

**THE DEVELOPMENT AND EVALUATION OF A LIFE
SKILLS PROGRAMME FOR YOUNG ADULT
PRISONERS**

By

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Chapter 1

Orientation, Motivation and Aim of the Study

1.1 Background to the Study

South Africa is well known for its high crime rate (Altbeker, 2005; Crime Information Management – South African Police Service, 2009) that inevitably leads to the overpopulation of correctional centres (Steiner & Wooldredge, 2009a; Van Zyl, 2009). These facilities are complex environments where offenders enter an intricate social world where morals, regulations, and customs are developed to limit their freedom and to manage and observe their behaviour. Thousands of dysfunctional offenders in correctional centres live intimately in dehumanising conditions that exacerbate tensions, anxieties, fears, and prejudices (De Viggiani, 2007). They are also exposed to bullying (Biggam & Power, 1999; De Viggiani, 2007), substance abuse (Colvin, 2007; DeLisi, 2003; De Viggiani, 2007), murder (De Viggiani, 2007; Proctor & Pease, 2000), offender-on-offender violence, offender-on-personnel violence, (De Viggiani, 2007; Jiang & Fisher-Giorlando, 2002; Lahm, 2008, 2009; Morash, Jeong, & Zang, 2010; Perez, Gover, Tennyson, & Santos, 2009; Steiner & Wooldredge, 2009b; Trulson, 2007), suicide (De Viggiani, 2007; Huey & McNulty, 2005; Magaletta, Patry, Wheat, & Bates, 2008; Suto & Arnaut, 2010), overcrowding (Bonta & Gendreau, 1990; Bourke & Van Hasselt, 2001; Buck, 1996; Giffard & Muntingh, 2006; Griffin & Hepburn, 2006; Hesselink-Louw, 2004; Huey & McNulty, 2005; Steiner & Wooldredge, 2009a), corruption, forced sex (Buntman, 2005), rape, sexual victimization (Perez et al., 2009; Pinkerton, Galletly, & Seal, 2007), escapes (Liebling, 2008; Proctor & Pease, 2000), property damage (Mandell, 2006), and gang

activities (Gear, 2007a, 2007b, 2008; Gear & Ngubeni, 2002; Griffin & Hepburn, 2006; Hesselink-Louw, 2004; Jiang & Fisher-Giorlando, 2002; Rivera, Cowles, & Dorman, 2003; Trulson, 2007; Wood, 2005). All these factors contribute to the struggle of offenders to adjust to life in a correctional centre.

One of the known causes of crime is a lack of life skills (Louw, 2003; Percival, 2003; Simpson & Knight, 2007; Timady, 2008; World Health Organisation [WHO], 2003a). Consequently, there may be convicts in South Africa with limited or no life skills that are crucial to the successful adjustment of these offenders in a correctional environment. It is a cause for concern that many offenders in South African correctional centres might not have received any form of life skills education, particularly since it is often this very lack that lies at the root of their internment (Louw, 2003; Timady, 2008; WHO, 2003a). The term *life skills* refers to the abilities required to adapt behaviour so that individuals are able to cope successfully with the challenges and demands that arise in their daily lives (Baldo & Uzamugunda, 2000; WHO, 1993, 1997, 1998, 1999, 2009c, 2009d). Life skills education improves the psychological functioning of individuals by equipping them with the tools needed to face the realities of life (WHO, 1999) and empowers and enables them to be accountable for their actions and decisions (Orley, 1997). Incarceration provides offenders with the opportunity to receive life skills education that may transform their outlook on life radically and provide them with a substantive second chance to obtain the life skills that others were fortunate enough to learn either in loving, stable families or in mainstream education (Smith, 2007; Social Exclusion Unit [SEU], 2002).

1.2 Rationale and Motivation for this Study

To reduce offender misconduct and improve their psychological functioning, two general approaches can be utilised either in collaboration or separately. The first is a system management approach and the second an intervention approach.

According to the system management approach, offenders are housed in restrictive environments when their behaviour is classified as violent. In the second approach, offenders are motivated to attend various psychological interventions that aim to change their behaviour. Examples of these psychological interventions are cognitive behavioural therapy (CBT), behaviour modification, social learning, and aversion (De Viggiani, 2007).

To link with the second approach, a programme was developed following an extensive literature study on (a) life skills education; (b) programme development; (c) programme evaluation; and (d) imprisonment. The programme will focus on life skills education with the main aim of assisting offenders in developing the life skills needed to adjust successfully in a correctional environment.

CBT is the basis on which the programme will be developed and through which it will be facilitated. CBT is an amalgam of behaviour therapy and cognitive psychology. It emphasises the way in which individuals can use thinking processes and cognitive modalities to reframe, restructure, and solve problems. An individual's cognitive distortions are addressed by generating alternative ways of dealing with the same problematic situations (Kaplan & Sadock, 1998). Faulty, irrational thinking is a characteristic of lifestyle criminals who are offenders with a long-term involvement in lawbreaking (Conklin, 1995). Consequently, the programme will assist the group members in identifying unwanted reactions in order to address them and to learn new, suitable ways of reacting. The cognitive behavioural approach enables individuals to

obtain new skills and to practise these new skills, for example by role-playing (Bourke & Van Hasselt, 2001).

The game of chess will be used as a metaphoric and resource tool in the programme to increase the offenders' levels of understanding as it is an exercise of infinite possibilities for the mind, which develops and improves various mental abilities and life skills used throughout life (Celone, 2001). Many characteristics of chess can be seen to correlate with complex real-life problems (Hsu, 1989). In other words, chess problems can be regarded as analogues for challenges in life (Moreno, 2002).

The programme will be divided into three phases, each with its own modules. The first phase will focus on the development of group cohesion and the building of rapport with the facilitator. The basics of the art of chess will be introduced to the group members, since the game will serve as a resource and metaphoric tool for increasing the understanding and knowledge levels of the offenders. In the second phase, the focus will be on modules aimed at developing the life skills of the offenders, while the third phase will focus on ways in which the offenders should utilise their newly acquired skills in their daily psychological functioning. In summary, nine modules will be covered during these three phases, namely (a) establishing the group; (b) learning the basics of chess; (c) coping with emotions; (d) decision making; (e) problem solving; (f) anger management; (g) taking responsibility; (h) review of the programme; and (i) termination of the programme.

The education of life skills is a dynamic process and cannot be developed or improved upon by mere sharing of information and discussions (Orley, 1997; WHO, 2001). Experiential learning should form part of life skills education (WHO, 1999, 2001). The programme will aim to involve the group members actively in a teaching

and learning process that is dynamic and experiential. Activities used in the programme to ensure the active involvement of the participants include role-playing, discussions, brainstorming and games.

1.3 Objectives

The main aim of this study is the development and evaluation of a psychoeducational intervention programme aimed at promoting various life skills of a group of young male adult offenders housed in a private maximum-security correctional centre through the game of chess. Specific objectives to be reached to ensure the success of the above-mentioned aim are to (i) clarify the constructs of life skills and life skills education; (ii) clarify the guiding theoretical foundation of the planned intervention programme; (iii) depict the need for such a life skills education programme for young adult offenders in a correctional environment; (iv) develop such a life skills programme adhering to the major principles of programme development; (v) implement the programme successfully, focusing on psycho-educational principles and group dynamics; and (vi) ensure the scientific evaluation of the programme. Another objective is to enable the young adult offenders to adjust successfully in a correctional environment when they utilize the newly learned life skills.

1.4 Research Questions

For the purposes of this study, the following two research questions were formulated:

- Will the life skills of the young adult offenders be enhanced by this life skills psychoeducational intervention programme?

- What will the short-, medium- and long-term effects of the programme be?

The following hypothesis has been formulated to investigate and answer these research questions:

The young adult male offenders in the *Life Skills* programme (experimental group) will in the short, medium and long term exhibit improved levels of life skills (e.g., cope better with their emotions; solve problems more effectively; make improved, constructive decisions; and manage their anger more successfully) compared to young adult male offenders who did not participate in the psychoeducational intervention programme (control group).

1.5 Research Method

A quasi-experimental pretest-posttest research design (Huysamen, 1985, 1998; Stangor, 2011, 2015) was utilized to achieve the aim of this study. Official permission was obtained to conduct the programme and research in a private maximum-security correctional centre in South Africa, and 120 literate young male adult offenders between the ages of 21 and 25, with long sentences, were assigned randomly (to control for possible nuisance variables) into two groups, namely (a) an experimental group and (b) a control group. The experimental group attended the *Life Skills* programme for a period of six months, while the control group participated in the normal daily activities of the correctional centre. The sessions entailed one to two weekly sessions of an hour and a half each, allowing one open day between sessions to ensure continuous learning. The life skills (problem solving abilities, decision-making abilities, abilities to cope with emotions and anger management abilities) of the young adult offenders and the effect of the programme were assessed before the

programme commenced (pretesting), while posttesting occurred immediately (short term) after the programme had concluded. Follow-up evaluations were conducted three months (medium term) and six months (long term) after the completion of the programme. The instruments utilized for the pretesting and posttesting are (i) the Coping Strategy Indicator (CSI) (Desmond, Shevlin, & MacLachlan, 2006); (ii) the Melbourne Decision Making Questionnaire (MDMQ) (Mann, Burnett, Radford, & Ford, 1997); (iii) the Trait Emotional Intelligence Questionnaire (TEIQue) (Mikolajczak, Luminet, Leroy, & Roy, 2007); and (iv) the Aggression Questionnaire (Buss & Perry, 1992). The advantage of using young adult offenders in a maximum-security correctional environment is that they will be available for follow-up evaluations after long intervals, given their long sentences.

1.6 Clarification of Concepts

For the purpose of this study, concepts used are clarified as follows:

Life skills refer to the abilities required to adapt behaviour so that individuals can be able to cope successfully with the challenges and demands that arise in their daily lives (WHO, 1997, 1998, 1999, 2009c, 2009d).

Life skills education is defined as the education of life skills to young adult offenders.

Intervention programme refers to a programme that group members will undergo to improve or promote certain skills required for effective psychological functioning.

Programme development is defined as the development of the life skills programme according to the principles of psycho-education.

Programme evaluation is defined as the evaluation of the programme to determine whether the programme has produced the intended result.

Young adult offenders are defined as the part of the offender population that falls between the ages of 21 and 25.

Literate refers to offenders with a literacy level of grade 8 or higher.

Adjustment refers to the offenders' adjustment to their confinement in a correctional environment.

A *correctional centre* is an institution where offenders are confined forcibly, deprived of a range of liberties, and developed as a form of punishment.

A *maximum-security correctional centre* is a correctional centre that houses offenders that have been classified as maximum offenders, who serve long sentences and who are regarded as very dangerous to society (Silverman, 2001).

A *private maximum-security correctional centre* is a place where offenders are detained by a third party that has been contracted by the particular government to do so (Matshaba, 2007).

1.7 Ethical Considerations

Official permission was obtained to conduct the programme and research in a private maximum-security correctional centre. Data were collected with the assistance of an experienced therapist at the correctional centre, and the programme was facilitated by the same experienced therapist. The participants were informed as to the nature and objectives of the research and were requested to provide written informed consent before participating in this study. To avoid disadvantaging the

members of the control group, they would be allowed to complete the programme at a later stage. However, this would not form part of the research. The participants were assured of their anonymity and confidentiality at all times. Numbers were assigned to offenders to ensure their anonymity. The participants were informed of the voluntary nature of the study. No incentives were promised to the participants to motivate them to participate.

1.8 Value of the Study

Managing a correctional centre is a daunting task involving many risks and challenges, and even offenders themselves face difficulties when they are unable to adjust successfully to the correctional environment. This study aims to contribute to the development of young adult offenders by providing them with life skills education. The programme aims to empower them to improve specific life skills that, in turn, will enable them to (a) adjust to the correctional environment; (b) face the various challenges posed in a correctional centre; (c) become good citizens in the correctional centre; and (d) develop themselves with the possibility of reintegrating successfully with society in the future.

Should the results of this study indicate that the programme was successful in improving the life skills of the young adult offenders, then those young adult offenders would be better equipped to adjust in the correctional environment easier and to deal with the challenges of such an environment. Positive results will also have a financial benefit for correctional centres as it could minimise the challenges and risks faced by the management of correctional centres and reduce the incidence of returning offenders. A successful programme will also equip offenders with the necessary skills to reintegrate successfully with society one day.

If the results of this study show that the programme was unsuccessful, then those offenders who attended the programme might continue with their struggle to adjust in an abnormal environment. Consequently, these offenders will not be equipped to deal with the challenges of a correctional environment or even be ready to reintegrate with society one day. Negative results will also imply that the programme should be improved or even redeveloped.

The researcher is not aware of any scientific evaluations of intervention and prevention programmes being facilitated in correctional centres in South Africa. This study will thus contribute to the scientific body of evidence by indicating whether the programme was successful in improving the life skills of the young adult offenders. The programme in this study is also unique in the sense that the game of chess was utilized as a metaphoric, therapeutic tool and vehicle of change. The researcher could not find any literature that indicates whether the game of chess has ever been used before in intervention programmes as a vehicle of change.

However, with so many individuals in correctional centres, the relevance of correctional centres is not likely to wane. Therefore, it is necessary to find interventions that will enable offenders to adjust much more effectively, which will enable them to develop so much easier.

1.9 Structure of the Manuscript

The focus in Chapter 1 is on the problem statement and the clarification of the goals of the study. Chapter 2 is dedicated to a review of the available literature on the concepts of prison life, correctional centres, young adult offenders, and adjustment. The focus in Chapter 3 is on life skills and life skills education. In Chapter 4, the

aspects of intervention programmes in correctional centres, life skills programmes, and chess are discussed. In Chapter 5, the focus is on the purpose of the study, programme development, programme evaluation, psycho-education, and to describe the outline and contents of the programme. In Chapter 6, the research methodology is explained, while the results obtained from the study are presented and discussed in Chapter 7. The dissertation is concluded in Chapter 8 with the conclusions of the study, the limitations of the study, and recommendations for future research and practice.

