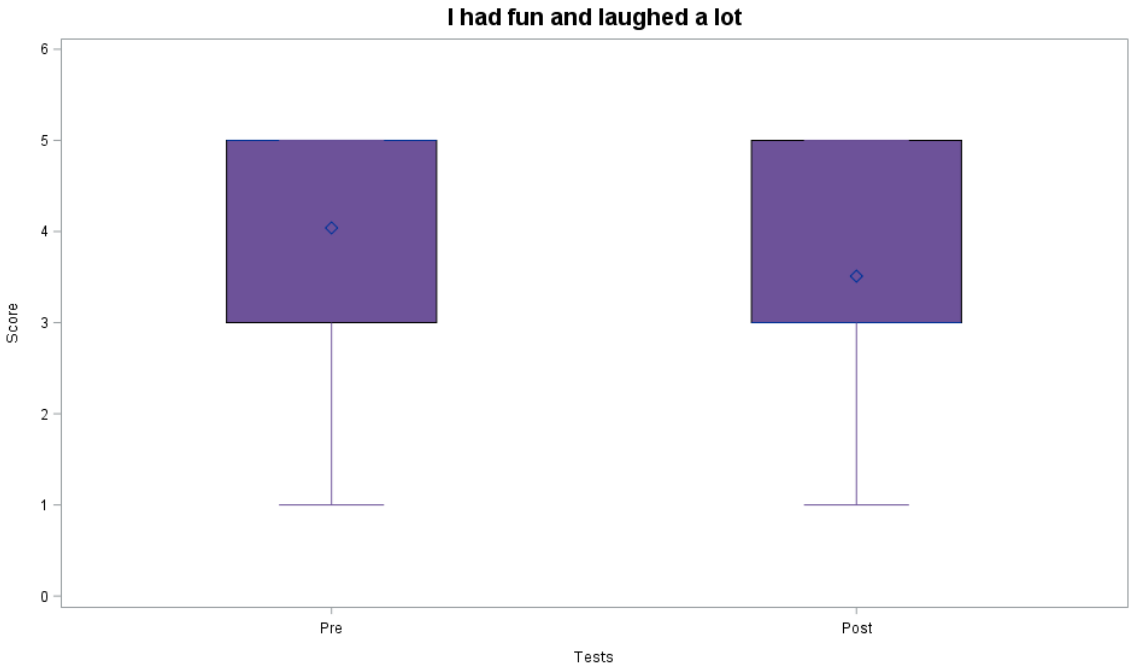
I had fun and laughed a lot

Test=Post

Analysis Variable : AA						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.51	3.00	3.00	1.30

Test=Pre

Analysis Variable : AA						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	4.04	5.00	5.00	1.20



2-sided p-value: 0.0293
Reject the null hypothesis. At a 5% level of significance, there is a significant difference between the difference in scores of the pre- and post-tests.

1-sided p-value (less): 0.01465
Reject the null hypothesis. At a 5% level of significance, the post-test scores are significantly less than the pre – test scores.