Chapter 2

Prison Life and Adjustment

2.1 Introduction

The aim of this chapter is to conceptualize the various concepts of prison life, correctional centres, offenders, young adult offenders, and adjustment to a correctional environment, and to provide a literature overview of these concepts.

2.2 Prison Life

In South Africa, approximately 152,641 offenders (Ndebele, 2013, 2014) are housed in 241 correctional centres (Sifunda et al., 2008). Lahm (2008), Massoglia (2008) and Wolff and Shi (2009a, 2009b, 2009c) describe correctional environments as stressful, stigmatizing, degrading, dangerous, unsafe, violent, and difficult for offenders. Correctional centres are environments where offenders are coerced to become involved in negative activities or misconduct, and this coercion reduces the psychological well-being of offenders (Listwan, Colvin, Hanley, & Flannery, 2010). In correctional environments, offenders are not free citizens anymore. They are housed within a strict and structured non-therapeutic environment with adverse effects on their mental health. They are subject to rules and regulations of the correctional centre and struggle with various challenges such as poor health care, dangerous living conditions and irregular rules and regulations (Kerley & Copes, 2009). Therefore, offenders experience a new life – a prison life – and they need to be able to cope and adjust in such environments (Blatier, 2000; Crawley & Sparks, 2006).

In correctional environments, offenders have to face numerous negative things that have negative effects on their mental health, such as victimization, overcrowding, offender-on-offender assaults, offender-on-staff assaults, inadequate food, poor health care, tediousness, lonesomeness, lack of privacy, and psychological concerns (Blevins, Listwan, Cullen, & Johnson, 2010; Bonta & Gendreau, 1990; Condon, Hek, & Harris, 2008; Wolff & Shi, 2009c; WHO, 1998). Offenders need to be able to cope with these strains of imprisonment. When offenders lack the necessary skills to cope in a conventional manner, they will follow deviant ways to survive and become involved in prison misconduct (such as gangsterism, misconduct, and violence) (Blevins et al., 2010; Bonta & Gendreau, 1990; Condon et al., 2008; Mandell, 2006; Tasca, Griffin, & Rodriguez, 2010; Trulson, 2007; Visher & Travis, 2003; Wolff & Shi, 2009c). As discussed in Chapter 1, it is a known fact that misconduct, which includes acts such as bullying, substance abuse, murder, offender-on-offender violence, offender-on-personnel violence, corruption, forced sex, rape, sexual victimization, escapes, property damage, and gang activities, is a consistent feature of prison life that the management of correctional centres would like to minimize (Mandell, 2006).

When offenders become involved in prison misconduct, it can become a slippery slope in the sense that they continue with such disciplinary infringements. Therefore, the offenders require skills that will enable them to adjust to prison life appropriately (Islam-Zwart & Vik, 2004). When offenders are capable of adjusting appropriately, the likelihood of them committing future misconducts in the facility decreases (Cunningham, Sorensen, & Reidy, 2005), and the well-being of offenders and staff is improved (Steiner & Wooldredge, 2009b). Many offenders are not equipped with the necessary skills to cope effectively (Hochstetler, DeLisi, & Pratt, 2010), however;

therefore, correctional environments should be places where offenders are developed and rehabilitated (Kerbs & Jolley, 2009).

In correctional services a distinction can be made between passive custody and active custody. Passive custody is when offenders are rehabilitated by passive methods of supervision such as keeping offenders locked up, handcuffing them correctly, and ensuring that there are no escapes. Active custody is when offenders are empowered by various intervention and prevention programmes such as life skills and education (Hesselink-Louw, 2004). Programmes in correctional environments are essential to teach offenders how to adjust successfully and to learn prosocial skills that will enable them to face and address challenges (Blevins et al., 2010; Wooldredge, 1999) and to prepare themselves for their reintegration with society (Cropsey, Wexler, Melnick, Taxman, & Young, 2007). Offenders might have limited important life skills, as they possibly never had positive home or school environments to obtain these skills, and imprisonment provides the opportunity for offenders to be trained and educated through life skills to have a more positive outlook on life and to manage their lives more effectively (Smith, 2007).

2.3 Correctional Centres

According to the confinement model, the main purpose of a correctional centre is to punish offenders by means of sentence periods that are proportionate to their crimes (Logan, 1993). Other purposes are to keep those inside its fences and walls, whether they are offenders, staff or visitors, safe (Daggett & Camp, 2009), to separate offenders from the community (Lahm, 2008), and to keep offenders in line, healthy and busy (Logan, 1993). A correctional centre is a highly static and regimented

environment that minimizes the personal control of the individuals housed there.

Imprisonment does not contribute to a reduction in recidivism (Giffard & Muntingh, 2006), but rather reduces crime by means of deterrence and incapacitation (Barbarino & Mastrobuoni, 2007).

Offenders who feel as if they do not have personal control over their immediate situation will find it difficult to adjust to a correctional environment (Islam-Zwart & Vik, 2004; Steiner & Wooldredge, 2008). This element of lack of personal control is the main differentiator between correctional centres and other social environments. Personal control encapsulates three concepts, namely efficacy (being able to catalyze), choice (being able to choose the correct option from various alternatives), and predictability (being more in control when the future can be predicted) (Rivera et al., 2003). Personal control, or the perception thereof, is very important for the psychological well-being of offenders (Condon et al., 2008; Rivera et al., 2003).

Psychological well-being in this sense is viewed as the perceptions of the offenders regarding the insecurity, stress, depression, anger, low self-esteem, and loneliness experienced during their imprisonment. Participation in programmes for self-improvement has been found to contribute to the adjustment and development of offenders in correctional centres (Wooldredge, 1999).

Correctional centres are also called “institutions of last resort” (Cropsey et al., 2007, p. 78), as these facilities must provide basic services to address the basic needs of offenders. The challenge, however, is to identify these basic needs and implement the necessary resources to address these needs to enable offenders to be more productive (Cropsey et al., 2007). Correctional centres can thus be described as dark, lonely, restricted, controlled environments where untrustworthy, immoral individuals are kept after they have committed crimes. These individuals are exposed to others

with cruel backgrounds. However, a correctional centre is the place where abnormal individuals who broke the law are rehabilitated or developed.

2.3.1 Correctional centres in South Africa

Correctional centres in South Africa are classified into three categories, namely (i) minimum-security, (ii) medium-security, and (iii) maximum-security centres (Neser, 1993). Offenders are housed in minimum-security correctional centres when they are viewed to pose a limited threat to society, and in these institutions, their rights are only minimally restricted (Matshaba, 2007). Medium-security correctional centres house offenders that pose a risk to the safety of society, and in these institutions, offenders' rights to movement, privileges and association are moderately restricted. Offenders in these institutions are motivated to attend programmes that will enable and develop them to become accountable individuals. Offenders are housed in maximum-security correctional centres when they are regarded as dangerous to society and when they pose a serious risk to others. In maximum-security correctional centres, offenders' movement, association and privileges are sternly restricted (Neser, 1993). Maximum-security correctional centres are highly secured and controlled environments, and offenders are allowed to move around and associate only under strict and direct supervision. In these centres, strict rules and regulations apply, and offenders are counted frequently to ensure their presence (Matshaba, 2007).

In South Africa, a distinction can be made between governmentally operated maximum-security correctional centres and private maximum-security correctional centres. Private maximum-security correctional centres are operated by private

companies that the government contract to render correctional services on behalf of the government (Du Preez & Luyt, 2006; Hesselink-Louw, 2004; Matshaba, 2007; Seiter, 2008). In South Africa are currently two privately operated maximum-security correctional centres (Du Preez & Luyt, 2006; Hesselink-Louw, 2004; Matshaba, 2007). Private maximum-security correctional centres are operated differently from public maximum-security correctional centres. In private maximum-security correctional centres, staff is trained more meticulously, and there are effective management supervision and better control over correctional services (Du Preez & Luyt, 2006). Overcrowding does not occur in these private centres, and the offenders housed in these centres follow a structured day programme that allows them to attend various interventions and developmental programmes and activities (Du Preez, 2003; Du Preez & Luyt, 2006; Matshaba, 2007).

Offenders in the private maximum-security correctional centres follow an individualized developmental plan that is evaluated regularly to ensure that the offenders obtain the necessary skills and development that will enable them to reintegrate successfully with the community one day. The purpose of these individual developmental plans is to (i) manage the assessment, classification and case planning processes for each offender, (ii) incorporate the relevant important security measures into the developmental plan of each offender, (iii) plan programmes around each offender's unique needs, (iv) evaluate regularly whether the outcomes of these plans have been achieved, and (v) revise the programme planning if necessary (Du Preez & Luyt, 2006). It has been argued that public maximum-security correctional centres should follow the approach of private maximum-security correctional centres regarding the development and treatment of offenders (Matshaba, 2007), as the

quality of care provided by private maximum-security correctional centres is entirely unmatched and unavailable in the public sector (Goyer, 2001; Seiter, 2008).

According to the Correctional Services Act (Act 111 of 1998), private correctional centres may not:

- (i) take disciplinary action against sentenced offenders or impose penalties on them;
- (ii) be involved in the determination or the computation of sentences;
- (iii) determine at which correctional centre a sentenced offender should be detained;
- (iv) decide upon the placement or release of a sentenced offender;
- (v) be involved in the implementation of community corrections;
- (vi) grant temporary leave; and
- (vii) subcontract, cede, assign or delegate any of the functions under the contract unless authorised to do so under the contract. (Republic of South Africa, 1998, p. 65).

Thus, private maximum-security correctional centres have no authority over where offenders are detained and cannot decide about which offenders they receive and house in their centres. Offenders are classified by the Department of Correctional Services (DCS), and the classification will determine at which correctional centres in South Africa offenders are housed. In South Africa, the two private correctional centres are both maximum-security correctional centres, and only offenders that have received a maximum-security classification will be housed in these two centres (Matshaba, 2007). However, offenders can apply to be transferred to or away from private maximum-security correctional centres and these applications for transfer are reviewed and either approved or disapproved by the DCS.

2.4 Offenders

Offenders are regarded as lonely individuals warehoused in detrimental correctional environments (Morgan & Flora, 2002) and who become part of a vulnerable and excluded population (Condon et al., 2008). Offenders have also been identified as a population at risk with poor psychological health due to anguish caused by being in a correctional environment (Carcedo, Lopez, Orgaz, Toth, & Fernandez-Rouco, 2008). The imprisonment of an individual implies that he is taken away from his family and friends and placed in an environment where he has fewer resources and that is more structured and controlled. Offenders usually struggle to adjust to prison life at the beginning of their sentences (Mandell, 2006; Rocheleau, 2011). Thus, offenders are seen as individuals who lack the necessary social skills to deal effectively with life's stresses and to secure the advantages offered to them by life. Offenders need to receive life skills training to prevent them from returning to a life of crime (Marshall, Turner, & Barbaree, 2008).

2.4.1 Young adult offenders

Individuals who tend to become offenders are usually young, male, unemployed, and from low socio-economic status (Jewkes, 2005). Young adult offenders are viewed as offenders between the ages of 18 and 25. Some correctional centres have separate facilities for young adult offenders to separate them from older offenders, as young adult offenders fall within a group that has special needs and unique security concerns (Cropsey et al., 2007). Younger offenders are more at risk of being victimized (Perez et al., 2009) and therefore become an identified group that needs assistance. Young adult offenders are difficult to manage, as they possibly are still

maturing, even though they are viewed as adult offenders who have committed serious crimes (SEU, 2002).

Young adult offenders are in a time phase where they are at the gateway to adult offending, and they need adequate education in life skills to survive successfully and refrain from committing offences again (SEU, 2002). In the case of young adult offenders, prison is viewed as a revolving door, as they commit crimes after they have been released from prison just to find themselves once more in the dark territory of imprisonment (Kethineni & Falcone, 2007). The development of young adult offenders is extremely important to ensure that they cope with the challenges of a correctional centre but also to ensure that they do not leave the system with more problems than those with which they have entered it (Cesaroni & Peterson-Badali, 2010). In this study, the focus is on young adult offenders between the ages of 21 and 25 years of age.

2.4.2 Developmental stage

To obtain a holistic view of a certain group of individuals, it is necessary to approach and describe the group against the background of certain developmental phases. Researchers usually obtain this holistic view by evaluating age and using Erikson's stages of psychosocial development. The majority of developmental scientists have come to an agreement that the human lifespan can be divided into distinct phases corresponding roughly to particular ages (Fleming, 2004). The participants in this study falls in the early adulthood phase, as the ages of the participants are between 21 and 25 years of age.

2.4.2.1 Erikson's stages of psychosocial development

Erikson's model of psychosocial development is viewed as one of the most prominent and complete developmental theories (Haber, 2006; Jenkins, Buboltz, Schwartz, & Johnson, 2005). There are eight stages in Erikson's theory of psychosocial development, and healthy developing individuals should pass through these stages from infancy to late adulthood (Brown, Brown, & Roever, 2006; Del Mastro, 2006; Fleming, 2004; Haber, 2006). In each of these stages, the individual has to confront and successfully master new challenges. When challenges are not successfully mastered, they may reappear as problems in future stages. However, an individual can move from stage to stage without mastering the necessary challenges because individuals can negotiate biological and sociocultural forces in their lives. In each stage is a psychosocial crisis with two conflicting forces. When an individual successfully masters the psychosocial crisis or force, he will emerge with the corresponding virtue of that stage (Del Mastro, 2006; Fleming, 2004; Haber, 2006; Jenkins et al., 2005).

According to Erikson's stages of psychosocial development, the participants in this study, according to their ages, are in the stage of love where they will either experience intimacy or isolation. At the beginning of this stage, the identity versus role confusion crisis comes to an end but can linger on, however. During this stage, individuals want to fit in and feel loved. They do not want to experience rejections or pain due to rejection. There is a counterpart to intimacy, however, namely distantiation. This implies that individuals are ready to isolate themselves from others if needed and to avoid individuals whose spirit might seem to threaten them. When individuals have successfully developed their identities, they will be able to commit to long-term intimate and reciprocal relationships. When they are unable to form these

relationships, it may lead to a sense of isolation (Cesario, Nelson, Broxson, & Cesario, 2010; Del Mastro, 2006; Fleming, 2004).

These individuals should also start preparing for the next phase (generativity versus stagnation) during which they will reflect on whether their lives mean something and whether they can make their lives count. Therefore, they have to prepare for this during the intimacy versus isolation phase. This stage addresses their needs to be productive and contributing citizens in society (Cesario et al., 2010; Del Mastro, 2006; Fleming, 2004).

Focusing on the group of participants in this study, it could be argued that they might have been unsuccessful in the effective completion of the psychosocial crisis in some of the stages. It could be argued that they were never able to develop trust in others (stage 1), they might never have learned how to be responsible for their actions (stage 4), and they might never have developed their own identity successfully (stage 5). When individuals do not have their own identities, they might become subjected to the identity of their peer group or a role model, which could be a deviant identity. When they have not successfully learnt how to take responsibility for their actions, they might become involved in activities where they do not care about the consequences. When they were never able to trust anyone, they never might have felt able to approach someone for assistance or guidance. Anyone of the above-mentioned considerations could have played a role in young adult offenders becoming offenders and eventually being incarcerated for their crimes.

2.4.2.2 Kohlberg's stages of moral development

Kohlberg's concept of moral development is widely recognized as the main cognitive-structural perspective on moral development (Schiller, 2006). According to

Kohlberg's stages of moral development, there are six developmental stages an individual has to go through, and at each stage, the individual should be more capable to deal with moral dilemmas. These stages are grouped into three levels, namely the (i) pre-conventional level, (ii) conventional level and (iii) post-conventional level (Baier, 1973; Kohlberg, 1973; Kohlberg & Hersh, 1977; Rauschenbach, 2012; Schiller, 2006; Stephenson et al., 2010). Stages cannot be skipped, as each stage provides a new perspective that is more comprehensive and differentiated than that of the previous stage, and the understanding gained in each stage is kept in later stages (Fleming, 2004; Schiller, 2006; Stephenson et al., 2010).

According to the age group of the participants, they should function on the conventional level. On the conventional level, the individual should be able to judge the morality of actions by comparing them with the views and expectations of society. Morality on the conventional level deals with the fact that the individual should follow the conventions, norms and rules of society regarding what is right and wrong, even if there are no consequences for obedience or disobedience. They therefore uphold the rules and norms, as it is morally wrong to violate them (Fleming, 2004; Kohlberg, 1973; Kohlberg & Hersh, 1977; Rauschenbach, 2012; Schiller, 2006).

Focusing on the group of participants in this study, it can be argued that they might have never succeeded in reaching the second level of moral development because they violated the rules, norms, and laws of society and did not consider the effect their actions might have on their relationships with others. Therefore, it is contended that these participants might rather function on the pre-conventional level where their actions are judged by their direct consequences. In stage one, individuals focus only on what the direct consequences of their behaviour might be. They do not consider the consequences of their actions on others and society. Individuals functioning on

the pre-conventional level are egocentric and exhibit an external locus of control. They do not focus on conventions of society on what is right and wrong. These individuals tend to reason that victims are responsible for their own suffering. In stage two, individuals tend to do things only when it is in their own best interest to do so. They do not care about the interests and needs of others and will assist others only when they can benefit from doing so (Fleming, 2004; Kohlberg, 1973; Kohlberg & Hersh, 1977; Schiller, 2006).

2.5 Adjustment

According to Islam-Zwart and Vik (2004), adjustment is the process of adjusting or changing behaviour so that behaviour can conform to the rules and regulations of the new environment or circumstances. Animasahun (2010) refers to adjustment as follows:

[It is the] utilization of skills and experiences that facilitate personal integration into the society to which one belongs. Adjustment is what everybody needs to cope on with life. There is no perfect individual, but adjustment makes the difference for excellence among individuals. Only an adjusted person can be happy, hopeful and be productive in whatever environment he finds himself. (Animasahun, 2010, p. 121).

2.5.1 Adjustment to a correctional environment

Adjustment to a correctional environment would include “adaptation to prison environment, conforming to the dictates of the environment, active participation in programmes within the prison and conscious preparation for a more meaningful life

after incarceration” (Animasahun, 2010, p. 122). Adjustment to a correctional environment focuses on whether an offender is able to adjust successfully to his new environment by abiding by the rules and regulations of the correctional centre (Animasahun, 2010). Van Tongeren and Klebe (2010) have defined the adjustment to prison life as the “offenders’ ability to satisfactorily transition into the new environment (e.g., getting enough to eat, rule comprehension, fitting in, making friends) and their orientation toward long-term societal rehabilitation, as well as considering aspects related to criminal thinking” (p. 50). The adjustment of offenders to the correctional environment is crucial, as they are evidently placed there in the first place to be rehabilitated. This fact might be truer for young adult offenders because their age might increase their hope for rehabilitation (Gover, MacKenzie, & Armstrong, 2000).

According to the adjustment model, offenders can become good citizens that can successfully reintegrate with society when they (i) take responsibility for their actions, (ii) no longer use excuses for their criminal behaviour, (iii) accept help to conform to the rules and norms of society, and (iv) learn new behaviour and skills that will develop them to their full potential (Du Preez, 2003). Adjustment to a correctional environment is explained in the literature mainly by two competing models, namely the deprivation theory and the importation theory. These two theories are utilized to explain how offenders adjust to their correctional environments and can be measured by internal reactions (e.g., attitudes and stress) and official actions (e.g., misconduct in the institution) (Gover et al., 2000; Hampton, 2012; Rocheleau, 2011; Welsh, McGrain, Salamatin, & Zajac, 2007). Gover et al. (2000) and Dhimi, Ayton, and Loewenstein (2007) argue that it is wiser to utilize both theories (importation and deprivation), as neither one can explain adjustment difficulties completely on its own.

2.5.2 The deprivation theory

According to the deprivation theory, the correctional environment is the main cause of offenders' behaviour, whether positive or negative. Offenders cannot fulfil their basic needs due to being incarcerated, which in turn lead to tension and newly adapted negative ways of adjusting. Thus, offenders are deprived of personal security, social acceptance, heterosexual relationships, material possessions, and personal autonomy (DeLisi, 2003; Dhimi et al., 2007; Gover et al., 2000; Hampton, 2012; Huey & McNulty, 2005; Rocheleau, 2011; Welsh et al., 2007).

Deprivation aspects that researchers have focused on are institution type, overcrowding, the ratio of staff to offenders, length of sentences, and other institutionally related conditions (e.g., daily structure, activities, and danger). Institution type has been utilized the most to explain adjustment in a correctional environment. For example, offenders are more stressed in an institution that focuses only on safe custody than they are in an institution that focuses on treatment (rehabilitation) (Gover et al., 2000; Hampton, 2012; Tasca et al., 2010).

2.5.3 The importation theory

The importation theory, on the other hand, stipulates that offenders are individuals with past experiences and demographic characteristics that they bring (import) with them to the correctional environment, and these aspects are the predictors of offenders' adjustment to the correctional environment (DeLisi, 2003; Dhimi et al., 2007; Gover et al., 2000; Hampton, 2012; Rocheleau, 2011; Tasca et al., 2010). Factors focused on in the importation theory include educational level, employment, age, marital status, urban background, and substance abuse. Certain studies have found that the importation theory predicts adjustment to prison life better than the

deprivation theory does (Dhami et al., 2007). According to the importation theory, the same factors that predict crime in society can predict misconduct in a correctional environment (Gover et al., 2000).

2.5.4 The importance of adjustment

Misconduct in a correctional centre is indicative of offender maladjustment (Trulson, 2007). Offender misconduct may lead to several consequences such as lengthier sentences, overcrowding, reclassification of sentences, transfers to other centres, financial losses, and administrative nightmares. The result is that offender misconduct has extreme negative consequences for correctional centres in that it makes the correctional environment a dangerous place in which to work and live (Trulson, 2007).

However, some aspects of prison life force offenders to ignore and violate the institutional rules (MacDonald, 1999; Morris, Longmire, Buffington-Vollum, & Vollum, 2010). Being incarcerated can be a harsh experience, and aggression, violence and deceit are often features of the correctional environment that hinder the development of communities and socially supportive structures (Van Tongeren & Klebe, 2010). In a correctional centre, offenders need to deal with various negative emotions and behaviours (Kerley & Copes, 2009) and therefore require numerous coping skills that will enable them to adjust to this very unique environment (Van Tongeren & Klebe, 2010). When offenders struggle to cope and adjust, they experience numerous negative emotions (e.g., anxiety, sadness, worry, anger, stress, depression, and bitterness) and psychological problems (Hochstetler, Murphy, & Simons, 2004) and may be at risk of suicide, self-harming behaviour, and stress-

related disorders and conditions (Rocheleau, 2011). This inability to cope leads to negative consequences for their own safety and the safety of others.

Correctional centres need to facilitate programmes and interventions that will enable offenders to cope more effectively (Kerley & Copes, 2009; Morris, 2008). Programmes play an important role in the adjustment of offenders, and behavioural or cognitive behavioural programmes targeting the criminogenic needs of offenders have been found effective in the reduction of misconduct in prison (French & Gendreau, 2006; Mandell, 2006).

Offenders that are able to adjust effectively to a correctional environment are more inclined to accept the realities of their situations (Morris, 2008). Positive factors that contribute to positive adjustment in a correctional environment are an internalized locus of control, high self-esteem, greater motivation to change, psychological well-being, and religious faith (Morris, 2008; Van Tongeren & Klebe, 2010).

2.5.5 The adjustment of young adult offenders

Being in prison might be the first time young adult offenders spend time away from family, friends, and their community (Cesaroni & Peterson-Badali, 2010). Young adult offenders are viewed as a population of offenders who generally struggle to adjust to prison and its circumstances (Gover et al., 2000; Islam-Zwart & Vik, 2004), usually exhibit maladaptive problem-solving skills (Biggam & Power, 1999), exhibit higher levels of anxiety (Cesaroni & Peterson-Badali, 2010; Gover et al., 2000; Mandell, 2006; McReynolds & Wasserman, 2008; Rocheleau, 2011), exhibit poor coping skills (Rocheleau, 2011), and tend to be more involved in violence and disciplinary infractions than older offenders (Bonta & Gendreau, 1990; DeLisi, 2003; Mandell, 2006; Rocheleau, 2011). Disciplinary infractions are one indicator of

maladjustment to prison life (Rocheleau, 2011), and Biggam and Power (1999) argue that life skills should be taught to offenders to equip them to deal better with the stress of incarceration. Participation in programmes forms part of the deprivation theory, but factors from the importation theory can predict whether an individual will participate in a programme. Important needs of offenders that must be focused on in a correctional environment include anger management, coping skills, problem solving skills, and life skills (Biggam & Power, 1999).

The White Paper on Corrections in South Africa states that offenders should be empowered by life skills and other skills of necessity. This will enable offenders to improve their functioning in order to optimize their potential to become accountable citizens (Hesselink-Louw, 2004). Offenders tend to be receptive to treatment early in their sentences when they experience the most distress (Bonta & Gendreau, 1990). Focusing on young adult offenders is essential because they are more receptive for interventions and development.

2.6 Coping and Adjustment

Coping involves the cognitive and behavioural actions an individual takes to reduce or limit perceived threats and emotions caused by stress. There are two broad categories in coping, namely problem-focused coping and emotion-focused coping. In problem-focused coping, the individual will seek information to enable him to take actions that will change the interaction between the person and the environment. Problem-focused actions can include skills such as planning, taking control, and self-awareness regarding abilities. In emotion-focused coping, the individual rather focuses on controlling his emotional reaction to stressful situations without attempting to make changes to the situation or circumstances that cause the stress. Emotion-

focused coping skills include avoiding, distancing, selective attention, minimization, and seeking social support (Joseph & Kuo, 2009).

2.6.1 Mature coping

Mature coping is when an individual is able to solve problems in a responsible manner without becoming aggressive or violent. The individual is able to face any kind of problem and solve it by using any legitimate resources available. Mature coping does not form part of the armour of the majority of offenders, as they tend to be aggressive, hostile, and violent when they attempt to solve their problems (Soderstrom, Castellano, & Figaro, 2001).

Mature coping consists of three elements, namely (i) the willingness and ability to address and solve problems that arise, (ii) to solve problems without violence or lying, and (iii) to rely on one's communication skills and relationships with others to solve problems constructively. Research on programme interventions and CBT has identified it as a potential solution to increase the mature coping skills of offenders (Rocheleau, 2011). Imprisonment will have a smaller negative psychological effect on offenders when they have adjusted to prison life and when they are able to cope with its stressors (Hampton, 2012). It has been identified that offenders adjust easier in correctional environments when their psychological well-being is addressed by supportive programmes (Listwan et al., 2010).

2.7 Summary

After considering the literature in this chapter it is evident that:

- Individuals who lack life skills can become involved in crime that can make them end up in a correctional environment

- Correctional centres are dark, structured, rigid environments where offenders are housed as punishment for the crimes they have committed
- In South Africa, a distinction can be made between minimum-, medium- and maximum-security correctional centres as well as between public and privately operated maximum-security correctional centres
- Offenders normally lack the necessary life skills to adjust in the correctional environment and to deal effectively with the challenges in such environments
- Young adult offenders are more inclined to struggle in correctional environments and require life skills to just survive in such abnormal environments
- Adjustment in a correctional environment is crucial, as offenders who struggle to adjust become involved in negative activities such as misconduct in the correctional centres
- Programmes are essential to teach offenders the necessary life skills to adjust and cope successfully in the correctional environment
- The skills that the offenders obtain through programmes could have future benefits as they could enable them to become good citizens that could successfully reintegrate with society and move away from a life of crime

Chapter 3

Life Skills Education

3.1 Introduction

Many individuals are inclined to become involved in illegal activities because of their lack of life skills (Miles, 2009), and the concern is that young individuals in South Africa do not have the opportunities to learn proper life skills from their families (Bender, 2002). In this chapter, the aim is to discuss and provide a literature overview of the concepts of life skills, life skills education, and life skills programmes.