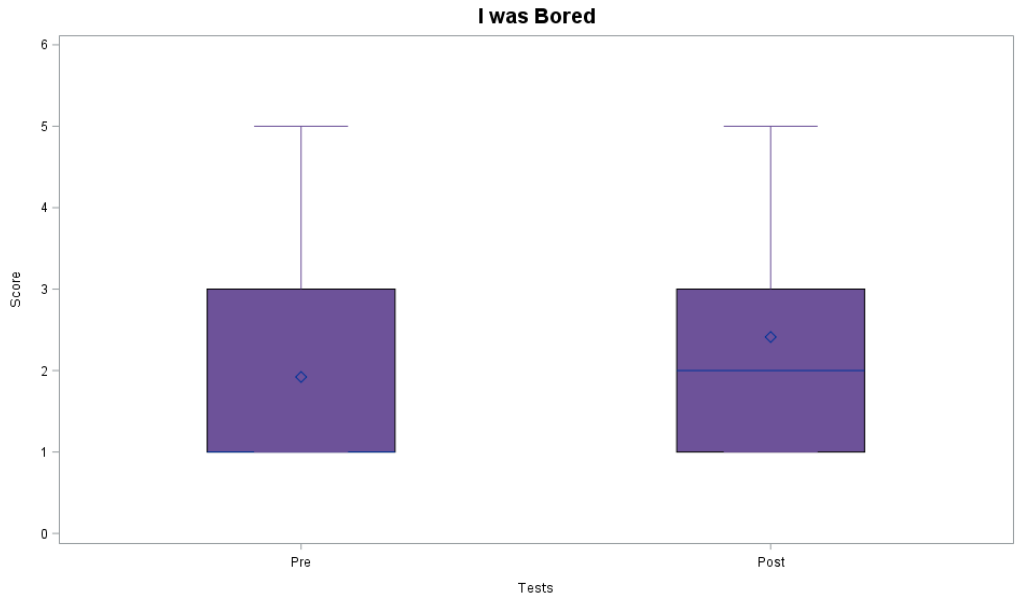
I was bored

Test=Post

Analysis Variable : AB						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	2.41	2.00	3.00	1.24

Test=Pre

Analysis Variable : AB						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	1.92	1.00	1.00	1.28



2-sided p-value: 0.0432
Reject the null hypothesis. At a 5% level of significance, there is a significant difference between the difference in scores of the pre- and post-tests.

1-sided p-value (greater): 0.0216
Reject the null hypothesis. At a 5% level of significance, the post-test scores are significantly higer than the pre – test scores.

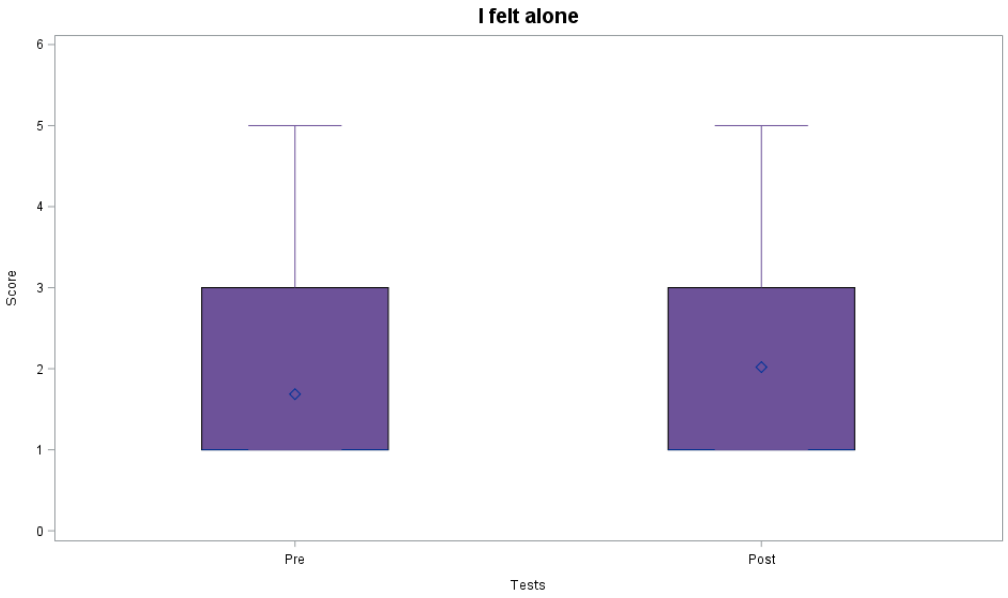
I felt alone

Test=Post

Analysis Variable : AC						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	2.02	1.00	1.00	1.30

Test=Pre

Analysis Variable : AC						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	1.69	1.00	1.00	1.10