3.2 Life Skills

The essence and meaning of life skills vary and are different in different societies and backgrounds (WHO, 1997). Life skills are defined as “a large group of psychosocial and interpersonal skills that can help people make informed decisions, communicate effectively, and develop coping and self-management skills that may help lead a healthy and productive life” (UNICEF, 2012, p. 26). Life skills are capabilities to improve and adjust behaviour to enable individuals to cope successfully with the challenges and demands they face in their daily lives (Camiré, Trudel, & Bernard, 2013; Jones, Lavalley, & Tod, 2011; Kar, 2011; Rooth, 1998, 2005; WHO, 1997, 2003b, 2009b), to live and learn successfully (Rooth, 2005), and to be independent, competent social beings (Picklesimer & Miller, 1998; Slicker, Picklesimer, Guzak, & Fuller, 2005). Life skills can also be defined as:

A group of psychosocial competencies and interpersonal skills that help people make informed decisions, solve problems, think critically and creatively, communicate effectively, build healthy relationships, empathise with others, and cope with and manage their lives in a healthy and productive manner. Life skills may be directed toward personal actions or actions toward others, as well as toward actions to change the surrounding environment to make it conducive to health. (WHO, 2003b, p. 3).

According to Kar (2011), the three vital life skills needed to be successful in life are decision making skills (which include proper problem solving), interpersonal skills (which include effective communication, active listening, and comprehension) and self-worth skills (which include self-awareness) (Kar, 2011). Life skills can also be seen as social and interpersonal skills (i.e., communication, assertiveness, and empathy), cognitive skills (decision making, critical thinking, and self-evaluation) and emotional coping skills (i.e., stress management and anger management) (Mangrulkar, Whitman, & Posner, 2001; Patel, 2006; WHO, 2004). The World Health Organization identified ten core life skills that are applicable in various contexts in daily life and risk situations. The following ten core life skills can be used as indicators of what should be seen as important life skills in different cultures: (i) self-awareness, (ii) empathy, (iii) communication skills, (iv) interpersonal skills, (v) decision-making, (vi) problem solving, (vii) creative thinking, (viii) critical thinking, (ix) coping with emotions and (x) coping with stress (Bender, 2002; Patel, 2006; WHO, 1994, 1997, 1998, 2001).

3.3 Life Skills Education

Life skills education is used to develop life skills and is important, as it enables individuals to promote essential skills necessary for mental well-being (WHO, 1997, 2001), become well-adjusted individuals (WHO, 2001), acquire the necessary abilities for human development, and assume positive behaviours that enable individuals to cope successfully with the challenges and demands they face in their daily lives (Bender, 2002; Mangrulkar et al., 2001; WHO, 2001, 2004, 2009b, 2009c). Life skills education, which can include assertiveness, self-awareness, self-esteem, empathy, coping with emotions, conflict resolution, stress management, decision-making, problem solving, improved thinking processes, effective communication and relationships skills, also empowers individuals to live better lives (Konantambigi, Meghani, & Modi, 2008; Mabala, 2006).

According to Bender (2002), the primary aim of life skills education in South Africa is to empower individuals to cope with life and its challenges in a South African context. She argues that life skills have a developmental and preventative emphasis. They are developmental in the sense that all individuals should undergo life skills education to achieve each task at every stage of their lifespan, and they are preventative in the sense that acquiring life skills empower individuals to overcome challenges in their lives (Bender, 2002).

Education of offenders in life skills contributes to the development of their sense of responsibility for their crimes and the rebuilding of their egos (Heide & Solomon, 2003). The results of various studies conducted by researchers (Jalazo, 2005; Marshall et al., 2008; Schwartz, 2005; Scruggs, 2005) reveal that life skills education for offenders was successful in improving important skills and adjustment to

circumstances, and also led to the subsequent reduction of negative behaviours and recidivism among the sample of offenders.

3.3.1 Why life skills education?

A lack of life skills leads to crime (Lipsey & Cullen, 2007; Louw, 2003; Percival, 2003; Simpson & Knight, 2007; Tirmady, 2008; WHO, 2003a); therefore, life skills education is an effective way to empower individuals to become responsible beings that take initiative and control over their lives (Mangrulkar et al., 2001; WHO, 2001, 2004, 2009b, 2009c). Causes of crime include poor problem solving, lack of self-control, poor anger management, impulsivity, thoughtlessness, and ineffective and irresponsible decision making (Soderstrom et al., 2001; Van Voorhis, Spruance, Ritchey, Listwan, & Seabrook, 2004).

Offenders normally lack important skills necessary to function successfully in society; therefore, life skills education helps offenders to obtain these necessary skills (MacKenzie, 2005). In the past, life skills education has been utilized successfully to (i) improve the quality of life of society; (ii) deal with negative, problematic behaviours that are either directed towards the self or others; (iii) improve the coping skills of individuals; and (iv) minimize the challenges and risks faced by the management of correctional centres. Life skills education improves the quality of life of society by enhancing health education (Baldo & Uzamugunda, 2000; Cerqueira, 2002; Chen, 2007; Leenen et al., 2008; Pattman, 2005; Rooth, 2005; Sifunda et al., 2008; Tiendrebeogo, Meijer, & Engleberg, 2003; United Nations Programme on HIV/AIDS [UNAIDS], 2003; WHO, 1998, 2001, 2002, 2003b, 2009b; Young, Kelley, & Denny, 1997), promoting mental health (Ghosh, Mohit, & Murthy, 2004; Mangrulkar et al., 2001; Maryam, Kiyanoosh, & Hassan, 2013; WHO, 1996, 1997,

2004, 2006), improving family welfare (Wichroski, Zunz, & Forshay, 2000), and improving academic performance (Mangrulkar et al., 2001; WHO, 2004, 2009a, 2009c; Wurdinger & Rudolph, 2009).

Negative, problematic behaviours are also addressed and dealt with by means of life skills education. Life skills education leads to the reduction of substance abuse (Botvin, Griffin, Paul, & Macaulay, 2003; Czuchry, Sia, & Dansereau, 2006; Griffin, Botvin, & Nichols, 2006; Makkai & Payne, 2005; Mangrulkar et al., 2001; Payne, 2008; Rooth, 2005; Soydan, 2008; Spoth, Randall, Trudeau, Shin, & Redmond, 2008; WHO, 1997, 2002, 2003b, 2004, 2006, 2009b; Zollinger et al., 2003), criminal behaviour (Baumer, O'Donnell, & Hughes, 2009; Bouffard & Bergseth, 2008; Bourke & Van Hasselt, 2001; Cecil, Drapkin, MacKenzie, & Hickman, 2000; Cocker, 2005; Czuchry et al., 2006; Dobson, 2004; Englander-Goldern, Jackson, Crane, Schwarkopf, & Lyle, 1989; Finn, 1998; Heide & Solomon, 2003; Hochstetler et al., 2010; MacKenzie, 2005; Makkai & Payne, 2005; Mangrulkar et al., 2001; Miller & Hobler, 1996; Payne, 2008; SEU, 2002; Wells, Minor, Angel, & Stearman, 2006), violence (WHO, 2008, 2009b, 2009c), suicide (Kirmayer, Boothroyd, Laliberte, & Simpson, 1999), and risky behaviour by children and adolescents (Cerqueira, 2002).

Life skills education leads to the improvement of individuals' coping skills such as anger management (Botvin, Griffin, & Nichols, 2006; Deffenbacher, Lynch, Oetting, & Kemper, 1996; Deffenbacher, Oetting, Huff, & Thwaites, 1995; WHO, 2009b), positive social adjustment (Elias, Gara, Schulyer, Brandon-Muller, & Sayette, 1991; Mangrulkar et al., 2001; WHO, 2004, 2009b), and decision-making abilities (WHO, 2003b).

Important for this study is that life skills education has been found to minimize the challenges and risks faced by the management of correctional centres. Life skills

education enable offenders to adjust better in correctional centres (Finn, 1998; Jiang & Winfree, 2006), to not become involved in gangs (WHO, 2009b), and to be prepared for their upcoming release and re-entry into society (Bouffard & Bergseth, 2008; Bourke & Van Hasselt, 2001; Colvin, 2007; Jiang & Winfree, 2006; Listwan, 2009; Pettus & Severson, 2006; Reker & Meissner, 1977).

Life skills education in various intervention and prevention programmes indicates the importance of life skills for the psychological well-being of offenders, beyond their value in any specific programme (WHO, 1997). Many offenders have a lack of life skills because of truancy or exclusion and therefore were never fortunate to obtain life skills education as part of their education. Young adult offenders were supposed to be on the outside of prison using life skills to live meaningful lives (SEU, 2002). Offenders, who are more mature, assertive and responsive, cope better in correctional centres, as they are better equipped to deal with the challenges faced in a correctional environment and therefore adjust much easier (Morris, 2008).

Training in social skills has been identified as a successful aspect of offender rehabilitation. Numerous offenders have poor social skills, and psycho-education in social skills can empower them to be responsible for their actions and to minimize their future involvement in criminal activities (Kerley & Copes, 2009; Schippers, Marker, & De Fuentes-Merillas, 2001). Life skills are essential for success in life (Darden, Gazda, & Ginter, 1996; Moote, Smyth, & Wodarski, 1999; Wurdinger & Rudolph, 2009). Life skills education in South African correctional centres is an effective method to develop offenders and to ensure that they take responsibility for their decisions and life (Du Preez, 2003).

3.4 Various Life Skills

In this programme attention will be focused on the following Life Skills, namely (i) anger management, (ii) decision-making, (iii) problem solving, (iv) assertiveness, (v) communication, (vi) coping with emotions, (vii) self-awareness, (viii) relationship skills, (ix) stress management, and (x) creativity. These life skills will however be categorized in four domains, namely (i) Coping with emotions (coping with emotions, self-awareness, stress management and communication), (ii) Anger management (anger management and relationship skills), (iii) Decision-making (decision-making and assertiveness), and (iv) Problem solving (problem solving and creativity).

3.4.1 Emotional intelligence

Mayer and Salovey (1997, p. 10) describe emotional intelligence as “the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth”. Emotional intelligence enables individuals to identify and understand emotions of self and others accurately; to utilize this emotional knowledge to facilitate thoughts and actions; and to guide their own and others' behaviour and actions. Emotional intelligence has been found as an index for adjustment in general (Animasahun, 2010; Chan, 2008; Dunn, Brackett, Ashton-James, Schneiderman, & Salovey, 2007).

Individuals with higher emotional intelligence have better abilities to solve problems, to cope and manage anxiety (Bastian, Burns, & Nettelbeck, 2005). Key aspects of emotional intelligence include self-awareness, adaptability, social awareness, self-management, emotional management, resiliency, self-motivation,

empathy, understanding emotional cues, and relationship management (Dunn et al., 2007; Sheehan, McDonald, & Spence, 2009; Sosik & Megerian, 1999; Sung, 2010).

3.4.2 Anger management

Anger is an internal state of feeling that is associated with the increased motivation to hurt someone else (Archer & Coyne, 2005; Stanford et al., 2003; Wilkowski & Robinson, 2008). Anger is an emotion that individuals find uncomfortable and can vary between mild irritation and rage. Anger management is a process by which individuals are helped to understand that anger is a normal emotion that can be expressed in respectful ways. Anger is born from individuals' perceptions about situations and circumstances, and can be managed by thinking differently about these situations and circumstances. The situation does not cause anger, but the perception or thoughts about the situation cause anger (Dunbar, 2004). Aggression, on the other hand, is the physical act of harming someone else (Archer & Coyne, 2005; Stanford et al., 2003; Wilkowski & Robinson, 2008) and is one of numerous criminogenic needs that in essence lead to an individual becoming involved in or committing criminal acts (Hesselink-Louw, 2004).

Aggression in a correctional environment is of serious concern (Diamond & Magaletta, 2006) and has been identified as a coping strategy by offenders to cope with prison life and the pressures of the prison subcultures (Palmer & Thakordas, 2005). It is important to address anger, as it is a prelude to aggression (Buss & Perry, 1992), and anger has been linked with negative behaviour among offenders and usually plays a role when offenders assault others. Anger is strongly related to adjustment problems in a correctional environment (Mills & Kroner, 2003) and mostly occurs in young adult offenders. Cognitive behavioural interventions tend to

help individuals to manage their anger more constructively (Deffenbacher, Oetting, & DiGiuseppe, 2002), and anger management programmes have been found to help offenders to manage their anger more appropriately (Day et al., 2006).

3.4.3 Assertiveness

Assertiveness forms part of decision making and is the ability to say no and to honestly and appropriately communicate emotions, opinions, needs, beliefs, and desires without violating the personal rights of others (Holden, Evans, Hinnant, & Messeri, 2005; Test, Fowler, Wood, Brewer, & Eddy, 2005).

3.4.4 Self-awareness

Self-awareness is when an individual can assess his feelings, strengths, interests, and values accurately. Self-awareness implies that an individual is aware of his own strengths, potential, and capabilities and capable of understanding these. Individuals make fewer mistakes when they are really aware of themselves and really know themselves (Kar, 2011; Killian, 2008; London, 2003; Muyia, 2009).

3.4.5 Communication

Communication is a process through which individuals “transmit thoughts, ideas, wishes, emotions or just try to maintain a cordial social relationship” (Nistorescu, 2012, p. 516). Communication is simply the act of conveying and receiving information (Barker, 2011; Jones et al., 2011). Being able to communicate effectively will enable individuals to be successful (Kar, 2011).

3.4.6 Creativity

Creativity involves innovativeness, generating ideas and relating to past experiences. Therefore, creative thinking helps an individual to identify and consider alternatives before making a decision or solving a problem (Kar, 2011).

3.4.7 Problem solving

Problem solving includes a series of steps that should be followed, such as (i) defining the problem at hand; (ii) generating various solutions; (iii) evaluating the alternative solutions; (iv) choosing the most appropriate solution with the least disadvantages, and (v) evaluating its success (Kar, 2011; WHO, 1993, 1997).

Problem solving skills are “the ability to handle everyday problems as they occur in the real world” (Biggam & Power, 1999, p. 197) and enable individuals to constructively manage problems in their lives (WHO, 1993, 1997). Biggam and Power (1999) have reported that poor problem solving skills are evident amongst offenders and that problem solving skills actually play an advantageous role in the psychological well-being of offenders. Poor problem solving skills lead to depression (Chen, Jordan, & Thompson, 2006) and crime (Hesselink-Louw, 2004) whereas training in proper problem solving skills contributes to a reduction of recidivism (McGuire & Hatcher, 2001). One of the steps in the problem solving model is to make effective, well informed and well-considered decisions (Chen et al., 2006).

3.4.8 Decision making

Decision making enables individuals to make constructive decisions every day (WHO, 1993, 1997). Before individuals or groups make decisions, the information

obtained from several sources regarding the situation is analysed, the possible consequences are evaluated, the various alternatives are considered, and outcomes are predicted. Individuals make decisions when the outcomes are regarded as satisfactory, when the decisions meet certain criteria or when they fall within the preconceived view of the world (Kanner, 2005; Kar, 2011). Poor decision making can be the result of psychological disorders or a lack of psychological well-being (Naqvi, Shiv, & Bechara, 2006), and individuals with proper emotional intelligence tend to make better decisions (Di Fabio & Blustein, 2009).

3.4.9 Relationship skills

Relationship skills are abilities to communicate positively, to make and keep friendly relationships, to keep good relations with others, and to be able to end relationships constructively (WHO, 1993, 1997). Relationship skills play an important role in motivating change in offenders (Morran, 2008), and teaching relationship skills may be helpful in reducing violence (Kulkarni, 2006).

3.4.10 Coping with emotions

Offenders who lack positive coping skills tend to utilize negative coping skills that result in prison misconduct and disciplinary infringements (Rocheleau, 2011). Coping enables individuals to improve their psychological and physical well-being when they face and attempt to overcome negative or stressful experiences and situations. In essence, coping should be preventative by nature by helping individuals to limit stressors and to maintain skills to address difficult circumstances (Hobfoll & Schröder, 2001). Coping is normally grouped into three types, namely avoidant, problem solving, and support seeking coping (Swan & Snow, 2006). Thus, coping

strategies can be either active or passive. Active strategies usually include problem solving attempts or seeking social support from others to assist with finding a solution, whereas avoidance is more passive by nature (Parks, Ma, & Gallagher, 2010; Rocheleau, 2011). Being able to cope effectively with emotions entails that individuals should be able to identify their own and others' emotions, know that emotions can influence behaviour, and deal with emotions effectively and appropriately (WHO, 1993, 1997). Coping strategies are cognitive and behavioural attempts to solve a problem and manage the accompanying emotions (Hobfoll & Schröder, 2001; Marsh, Reynolds, Rogala, Fisher, & Napper, 2010; Rocheleau, 2011; Shorter-Gooden, 2004).

3.4.11 Stress management

Effective management of stress involves being able to identify what causes stress, how it influences individuals, and how to manage it effectively (WHO, 1993, 1997). Stress management is also defined as the ability to deal with stressful situations appropriately and having the necessary knowledge of how to manage emotions constructively (Di Fabio & Blustein, 2009). An individual will be able to deal with any adverse situations when he is capable of managing his stress (Kar, 2011). Stress management is usually utilized to address the sources of stress and to modify the way in which individuals react or respond to the stressors. Techniques normally used in stress management include cognitive restructuring, relaxation training, problem solving, biofeedback, and time management skills training (Soo & Lam, 2009).

3.4.12 Goal setting

Goal setting refers to the concept that an individual wants to achieve something (Larsen & Engell, 2013). Goal setting enables individuals to plan their behaviour and to be more motivated and inclined to achieve this behaviour (Johnson, Garrison, Hernez-Broome, Fleenor, & Steed, 2012).

3.5 Life Skills Programmes

Life skills education is normally conducted by means of life skills programmes. Life skills education is grounded on an active, participatory methodology that uses experiential techniques in lessons to generate conditions in which the social learning of life skills can occur. Examples of active, participatory methods in life skills lessons include group discussions, drama, brainstorming, demonstration, guided practice, debates, games, storytelling, simulations, case studies, and role play. Brainstorming is utilized as a method to ensure that participants understand what they are learning. Role playing is essential, as it allows participants the opportunity to practise the learnt skills. Games can be used as activities to teach content, thinking skills, problem solving, and decision-making, and to review and reinforce learnt material (UNICEF, 2012; WHO, 2001, 2003b).

Life skills education and programmes should be outcome-based to ensure that the participants learn and obtain the desired skills taught and modelled to them by means of the intervention (WHO, 2003b). Typically, questionnaires are used to evaluate life skills programmes and assess individuals' self-reports of their behaviour and improvement (WHO, 2001). Evaluation studies are normally conducted to determine whether life skills programmes are effective. The constant evaluation of programmes helps to keep the programme in line with changing priorities and circumstances

(WHO, 1997). Offenders, especially prison gang members, usually do not want to attend rehabilitative programmes (Griffin & Hepburn, 2006), but offenders should be motivated to participate in programmes, as it would foster a more tolerable prison atmosphere by reducing frustration and idleness, and by providing offenders with skills and a sense of meaning (Huey & McNulty, 2005)

3.6 Summary

After considering the literature in this chapter, it is evident that:

- Life skills are essential skills that offenders need to deal with everyday challenges and to adjust successfully in a correctional environment
- Life skills essential to enable offenders to survive and adjust in a correctional centre are to (i) cope better with their emotions; (ii) solve problems more effectively; (iii) make improved, constructive decisions; and (iv) manage their anger more successfully
- Offenders need to be more aware of their emotions and become able to communicate effectively and deal with them; otherwise, their inability to cope with their emotions could lead to their involvement in non-conforming activities
- Proper decision-making and problem solving skills will ensure that offenders do not exhibit non-conforming behaviour and become involved in unauthorized activities
- Anger management is a crucial skill, as offenders who are unable to effectively manage their anger and aggression will continue to be involved in violent practices

- Life skills are taught by life skills education, and participatory learning is utilized to ensure that these skills are easily understandable and that individuals have mastered the necessary skills
- Life skills education is an effective tool that has been used in the past to contribute to various aspects of life
- In life skills education, individuals should be actively involved in their own development

Chapter 4

Programmes and Interventions in Correctional Environments

4.1 Introduction

In this chapter, the aim is to conceptualize the concepts of programmes, intervention programmes, life skills programmes, cognitive behavioural therapy and chess, and to provide a literature overview of these concepts.

4.2 Programmes

It has been found that participation in programmes in correctional environments positively influence adjustment to the correctional environment and leads to reduced rates of recidivism and lower rates of misconduct in the centre (Dhami et al., 2007; Lipsey & Cullen, 2007; Welsh et al., 2007). Participation in programmes helps offenders to increase their locus of control by obtaining new skills to think differently about situations (Reitzel & Harju, 2000), solve problems better, cope more effectively, and not become involved in non-conforming activities (Rocheleau, 2011). The former President of South Africa, Nelson Mandela, expressed his view on programmes in a correctional environment during a speech delivered to the Department of Correctional Services in June 1998. He stated that "treatment programmes can be the drive to secure prisons with an environment that assist offenders to develop to their potential and assume their responsibility to become valued members of the society" (Hesselink-Louw, 2004, p. 52). Therefore, purposeful interventions delivered by professionals in correctional environments are

crucial to enable and empower offenders to reach their potential and to become accountable citizens (Hesselink-Louw, 2004).

The availability of programmes will help to decrease the view that correctional centres are only harmful and do not deter offenders from a life of crime. Intervention and treatment programmes that focus on the needs, risks, and responsivity factors of offenders and their individual improvement have been found to reduce recidivism (Day et al., 2006; DiIulio, 1993; Hesselink-Louw, 2004; Moster, Wnuk, & Jeglic, 2008; Visher & Travis, 2003).

4.3 Interventions

Interventions are usually created or developed because there are deficits. The purpose of interventions is to address deficits and to fill the gaps that an individual's background and experience cannot (Byrom, 2009). Intervention programmes have been identified as viable strategies to reduce offending (Merlo & Benekos, 2010), improve adjustment (Petrie & Revenson, 2005), and improve social and emotional functioning (Humphrey, Kalambouka, Wigelsworth, & Lendrum, 2010). Offenders are housed in correctional centres for long periods, but one day, they will be released and become members of society again. If there are no interventions in correctional centres to develop and change offenders, they will return to society with the same pathologies that contributed to their crimes, including new problems their sentences may have created. In the end, they will commit crime again and return to prison. Offenders need to be taught skills, such as life skills, that will enable them to adjust in the correctional environment and in the outside world when they are reintegrated with the community (Gathright, 1999).

4.3.1 Interventions in correctional environments

Interventions in correctional environments aim to keep offenders involved in productive activities that will develop, educate, and equip them with various skills and knowledge, and that will address their offending behaviour (Du Preez, 2003; Du Preez & Luyt, 2006; Matshaba, 2007; Omar, 2011). Offenders are motivated to attend such programmes and activities, but attendance is voluntary and it remains their choice not to attend and participate (Du Preez, 2003). Interventions in correctional centres in South Africa include education, vocational training (such as woodwork, tailoring, upholstery and leatherwork), social work programmes (such as HIV treatment, Substance abuse treatment, and offence specific programmes), psychological interventions (such as psychological assessment, counselling, and complex group work), religious care, and developmental activities (such as sport, recreational activities, and developmental programmes). These interventions are done by various professionals such as psychologists, social workers, educators, vocational instructors, and chaplains (Cilliers & Smit, 2007; Du Preez, 2003; Du Preez & Luyt, 2006; Goyer, 2001; Muthaphuli, 2008; Wright, 2010).

The main objectives of these interventions are to develop offenders and to prevent recidivism. Interventions can be conducted individually or in a group, but group work is the most prominent, effective, and established form of intervention in the correctional environment, as it allows offenders the opportunity to reflect on their past and criminal behaviour, learn new behaviour, gain new perspectives, create change, and rehearse this new behaviour (Crighton & Towl, 2008; Dixon, 2000; Du Preez, 2003; Muthaphuli, 2008). Davies (2009) states that group work ensures that deep, active, experiential learning takes place and leads to the enhancement of knowledge and problem based learning. Approaches used in interventions in correctional centres

include cognitive, behavioural, empowerment, and social learning principles (Dixon, 2000; Du Preez, 2003; Muntingh, 2005; Muthaphuli, 2008; Wright, 2010). The cognitive-behavioural approach has been found to be the most effective (Dixon, 2000; Mandell, 2006; Muntingh, 2005; Pearson, Lipton, Cleland, & Yee, 2002; Serin, Gobeil, & Preston, 2009).

4.3.2 Intervention research

The focus of intervention research is to consider, develop and evaluate ways that will improve the well-being, life, and health of individuals (De Vos, Strydom, Fouché, & Delpont, 2005). According to Rothman and Thomas (1994), there are three facets of intervention research, namely (i) knowledge development, (ii) knowledge utilization and (iii) design and development. The purpose of the first facet, knowledge development, is to obtain practical and instrumental knowledge about the target behaviour of the participants, the relevant intervention behaviour and the relevant social, environmental, behavioural and contextual conditions. The purposive transformation and conversion of the developed knowledge occurs within the knowledge utilization facet. The knowledge obtained are converted or transformed into application concepts and theories that are relevant to the participants, problems, and intervention. The production of intervention technology occurs in the design and development facet. This new human service technology can take the form of a programme, treatment method, policy, or service system (Rothman & Thomas, 1994).

4.3.3 Evaluation of intervention effectiveness

There are various methods to evaluate the effectiveness of an intervention. Some of these methods are interviews, questionnaires, observations, standardized tests, field notes, and reports. In this study, standardized self-report questionnaires were used to evaluate the effectiveness of the programme. The utilization of questionnaires is advantageous, as it enables the facilitator to obtain inputs from large numbers of respondents relatively quickly and to generalize from representative samples (WHO, 1994). The three major principles of effective intervention are risk, need, and responsivity (Lowenkamp, Hubbard, Makarios, & Latessa, 2009).

4.3.3.1 The risk principle

According to the risk principle, intensive intervention programmes should be facilitated for offenders who are a higher risk; in other words, offenders who have a higher probability of committing crimes again (Lowenkamp, Latessa, & Holsinger, 2006; Lowenkamp et al., 2009; Perez, 2009). The largest reductions in recidivism were yielded when programmes in correctional environments followed the risk principle (Lowenkamp et al., 2006; Perez, 2009). In this study, the focus was on young adult offenders in a maximum-security correctional centre who are at risk of becoming involved in misconduct in prison and in crime in the future.

4.3.3.2 The responsivity principle

According to the responsivity principle, treatment programmes and interventions should be conducted in such a manner that they are in line with the abilities and learning styles of the offenders. Offenders will only benefit when such programmes and interventions are on a level that is meaningful and consistent with their learning

capabilities (Hesselink-Louw, 2004; Lipsey & Cullen, 2007; Moster et al., 2008). Methods used to enable change and growth in treatment programmes and interventions include modelling, reinforcement, acquisition of skills, role-playing, cognitive restructuring, verbal guidance, feedback, and problem solving (Hesselink-Louw, 2004; Lipsey & Cullen, 2007). The sessions in this programme included activities such as games, puzzles, reasoning exercises, role-playing, brainstorming, and group discussions.