2-sided p-value: 0.1313
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

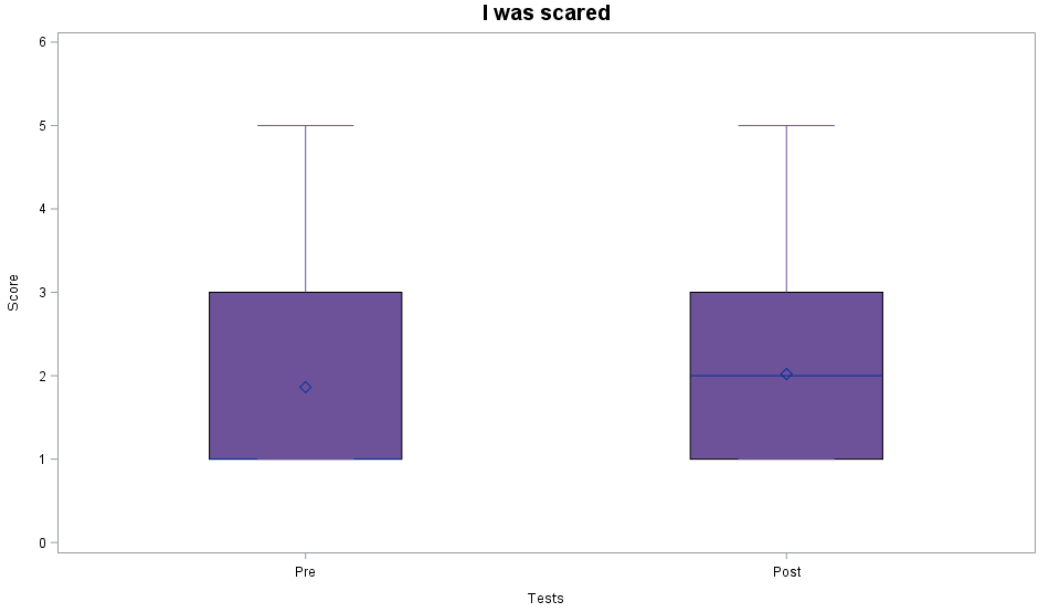
I was scared

Test=Post

Analysis Variable : AD						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	2.02	2.00	1.00	1.12

Test=Pre

Analysis Variable : AD						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	1.86	1.00	1.00	1.23



2-sided p-value: 0.3699
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

❖ How you have been feeling about yourself

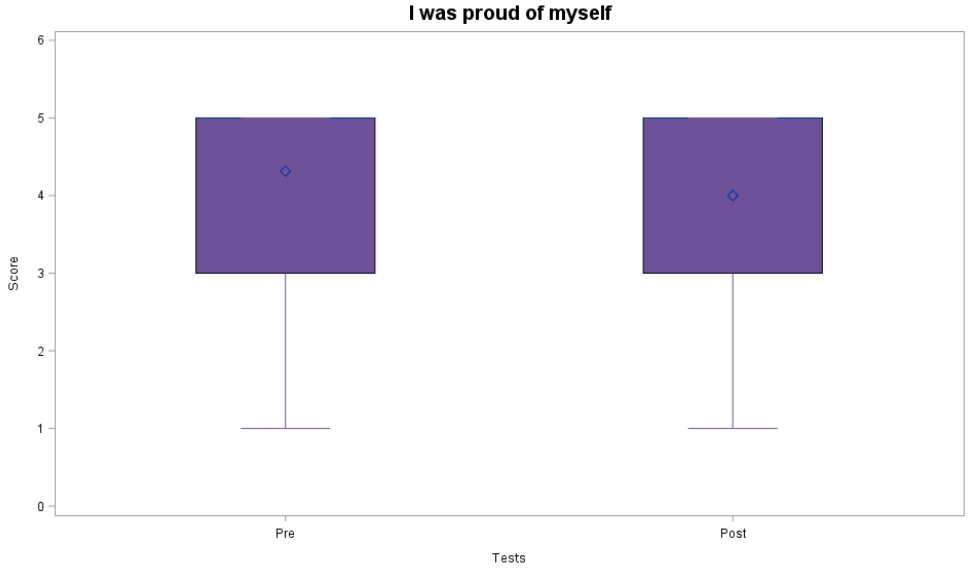
I was proud of myself

Test=Post

Analysis Variable : BA						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	4.00	5.00	5.00	1.25

Test=Pre

Analysis Variable : BA						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	4.31	5.00	5.00	1.10