4.3.3.3 The needs principle

Addressing and solving specific needs of all offenders can lead to changed and improved behaviour. Needs of offenders may include poor problem solving skills, poor self-esteem, employment, education, vocational training, anger management problems, and aggression. The needs principle advocates that programmes and interventions should be based upon addressing such needs that could have played a role in the criminal acts of the offenders (Hesselink-Louw, 2004; Lipsey & Cullen, 2007; Lowenkamp et al., 2009; Moster et al., 2008; Perez, 2009).

The needs principle distinguishes between criminogenic needs and non-criminogenic needs. Criminogenic needs are factors that contributed to an offender committing a crime and are regarded as factors that can put an offender at risk to offend again in future. These needs can be either social or personal and can either cause or contribute to commitment of crime. Criminogenic needs include factors such as anger, aggression, violence, substance abuse, lack of motivation, and poor problem solving skills. It has been found that addressing these needs or factors reduces recidivism. Therefore, these needs become the targets or outcomes for interventions

(Hesselink-Louw, 2004). Programmes that address the criminogenic needs of offenders are the most successful (Bowen & Gilchrist, 2004).

Non-criminogenic needs include aspects such as self-esteem and personal distress, which are linked to offenders' personalities. Programmes and interventions normally do not focus on non-criminogenic aspects, as these aspects and their resolution have a smaller effect on recidivism (Hesselink-Louw, 2004). Overall, interventions that incorporate the responsivity and need principles have a better chance of leading to reduced recidivism levels than those that do not (Lipsey & Cullen, 2007). In this study, the focus was on addressing the criminogenic needs of offenders (such as poor problem solving, decision-making, anger management, stress management, and communication) by improving their life skills.

4.4 Life skills Programmes and Cognitive Behavioural Therapy

Life skills programmes are designed to address deficits that hinder offenders in their attempts to function successfully in everyday life (MacKenzie, 2005). The goal of life skills programmes is to teach individuals the necessary skills needed to cope successfully with the challenges and demands in their daily lives and can include life skills such as communication, decision-making, self-awareness, and problem solving skills (Kirmayer et al., 1999, WHO, 2009c, 2009d). There are three key elements of life skills programmes, namely (i) skills development; (ii) information or content addressing relevant social and developmental tasks; and (iii) interactive methods of teaching and learning (Mangrulkar et al., 2001; WHO, 2004).

The facilitation of life skills programmes will help offenders to improve their self-control, critical thinking, and problem solving abilities and will also reduce the

likelihood that offenders will commit crimes again (Khodayarifard, Shokoohi-Yekta, & Hamot, 2010). Thus, life skills education is an important component in the development of offenders in South Africa to enable them to become good citizens that will be able to adjust successfully in a correctional centre. However, life skills education is a dynamic process and cannot be improved and learned by mere sharing of information or discussions (Orley, 1997). Experiential learning should form part of life skills education (Rawal, 2006; WHO, 1999). Participatory learning and experiential learning are important methods of learning and should be integrated with life skills programmes.

Participatory learning is essential in life skills education as it (i) builds on the experience, ideas and knowledge of individuals; (ii) offers an original framework for discovering opportunities and defining possibilities; and (iii) provides a foundation for shared well-being and security that is essential for individuals to learn and make decisions (Mangrulkar et al., 2001; UNICEF, 2012; WHO, 1997, 2001, 2004).

Experiential learning is possible only when the programme provider acts as a facilitator. The purpose of the facilitator is to become an enabler of the learning process rather than a surveyor of all knowledge. The facilitator should create an environment in which the group members will take responsibility for their own behaviour and learning (WHO, 1994). Experiential learning is possible through the utilization of (i) open-ended questions; (ii) positive language and statements; (iii) group discussions; (iv) personal self-disclosure; (v) silence to obtain contributions from all the group members; (vi) eye contact during discussions; (vii) constructive, non-combative challenges and confrontations; and (viii) negotiation skills with regard to time limits, sharing of knowledge, and participation (WHO, 1994).

The model of experiential learning has the following four components, namely (i) the learning experience will normally be a practical activity and will be related to the purpose and objectives of the session; (ii) an element that requires feedback and reflection that allows the group members to contemplate what has been learnt from the activity; (iii) an element that offers opportunity for consolidation and reinforcement; and (iv) an element that involves the practical application of the learning from the activity (e.g., role-plays) (WHO, 1994). Experiential learning can occur in three main areas, namely skills, attitudes and knowledge. The development of skills occurs when individuals use opportunities to learn new skills and practice them. Individuals become knowledgeable when knowledge of information that they did not previously know is transferred (Roos, Taljaard, & Lombard, 2001).

4.4.1 Cognitive behavioural therapy

In this study, the cognitive behavioural approach was utilized, as it has various advantages. Cognitive behavioural approaches have been described as cost effective, sensible, and effective in empowering individuals (Gregor, 2005). CBT is utilized because it is based on scientifically derived cognitive and behavioural theories. Second, active learning occurs in CBT, and the focus of the therapy is on the present and not the unchangeable past. A third advantage is the fact that numerous criminogenic needs can be addressed by CBT in a structured group setting. Finally, studies have shown that CBT has consistently played a role in reducing recidivism among offenders and in their development (Lowenkamp et al., 2009). The major advantage of CBT is that it is supported by evidence-based studies and has proven to be effective in reducing unfavourable behaviour (Dass-Brailsford & Myrick, 2010; Milkman & Wanberg, 2007).

The cognitive behavioural approach has been found to be the most effective in correctional environments (Mandell, 2006; Pearson, Lipton, Cleland, & Yee, 2002; Serin, Gobeil, & Preston, 2009). Studies have shown that cognitive behavioural treatments are successful in reducing criminal behaviour, psychological and medical concerns, and negative coping strategies. Focusing on criminal behaviour, CBT reduces recidivism (Bogestad, Kettler, & Hagan, 2010; Clark, 2010; Craig, Stringer, & Moss, 2006; Farrington & Welsh, 2005; Landenberger & Lipsey, 2005; Lipsey & Cullen, 2007; Lipsey, Landenberger, & Wilson, 2007; Lowenkamp et al., 2009; Milkman & Wanberg, 2007; Moster et al., 2008; Pearson et al., 2002; Van Voorhis et al., 2004; Wilson, Bouffard, & Mackenzie, 2005) and criminogenic thinking patterns (Lipsey, Chapman, & Landenberger, 2001; Morgan & Flora, 2002; Perez, 2009).

CBT effectively reduces medical and psychological symptoms and problems (Barrowclough et al., 2006; Clark, 2010; Conradi, De Jonge, & Ormel, 2008; Khodayarifard et al., 2010; Montgomery, Kunik, Wilson, Stanley, & Weiss, 2010) such as pain (Morley, Eccleston, & Williams, 1999), post-traumatic stress disorder (Dass-Brailsford & Myrick, 2010) and depression (Chen et al., 2006; Kowalenko et al., 2005). CBT also reduces negative coping strategies such as anger (Erwin, Heimberg, Schneider, & Liebowitz, 2003; Gonzalez-Prendes, 2008; Singh et al., 2007) and substance abuse (Dass-Brailsford & Myrick, 2010).

CBT successfully improves life skills, psychological well-being, and institutional behaviour. CBT improves various life skills such as problem solving, decision making (Chen et al., 2006; Talashek, Norr, & Dancy, 2003), stress management (Echeburua, Fernandez-Montalvo, & Amor, 2006; Khodayarifard et al., 2010), mature coping (Rocheleau, 2011), and relationship skills (Silliman & Schumm, 2000). CBT improves individuals' psychological well-being (Khodayarifard et al., 2010; Moster et

al., 2008; Underwood, Barretti, Storms, & Safonte-Strumolo, 2004) by enhancing their confidence, self-esteem (Redmond, Larkin, & Harrop, 2010), cognitive skills (Mandell, 2006), and emotional functioning (Morley et al., 1999). In addition, CBT is used commonly to improve institutional behaviour (Van Voorhis et al., 2004) and examination performance (Gregor, 2005).

The skills taught by means of cognitive behavioural approaches are examples of life skills. According to the cognitive behavioural approach, behaviour is influenced by cognitions; therefore, when cognitions are changed, the changes will lead to changes in behaviour, thought, and emotion (Clark, 2010; Milkman & Wanberg, 2007; Morley et al., 1999; Wilson et al., 2005). By means of CBT, individuals can be taught how to identify their emotions, evaluate their thoughts, solve their problems, and make proper decisions (Moster et al., 2008).

Offenders usually exhibit cognitive, behavioural and moral deficits. They exhibit poor self-control, low empathy, meagre problem solving, poor critical thinking, poor moral reasoning, poor social understanding, poor decision-making abilities, poor emotional functioning, and a lack of long-term planning (Clark, 2010; Khodayarifard et al., 2010; Lipsey et al., 2001; Lipsey et al., 2007; Wilson et al., 2005). These deficits encourage their involvement in criminal and non-conforming behaviour (Khodayarifard et al., 2010). Life skills that are developed by CBT usually include anger management, problem solving, setting goals, critical reasoning, moral reasoning, impulse management, considering the consequences, finding alternatives for actions, moral development, and taking responsibility (Clark, 2010; Landenberger & Lipsey, 2005; Lipsey et al., 2001; Lipsey et al., 2007; Milkman & Wanberg, 2007; Van Voorhis et al., 2004). Therefore, CBT with offenders in correctional

environments has been conceptualized as life skills training (Perez, 2009; Wilson et al., 2005).

Chess activities were used in this programme to keep the group focused on present experiences and to practice and reinforce cognitive and behavioural skills. By means of CBT, individuals are helped to understand that they have control over their thought processes, which in turn enables them to have control over their behaviour and emotions. Chess, like CBT, trains individuals to stop and think before making a move (acting), generate alternative moves (solutions), evaluate possible risks (consequences), and make decisions about appropriate moves (behaviour). Successful cognitive behavioural treatment should include cognitive behavioural and social learning techniques (such as modelling, role-playing, and cognitive restructuring); should focus on positive reinforcement; should last as long as possible (be intensive – 6 to 12 months); and should be conducted with higher-risk offenders and focus on their criminogenic needs (Milkman & Wanberg, 2007). Cognitive behavioural therapies in correctional environments are usually structured interventions with detailed manuals that are conducted with groups of 8 to 12 group members (Milkman & Wanberg, 2007).

4.5 The Programme in this Study: Life Skills and Chess

All offenders should be enabled to adjust to life in a correctional environment successfully. The purpose of this programme was to improve the life skills of offenders by means of life skills education. When offenders' life skills are improved, they will be empowered to (a) cope better with their emotions; (b) solve problems more effectively; (c) make improved, constructive decisions; and (d) manage their

anger more successfully. The focus of this programme was to teach offenders to think before acting, consider the consequences of actions, conceptualize alternative patterns of behaviour, manage and control their thoughts and behaviour, and increase their awareness of self and others. The game of chess was used as a tool to (i) enable offenders to identify how they think, feel and behave, (ii) ensure learning takes place, and (iii) ensure that the programme was enjoyable and demanding.

Chess provides endless possibilities for the mind and can be used to improve mental abilities and life skills that are used throughout life (Celone, 2001; Dauvergne, 2000). Life skills education can be conducted by using chess as a metaphoric, therapeutic tool and vehicle of change. Many characteristics of chess can be correlated with complex real-life problems (Hsu, 1989), and chess problems can be regarded as analogues for challenges in life (Fadul & Canlas, 2009; Guerra, 1998; Moreno, 2002). Frick (2006), Guerra (1998), and Moreno (2002, 2006, 2007) state that chess problems are analogues for challenges between individuals and between individuals and the system. Chess pieces become concrete tools that individuals can use to portray the problems in their lives and to find alternative solutions for their problems. Chess pieces are used as metaphors for life situations, and the chessboard represents people's lives (Frick, 2006; Guerra, 1998; Moreno, 2002, 2006, 2007).

Green (1971) states that chess constitutes mental training of the greatest possible value and promotes a taste that can only be elevating. The game of chess has become so popular among all classes in all countries that it is more widely known and practised than any other game in the world today (Green, 1971). The game of chess finds its concrete expression in the chess piece with which certain movements are carried out according to binding rules and within a confined area, demonstrating sequences, knowledge, recognition, and acknowledgement. The piece is grasped,

moved, and used. Therefore, it is a tool, but in the world of the game only, in contrast to the purpose and usefulness of everyday life, yet exerting an independent influence on human culture (Frick, 2006; Wichmann & Wichmann, 1960).

Chess is believed to have originated in India, where the king's wife created it to amuse them while their country was at war. Another legend is that a Brahman developed the game to show their ruler that a leader is really powerless without his subjects to assist him (Gollon, 1968). In 1786, Benjamin Franklin already hypothesized that chess improves cognitive abilities (Franklin, 1786), and chess has been utilized to study cognitive abilities such as planning, attention, and memory (Saariluoma, 2001). Planning and problem solving play an important role in chess, and before a move can be made in chess, the individual or player should first search for the best possible move with the least possible consequences. This implies that the player should be able to evaluate many possible moves before making a move (Celone, 2001; Hsu, 1989; Kasparov, 2007; Kennedy, 2004; Unterrainer, Kaller, Halsband, & Rahm, 2006). Chess is a game of thinking (Bott & Morrison, 1960), decision-making, and problem solving (Franklin, 1786; Kasparov, 2007).