2-sided p-value: 0.2828
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

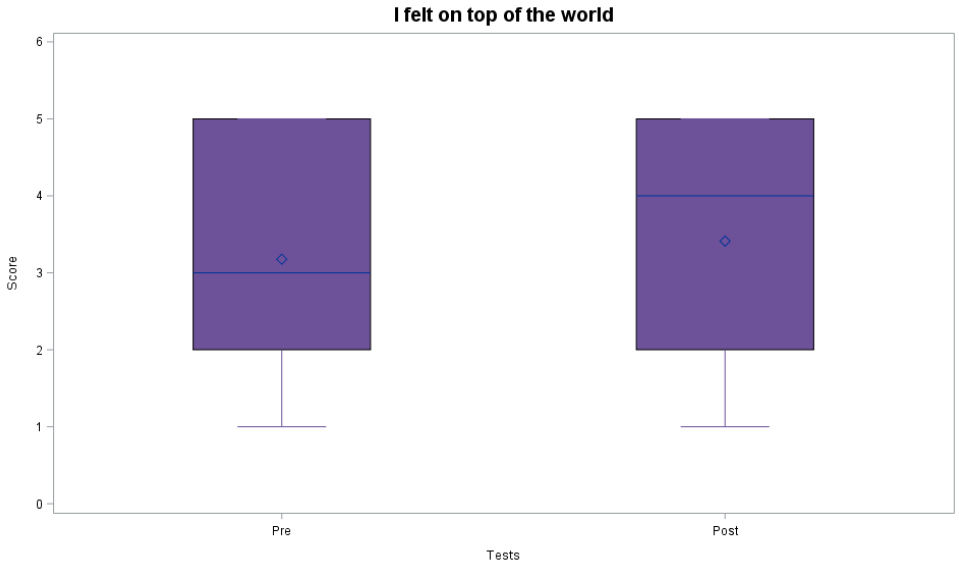
I felt on top of the world

Test=Post

Analysis Variable : BB						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.41	4.00	5.00	1.54

Test=Pre

Analysis Variable : BB						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.18	3.00	5.00	1.53



2-sided p-value: 0.2912
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

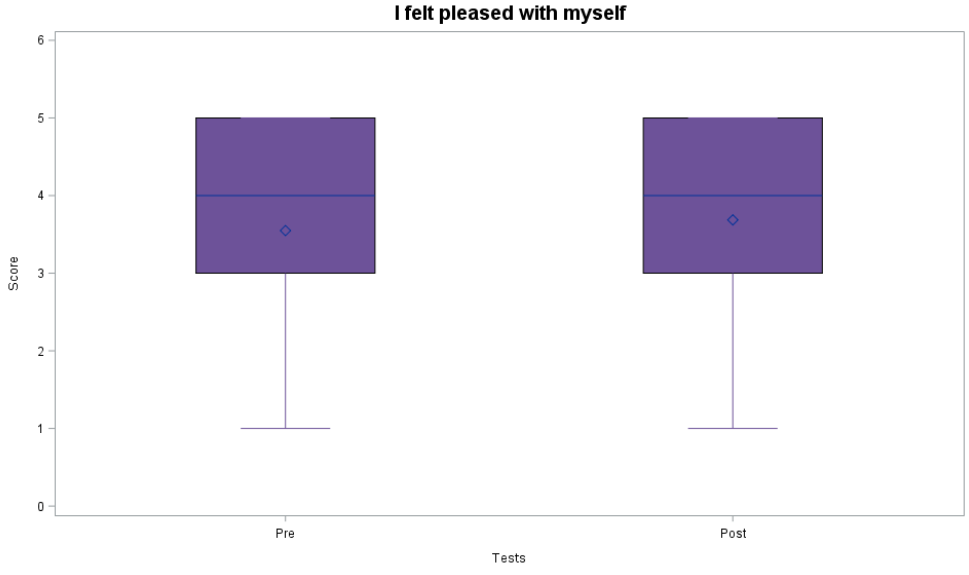
I felt pleased with myself

Test=Post

Analysis Variable : BC						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.69	4.00	5.00	1.45

Test=Pre

Analysis Variable : BC						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.55	4.00	5.00	1.53



2-sided p-value: 0.7284
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

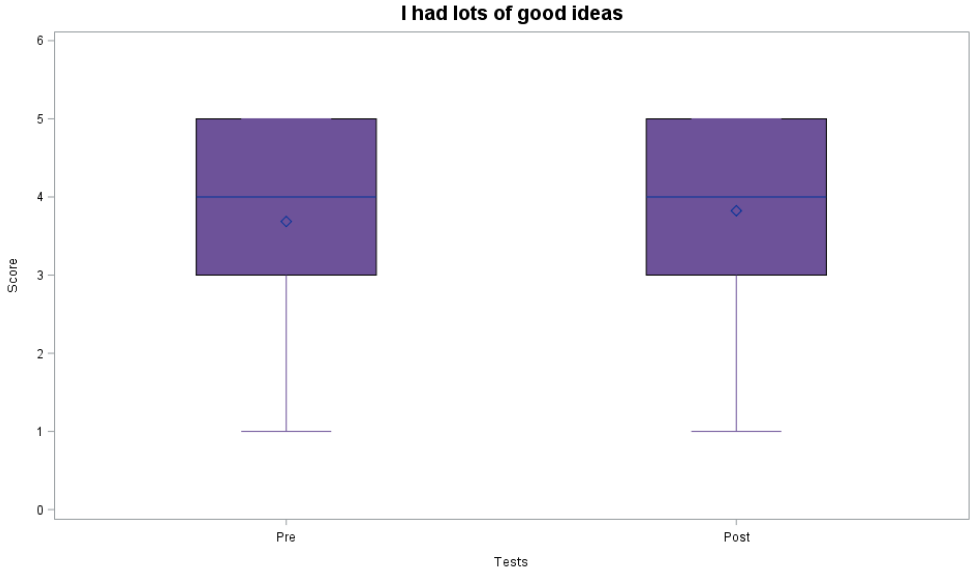
I had lots of good ideas

Test=Post

Analysis Variable : BD						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.82	4.00	5.00	1.44

Test=Pre

Analysis Variable : BD						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.69	4.00	5.00	1.48



2-sided p-value: 0.5689
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

❖ Questions about your family

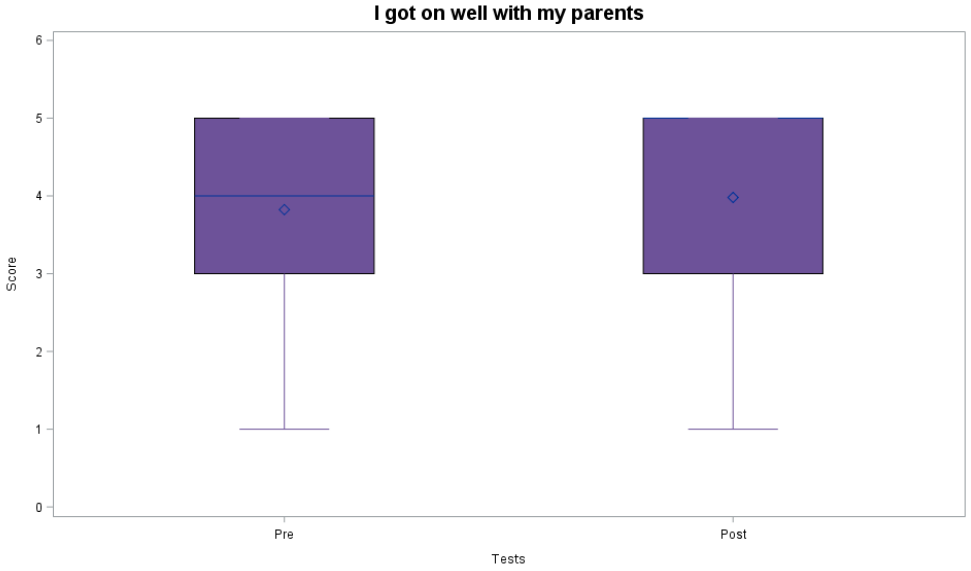
I got on well with my parents

Test=Post

Analysis Variable : CA						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.98	5.00	5.00	1.38

Test=Pre

Analysis Variable : CA						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.82	4.00	5.00	1.37