Studies have shown that teaching and promoting chess improves the cognitive skills, life skills, and personal attributes of individuals. Chess increases cognitive skills (Aciego, Garcia, & Betancort, 2012; Palm, 1990) such as memory (Ferguson, 2007; Saariluoma, 2001), rational thinking (Dauvergne, 2000; Palm, 1990), concentration (Celone, 2001; Dauvergne, 2000; Ferguson, 2007; Patterson-Sumwalt, 2009), conditional thinking (Moreno, 2002), critical thinking, and abstract reasoning (Celone, 2001). Chess improves life skills such as communication (Ferguson, 2007; Moreno, 2002; Palm, 1990), anger management (Vail, 1995), problem solving (Aciego et al., 2012; Celone, 2001; Dauvergne, 2000; Horgan, 1988; Patterson-

Sumwalt, 2009; Trincherro, 2013), decision-making (Celone, 2001; Dauvergne, 2000; Horgan, 1988; Moreno, 2002, 2006, 2007), relationship skills (Alston, 2013; Moreno, 2006, 2007), and creativity (Dauvergne, 2000). Chess also enhances personal attributes such as self-confidence, commitment, accountability (Palm, 1990), patience (Drummond, 2000), respect for others, and sportsmanship (Moreno, 2002).

Moreno (2002) has developed a “skills table” to depict how chess can help to teach life skills. This table can be viewed in Table 4.1 below.

Table 4.1

Skills Developed through Chess

SKILLS YOU NEED IN LIFE	SKILLS THAT CHESS DEVELOPS
Emotional Skills	
Managing feelings	You need to manage feelings in every position of the game
Controlling impulses	If you do not control your impulses, you might move too fast and not see that your chess piece or position is in danger
Delaying gratification	Sometimes in a chess position, it is better not to capture a piece
<ul style="list-style-type: none"> • Identifying and labelling feelings • Expressing feelings • Assessing the intensity of feelings • Knowing the difference between feelings and actions 	Playing chess offers an opportunity to discuss feelings that arise in different situations. For example: “I made a mistake..., I hope he does not see it..., I am afraid of losing that piece...”
Reducing stress	One skill necessary to perform well in chess is to control and reduce stress when playing a match. Chess matches can be very stressful, but we need to learn to deal with that stress to make the most of our opportunities

Cognitive Skills

Self-talk: conducting an “inner dialogue” as a way to cope with a topic or challenge or reinforce one’s own behaviour. To understand a chess position, you have to “self-talk” it. For example, you say to yourself, “What pieces are attacking my pieces?”

Using steps for problem solving and decision making, for instance: controlling impulses, setting goals, identifying alternative actions, and anticipating consequences. When you play chess you have to make decisions and resolve situations every time you move a piece. You should control your impulses; because if you move too quickly, one of your pieces can be captured. You should set short- and long-term goals to achieve a better position and win the game

Understanding the perspective of others To play chess, you should try to understand what the other player is planning. It is not unusual in high-level play to see players get up and look at the board from the other side

Understanding behavioural norms (what is and is not acceptable behaviour) In chess, you should follow behavioural as well as the basic rules of etiquette

A positive attitude toward life In chess, you try to find the best choice in each position. If you think that you are in a very weak position, you should learn from it to gain insight for future games

Self-awareness, for example, developing realistic expectations about oneself In chess, you learn that other players are better than you and that you are better than others

Behavioural Skills

Non-verbal communication through eye contact, facial expressiveness, tone of voice and gestures In chess, you learn to see non-verbal clues from your opponent

Verbal: making requests clearly, responding effectively to criticism, resisting negative influences, listening to others, helping others, participating in positive peer groups	When you are conducting a chess class, you point out mistakes players made. They need to learn and cope with negative influences. They need to learn how to listen to other points of view
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(Reprinted from Teaching life skills through chess: A guide for educators and counsellors, by Fernando Moreno, 2002, p. 12).

Chess teaches skills that can be used and implemented practically in other aspects of life. For example, it teaches individuals to plan carefully in advance, to seek alternatives before making a move, and the importance of patience. How regularly does it occur that someone acts without thinking and afterwards wishes he could take back his actions? The game of chess teaches individuals to think before they act and to evaluate all options before the best option is selected. The group members in this programme, therefore, played chess, as it was used as a tool to teach various life skills.

4.6 Summary

After considering the literature in this chapter, the following is evident:

- Offenders tend to adjust more effectively within the correctional environment when they have attended intervention programmes
- In order for intervention programmes to be successful in the correctional environment, they should address three major principles, namely risk, need, and responsivity
- One of the best methods to teach life skills to offenders is implementing an intervention programme that is based on CBT principles and that includes participatory and experiential learning

- In this programme, the game of chess was used as a tool to teach life skills and the importance of life skills, as chess problems represent analogues for real life problems
- The teaching and promoting of chess has led to several benefits that could improve any individual's life

Chapter 5

Programme Development and Evaluation

5.1 Introduction

Focusing on the goal of this study (as discussed in Chapter 1), it is essential to discuss the theory of programme development with special reference to psycho-education (cybernetic cycle), group work, Bloom's taxonomy of learning and programme evaluation.

5.2 Programme Development

The development of this programme and the utilization of chess as a tool in the programme can be seen as an innovative approach. Rogers (1993) has described innovation "as an idea, practice, or object that is perceived as new to an individual or another unit of adoption" (p. 11). Important components of effective programmes are information and the development of skills. Obtaining socio-cognitive and emotional coping skills is an important aspect of human development (Mangrulkar et al., 2001). The life skills programme in this study does not refer to vocational skills (i.e., carpentry and tailoring), skills to get employment successfully (i.e., how to write a CV and interview skills), or skills on how to manage a budget. In this programme, life skills refer to the three categories of life skills identified by Mangrulkar et al. (2001), namely social and interpersonal skills (communication and assertiveness), cognitive skills (critical thinking, decision making, and problem solving) and

emotional coping skills (stress management, anger management, and self-management).

The three key elements of life skills programmes are (i) the development of skills, (ii) the obtaining of information, and (iii) teaching and learning by interactive methods. Programmes are successful when they incorporate interactive methods such as role playing, games, small group work, debates, and modelling (Mangrulkar et al., 2001). Programme development should be viewed as a continuous process that can be improved by programme evaluation (Poulin, Harris, & Jones, 2000), and for this study, the principles of psycho-education were used in developing this programme.

5.3 Underlying Theory for Programme Development: Psycho-education

Initially, the concept of psycho-education was noted in a medical article written by John E. Donley in 1911 (Donley, 1911), and Schoeman (1985) developed a theoretical model for psycho-education in 1985. The theoretical model of psycho-education was refined and elaborated over the years. The focus of psycho-education is to help individuals reach their human potential and live meaningful lives, and this can be done by the acquisition of skills, insights, and competencies (Bhattacharjee et al., 2011; Roos et al., 2001). Psycho-education can be described as an intervention method to provide information to individuals on identified concerns and to teach them new skills and tools to address these concerns (Pitschel-Walz, Bäumi, Froböse, Gsottschneider, & Jahn, 2009; Spalding & Khalsa, 2010). Improving the well-being of individuals and groups by means of new and alternative interventions is the purpose of psycho-education (Roos et al., 2001).

The existential-humanistic, behaviouristic, and cognitive theories form the basis of psycho-education. According to existential-humanistic theories, individuals are observed as entities with the potential to become successful and responsible. The behaviouristic and cognitive theories respectively focus on the manipulation of behaviour and the cognitive processes involved in learning (Roos et al., 2001). According to Schoeman (1985), there are four characteristics of psycho-education, namely (i) orientation towards prevention, (ii) development during the whole life cycle, (iii) complex systems, and (iv) cyclic nature.

5.3.1 Orientation towards prevention

The orientation towards prevention characteristic indicates that preventing mental illness and developing human potential are essential aspects of psycho-education. The objective of psycho-education is to equip individuals proactively with the necessary skills that they will require to address problems when they arise (Lewis & Lewis, 1989; Orford, 1992; Roos et al., 2001). In this study, young adult offenders were taught and equipped with essential life skills that would enable them to adjust successfully in the correctional centre and to steer clear from non-conforming behaviours.

5.3.2 Development during the entire life cycle

According to the characteristic of development during the entire life cycle, it is evident that individuals can be included in psycho-education during their entire life cycle (Roos et al., 2001; Santrock, 1984, 1995). The participants involved in this study were young adult offenders between the ages of 21 and 25 years old. As part of

their development during their current life phase, they were taught life skills to address possible maladjustment and non-conforming behaviours.

5.3.3 Complex systems

Systems and sub-systems form part of the complex system, and according to this characteristic, an individual is a system on his own with his own sub-systems (i.e., personality, behaviour, emotions, and attitudes) that falls within larger systems such as families and communities. Therefore, when change occurs in one system, the change will lead to changes in sub-systems and broader systems. A ripple effect is caused because all the systems are interdependent (Roos et al., 2001). The young adult offenders in this study form part of a system in the correctional world known as the prison subculture. Positive changes that might occur in the young adult offenders themselves following the intervention programme might hopefully lead to a positive change in the larger system in the correctional centre.

5.3.4 Cyclic nature

The cyclic nature of psycho-education entails the fact that the process continues to unfold repeatedly. The four aspects of a recursive cycle are (i) a situation analysis, (ii) strategy, (iii) feedback, and (iv) goal achievement (Roos et al., 2001; Schoeman, 1985). Figure 5.1 provides a schematic representation of a cybernetic cycle.

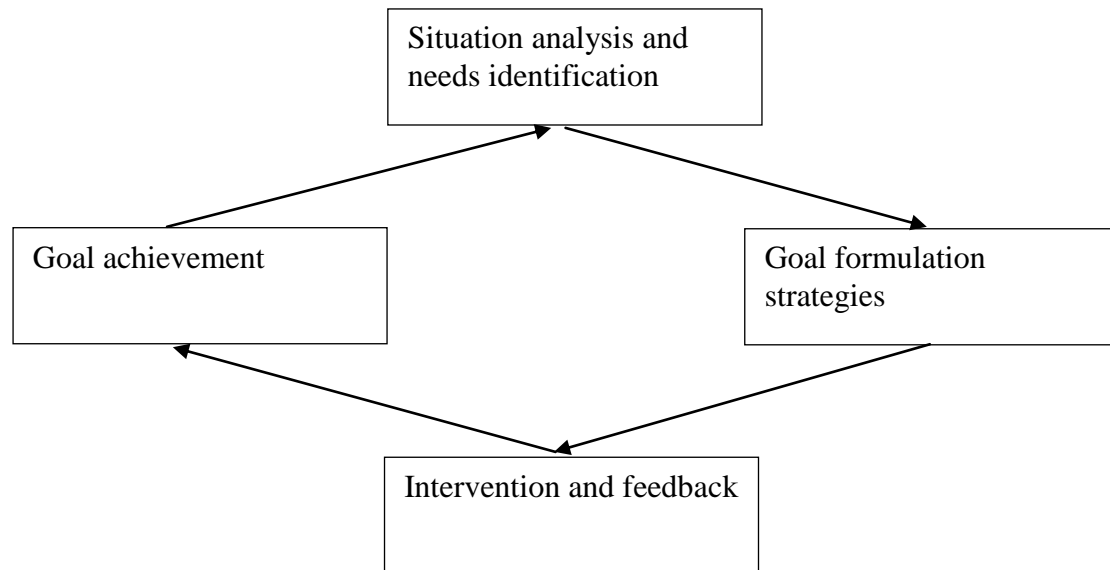


Figure 5.1: Schematic representation of a cybernetic cycle

(Adapted from Roos et al., 2001, p. 6).

According to the representation, the first step in the cycle is a situation and needs analysis during which the situation in which the individuals find themselves and their needs are identified. From here, strategies are developed to achieve objectives that were established from the situation analysis. Then feedback will be required to identify whether the strategies were successful and whether the objectives were achieved. This will lead to a new situation analysis, indicating that the process is continuous and dynamic (Roos et al., 2001). The cybernetic cycle applied in this study can be viewed in Table 5.1.

Table 5.1

The Cybernetic Cycle Applied in this Study

Situation analysis and needs identification	Young adult offenders lack the necessary life skills that will enable them to adjust successfully in the correctional centre, and this lack can lead to future maladjustment and non-conforming behaviour.
Goal formulation strategies	The main goal is to improve and increase the life skills of young adult offenders and in essence to improve their adjustment to the correctional environment.
Intervention and feedback	A life skills programme was developed and implemented to improve the life skills of the young adult offenders, and the effect and success of the programme was evaluated.
Goal achievement	A scientific analysis of the data will establish whether the goals and objectives have been achieved, and this will give rise to new situation analyses.

5.4 Integrated Representation

An integrated representation (Adapted from Roos et al., 2001, p. 7) of the development of a psycho-education programme can be viewed in Figure 5.2.