2-sided p-value: 0.4232
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

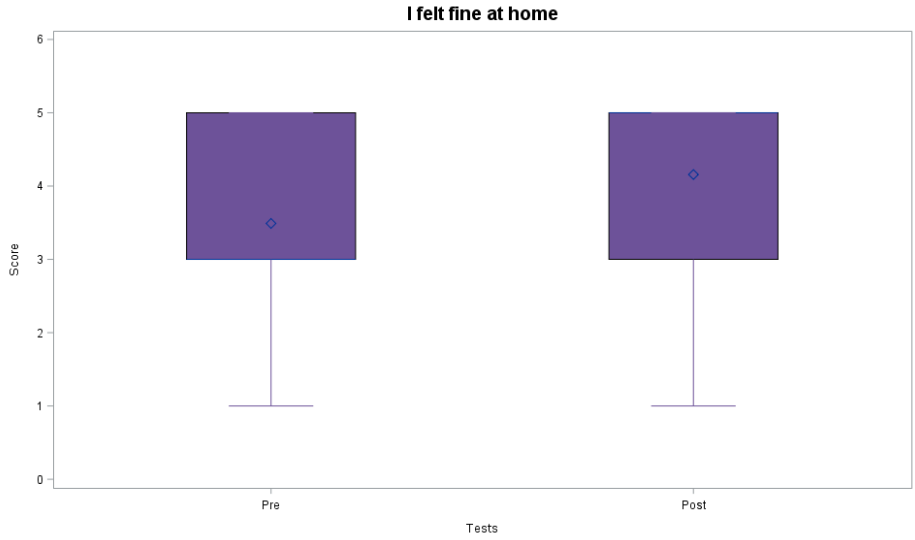
I felt fine at home

Test=Post

Analysis Variable : CB						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	4.16	5.00	5.00	1.19

Test=Pre

Analysis Variable : CB						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.49	3.00	5.00	1.49



2-sided p-value: 0.0083
Reject the null hypothesis. At a 5% level of significance, there is a significant difference between the difference in scores of the pre- and post-tests.

1-sided p-value (greater): 0.00415
Reject the null hypothesis. At a 5% level of significance, the post-test scores are significantly higher than the pre – test scores.

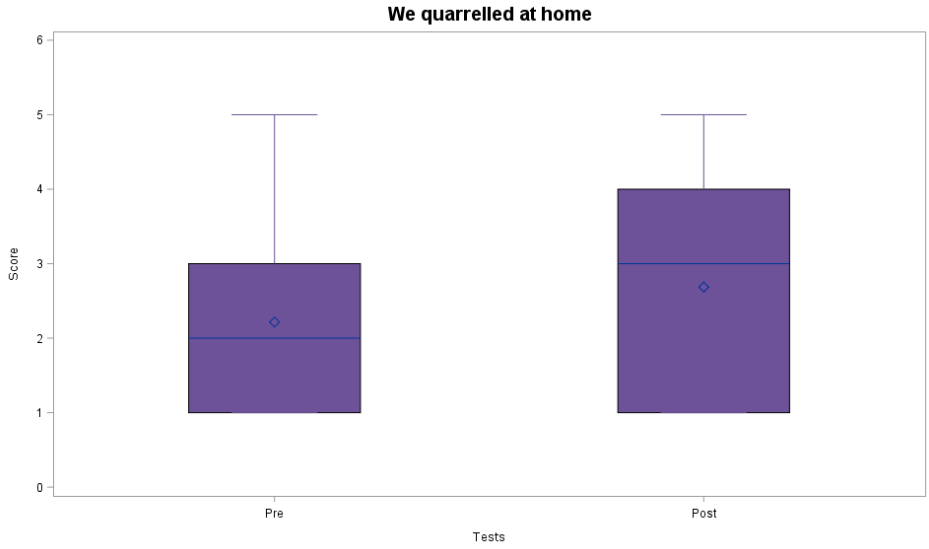
We quarrelled at home

Test=Post

Analysis Variable : CC						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	2.69	3.00	1.00	1.46

Test=Pre

Analysis Variable : CC						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	2.22	2.00	1.00	1.43



2-sided p-value: 0.1070
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

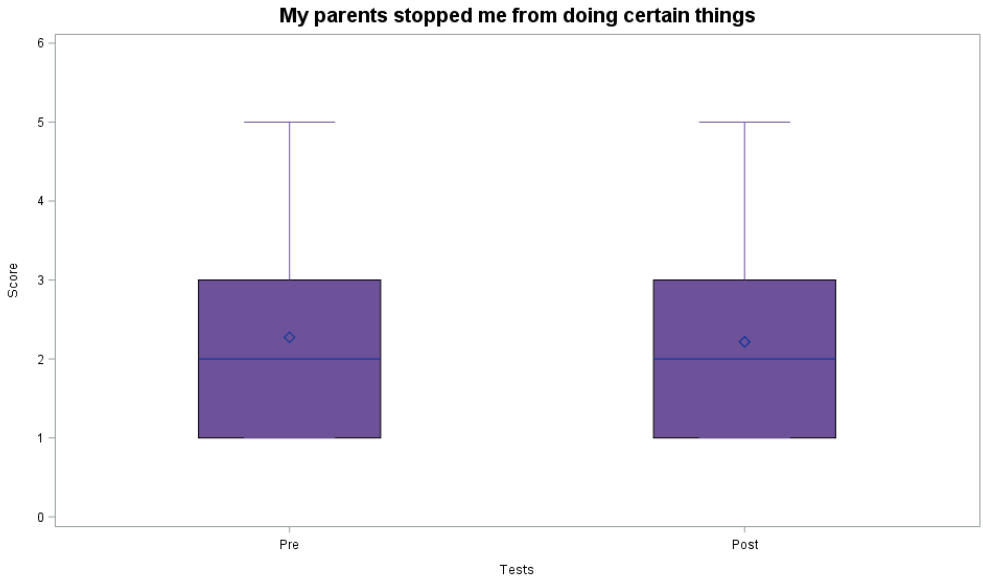
My parents stopped me from doing certain things

Test=Post

Analysis Variable : CD						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	2.22	2.00	1.00	1.33

Test=Pre

Analysis Variable : CD						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	2.27	2.00	1.00	1.44



2-sided p-value: 0.7342
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

❖ Questions about your friends

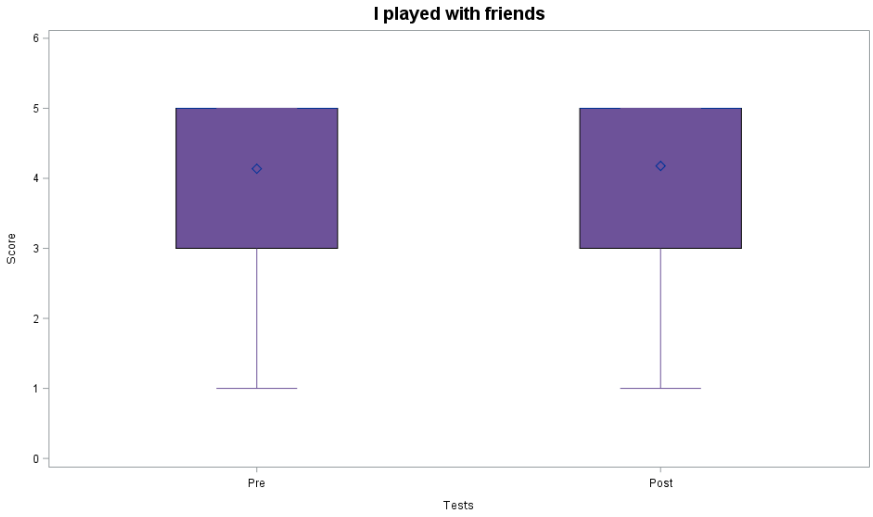
I played with friends

Test=Post

Analysis Variable : DA						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	4.18	5.00	5.00	1.05

Test=Pre

Analysis Variable : DA						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	4.14	5.00	5.00	1.34



2-sided p-value: 0.9620
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

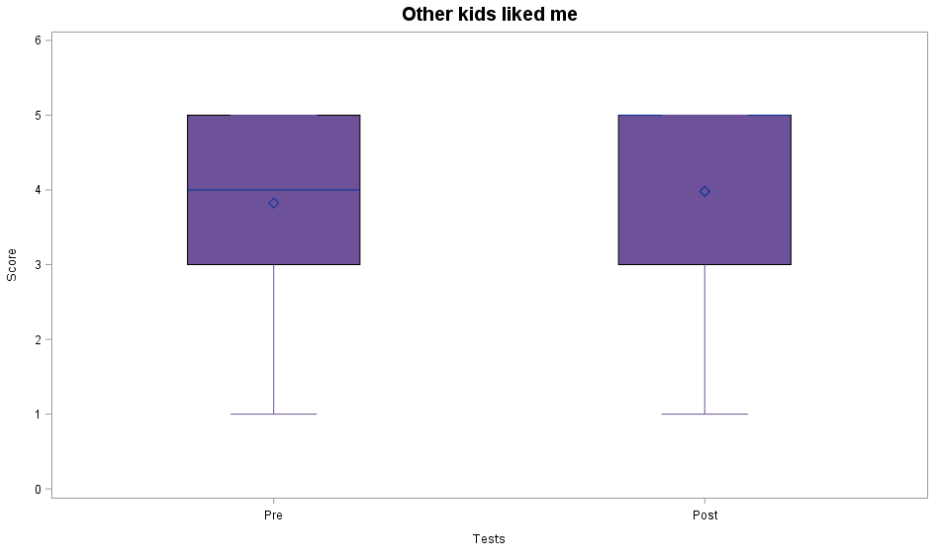
Other kids liked me

Test=Post

Analysis Variable : DB						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.98	5.00	5.00	1.27

Test=Pre

Analysis Variable : DB						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.82	4.00	5.00	1.32



2-sided p-value: 0.3695
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

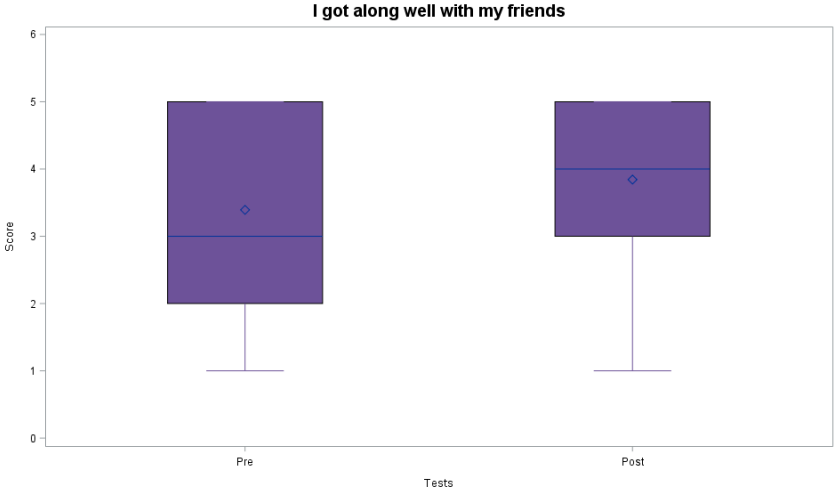
I got along well with my friends

Test=Post

Analysis Variable : DC						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.84	4.00	5.00	1.36

Test=Pre

Analysis Variable : DC						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	3.39	3.00	5.00	1.55



2-sided p-value: 0.1122
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

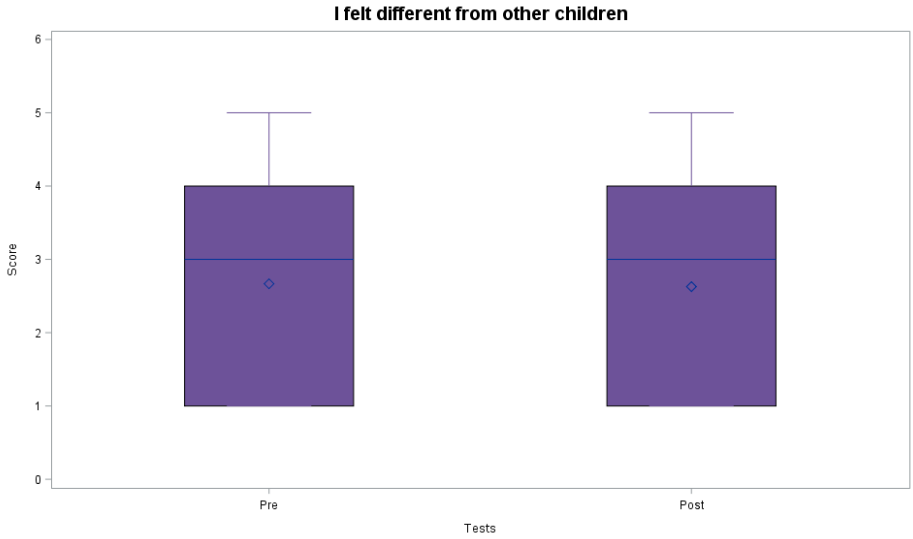
I felt different from other children

Test=Post

Analysis Variable : DD						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	2.63	3.00	1.00	1.47

Test=Pre

Analysis Variable : DD						
N	Minimum	Maximum	Mean	Median	Mode	Std Dev
51	1.00	5.00	2.67	3.00	1.00	1.53



2-sided p-value: 0.7950
Cannot reject the null hypothesis. At a 5% level of significance, there is no significant difference between the difference in scores of the pre- and post-tests.

3.4 Reliability of Questionnaire (Consistency)

This questionnaire had a value of 0.6388 for the pre-test results and a value of 0.7136 for the post-test results. Also important to keep in mind that this score is only calculated on these few questions and not on the whole questionnaire---this will also influence the results.