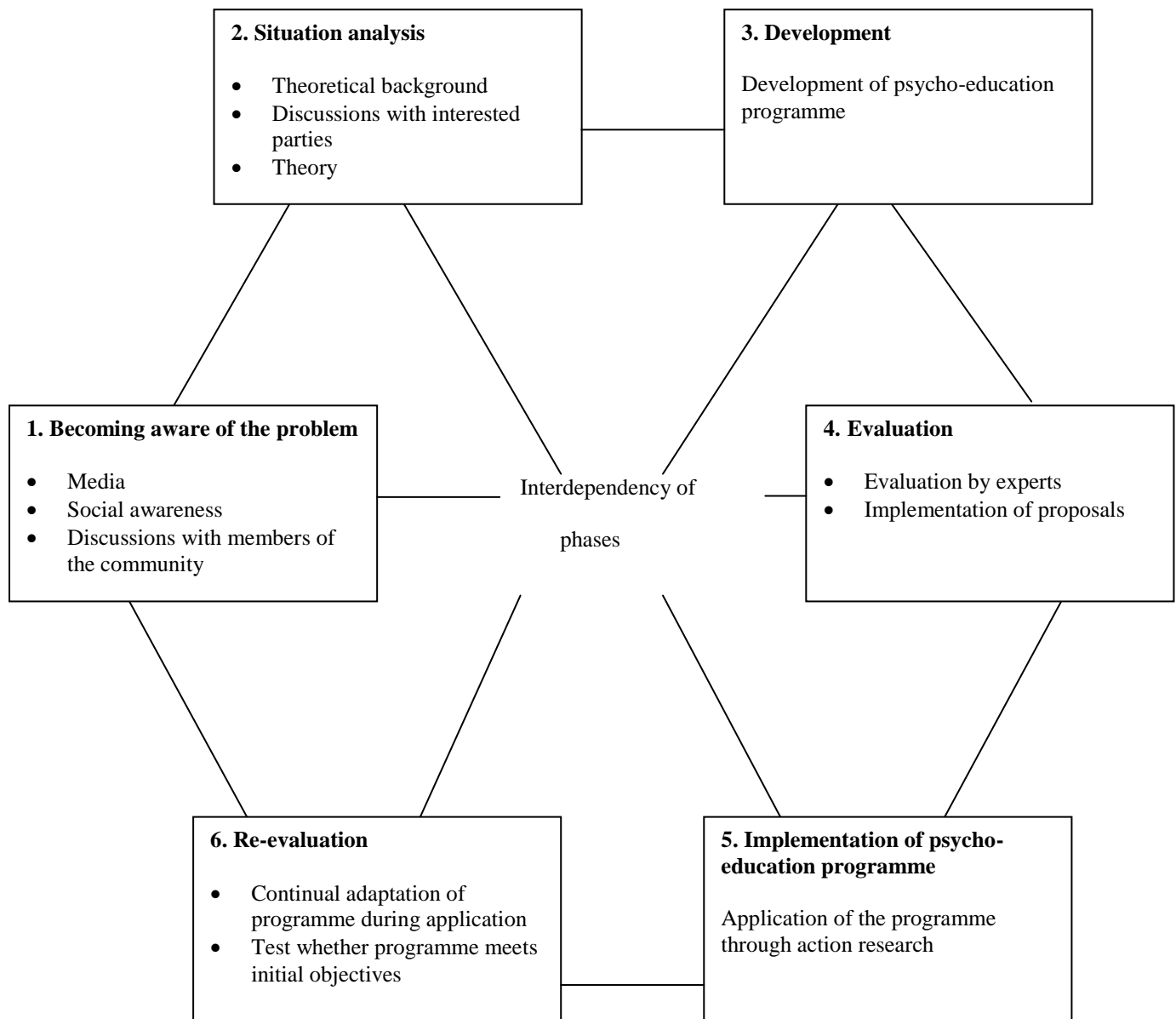


Figure 5.2: An integrated representation of the development of a psycho-education programme

5.4.1 Becoming aware of the problem

A need of the correctional centre, where the study was conducted, was to prepare young adult offenders for the correctional environment and to enable them to adjust effectively rather than opt for non-conforming means. The outcomes that were identified that needed to be incorporated in the programme were to equip the young adult offenders with the necessary life skills that would enable them to adjust more easily.

5.4.2 Situation analysis

Literature reviews on life skills and innovations with regard to life skills were done to gain knowledge of what other researchers have done to understand and address similar concerns. The literature was retrieved from relevant sources such as journals, theses, books, and programmes obtained from the library and the Internet.

5.4.3 Development

The life skills programme was developed based on the literature study, the principles of psycho-education, Bloom's taxonomy of learning, and cognitive behavioural therapy.

5.4.4 Evaluation

The programme was submitted to two experts at the Department of Psychology, namely the Head of the Department and a research fellow, who have sufficient

experience in programme development research. Approval was received to implement the programme.

5.4.5 Implementation of psycho-education programme

The programme was implemented and facilitated in English, and 120 young adult offenders formed part of the study. Of these, 43 young adult offenders (experiment group) completed the programme.

5.4.6 Re-evaluation

Self-report questionnaires were used to evaluate whether positive changes occurred with regard to the life skills of the young adult offenders. Pretesting was done before the programme was implemented, and posttesting was conducted when the programme had been completed. Follow-up evaluations were conducted respectively three and six months after the completion of the programme.

5.5 Bloom's Taxonomy

According to Bloom's taxonomy, individuals move through six hierarchically ordered levels to obtain higher levels of cognitive complexity. These levels are from the least complex to the most complex, namely knowledge, comprehension, application, analysis, synthesis and evaluation. An individual moves to more complex levels after the successful completion of each level. Bloom's taxonomy represents the process of learning and cognitive growth – in essence, how individuals learn (Granello & Underfer-Babalis, 2004; Odhabi, 2007; Woloshyn & Rye, 1995) and can be used to classify learning outcomes (Duan, 2006; Woloshyn & Rye, 1995). The

cognitive domain of Bloom's taxonomy has been utilized broadly in the development of programmes (Duan, 2006) and the evaluation of learning outcomes in secondary and postsecondary education (Halawi, Pires, & McCarthy, 2009).

Essential skills that individuals should obtain to become critical thinkers are described in each of the six levels. Knowledge is the lowest level where individuals are required only to recall or recognize information, ideas, and principles in which they learned it. With regard to comprehension, they should understand or perceive what the material means and interpret, process, explain, or translate it into another form. By means of application, individuals should be able to apply the learned material (e.g., rules, methods, principles, and theories) in new and concrete ways that can involve creativity. Regarding analysis, individuals should be able to break down the learned information or material into its component parts and identify the various components and their influence on each other. By means of synthesis, individuals ought to be able to combine the various components to build a coherent whole. Finally comes evaluation, in which all the previous categories are combined, and the individuals should be able to evaluate the value of the learnt material in specific situations (Goldman, 2005; Granello & Underfer-Babalis, 2004; Halawi et al., 2009; Krathwohl, 2002; Odhabi, 2007; Teater, 2011; Williams et al., 2006; Woloshyn & Rye, 1995). Therefore, before individuals can understand a concept, they have to remember it. Before they can apply the concept, they must understand it. Before they analyse it, they must be able to apply it. Before they can evaluate its effect, they must have analysed it. Before they can create, they must have remembered, understood, applied, analysed, and evaluated.

The other two domains of the learning process are the affective and psychomotor learning domains. The focus in the affective learning domain is on emotional growth

and functioning, which are important for receiving, responding, valuing, organising, and internalising the values of the learned material and ideas. The psychomotor learning domain focuses on physical performance, coordination as well as the acquisition of technical skills, and non-verbal communication (Halawi et al., 2009; Odhabi, 2007; Williams et al., 2006). Bloom's taxonomy can work effectively in a cognitive behavioural structure, as it is based on behaviourally specified goals by means of which individuals' successes should be observable (Granello & Underfer-Babalis, 2004).

Bloom's taxonomy of learning was applied in developing this programme. On the knowledge level, the participants were provided with new information on chess and life skills that they had to store in their memories and recall during future sessions. On the comprehension level, the participants were expected to show understanding of what they have learned by the art of chess by interpreting the knowledge and making it applicable to themselves and their circumstances. On the application level, the participants were tested to see whether they could apply their new-found knowledge in the form of role plays and exercises. In the analysis phase, the participants were expected to be able to analyse how a lack of life skills contributed to their possible involvement in criminal acts, maladjustment, and non-conforming behaviour. The synthesis and evaluation levels were not reached in this study, as the researcher is of the opinion that the young adult offenders are still on a path of self-development during their sentences. Only when their road to change and development have been completed, will they be able to evaluate the value of what they learnt in their lives.

5.6 Group Work

Group work is the main approach used when programmes are facilitated and entails various advantages, such as (i) group members understand themselves and others better; (ii) it increases teamwork and group cohesion; (iii) it identifies each group member's strong points; (iv) it improves self-esteem; (v) it allows group members the opportunity to build mutually beneficial relationships; (vi) it promotes their communication skills; (vii) it enables group members to deal with difficult and sensitive situations; (viii) it appears to promote tolerance and understanding of individuals and their needs; and (ix) it encourages innovation and creativity (WHO, 1993, 1997). In group work, the individual realizes that he is not alone or that he is not the only one with the same problem. It allows individuals the opportunity to share their problems and concerns with one another (Bowen & Gilchrist, 2004). Group work was used in this programme, as it enabled the participants to learn from and support one another.

5.7 Programme Evaluation

Programme evaluation is concerned with determining whether a programme has produced the intended result. Cloete (2006) defines programme evaluation as “the use of social research procedures to systematically investigate the effectiveness of social intervention programmes” (Cloete, 2006, p. 682). Programme evaluation is a process examining the effectiveness of a programme. By evaluating the effectiveness or benefit of a programme, it becomes possible to identify whether the programme has achieved what it was supposed to achieve. Explanations can be derived about why a programme has succeeded or failed, and by means of all of this, new ways can be

identified to develop or improve a programme. The purpose of programme evaluation is fourfold, namely to judge (whether the programme was successful), demonstrate (the quality of the programme), understand (whether the programme increased knowledge) and improve (developing or redeveloping the programme) (Capwell, Butterfoss, & Francisco, 2000; Cloete, 2006; Demarteau, 2002; Kiely, 2009; Reupert, McHugh, Maybery, & Mitchell, 2012; WHO, 2003b).

Another purpose of programme evaluation is to motivate the use of the programme or product when it has been measured as successful (Poulin et al., 2000). The evaluation of a programme can provide information on the effectiveness of an intervention with regard to scope of effect, duration of outcome, and extent of influence. Results from programme evaluations will indicate to programme developers where the programme should be improved or whether the programme should be redeveloped. More importantly, programme evaluation contributes to the scientific base of information (Capwell et al., 2000; Houser-Marko et al., 2010; Reupert et al., 2012).

According to Stame (2004), programme evaluation should focus not only on whether the outcomes have been achieved, but also on why the programme has been successful. She argues that the results of evaluations should indicate for whom interventions have been successful and in what circumstances it will be successful. Therefore, it is also important to consider the theory that underscores or explains the programme. Thus, the focus should be on the theory inside the programme that contributed to the outcomes of the programme being achieved (Stame, 2004). Moscoso, Chaves, Vidal, and Argilaga (2013), Abma et al. (2001), and Geva-May and Thorngate (2003) also argue that the researcher should deliberate carefully and find the reasons and evidence why an intervention worked or not and reach reasoned

judgments. Programme evaluation can have significant consequences, which can be positive (i.e., the adoption or improvement of a programme and acknowledgement of good work) or negative (i.e., loss of status and loss of programme) (Taut & Brauns, 2003). Successful programmes should achieve outcomes on immediate, medium-term, and long-term levels. Increasing knowledge and improving skills and attributes are viewed as immediate outcomes. The focus of medium-term outcomes is to maintain or change the identified behaviour and conditions that will affect the set goals. The goals of the programme and the improvement of skills should be achieved as part of the long-term outcomes (WHO, 2003b).

Different types of evaluations are used in programme evaluation, namely (i) process evaluation, (ii) outcome evaluation, (iii) summative evaluation and (iv) formative evaluation.

5.7.1 Process evaluation

Process evaluation can indicate whether a programme has been implemented effectively and identify the necessary strengths, weaknesses, and areas for improvement. Process evaluation also examines whether all the participants have completed the programme and their satisfaction ratings with regard to the programme (Houser-Marko et al., 2010; WHO, 2003b). There are two important dimensions in process evaluation, namely coverage and quality. Coverage refers to whether the intended participants have been reached with the intervention. Quality refers to whether the programme is addressing certain set standards such as outcomes, participatory learning, participant satisfaction, and programme evaluation (WHO, 2003b).

5.7.2 Outcome evaluation

Outcome evaluation identifies whether the programme or intervention has been successful and effective. It includes evaluation of the outcomes of the programme and whether the effect of the programme remains over an extended period (Houser-Marko et al., 2010; WHO, 2003b).

5.7.3 Summative evaluation

By means of summative evaluations, the programme developer considers all the aspects of the programme. The focus is on what learning occurred in the programme and what the overall effect of the programme was (Cloete, 2006, 2009; Kiely, 2009; Roos et al., 2001; Swart, Stevens, & MacKenzie, 2007; WHO, 2003b).

5.7.4 Formative evaluation

In formative evaluations, the focus is on the attitudes of individuals towards the programme or the effect thereof or components of the programme, and the aim is to improve the programme (Cloete, 2006, 2009; Kiely, 2009; Roos et al., 2001; Swart et al., 2007; WHO, 2003b).

5.8 Evaluation of Life Skills Programmes

The evaluation of life skills programmes focuses on whether there has been a change in skills levels, attitudes, and beliefs, as well as behavioural outcomes (Mangrulkar et al., 2001). Life skills programmes are usually evaluated by using questionnaires to assess the improvement of factors such as self-esteem, confidence, and self-reports of behaviour. This will indicate whether the life skills programme has influenced the participants and their behaviour (WHO, 2001).

5.9 Evaluation of this Programme

Two external experts evaluated the content and applicability of the programme before the programme was implemented. The effect and success of this life skills programme was evaluated by using self-report questionnaires that were administered before the programme commenced and after the programme had been completed. Follow-up evaluations were conducted respectively three and six months after the completion of the programme. A semantic-differential scale was built into the programme after each session to obtain feedback from the participants with regard to their perception and experience of the programme. The programme of this study was a “real-world” application, as it was facilitated and implemented by a practitioner in a correctional environment without the involvement of the programme developer, researcher, or evaluator. The results of this study would provide a more realistic picture of the effect of the programme because the therapist that facilitated the programme was employed at the correctional centre where the programme was implemented. This therapist was a registered clinical psychologist with more than ten years of experience in the facilitation and implementation of various programmes.

5.10 Life Skills Programme for Young Adult Offenders

5.10.1 Description of the programme

This life skills programme is divided into three phases or parts that together consist of nine modules and a total of 36 sessions. The first phase consists of two modules and 15 sessions. The focus of the first module in the first phase is on developing group cohesion and building rapport with the facilitator. The basics of the art of chess are introduced to the group members during the second module of the first phase,

since the game will serve as a resource, metaphoric tool, or vehicle of change to increase the understanding and knowledge levels of the offenders.

In the second phase are four modules with a number of 18 sessions. The focus in these modules is on developing the life skills of the offenders with specific focus on the following domains or grouped life skills, namely coping with emotions (eight sessions), problem solving (two sessions), decision making (four sessions), and anger management (four sessions). Figure 5.3 illustrates the four domains on which the programme focused.

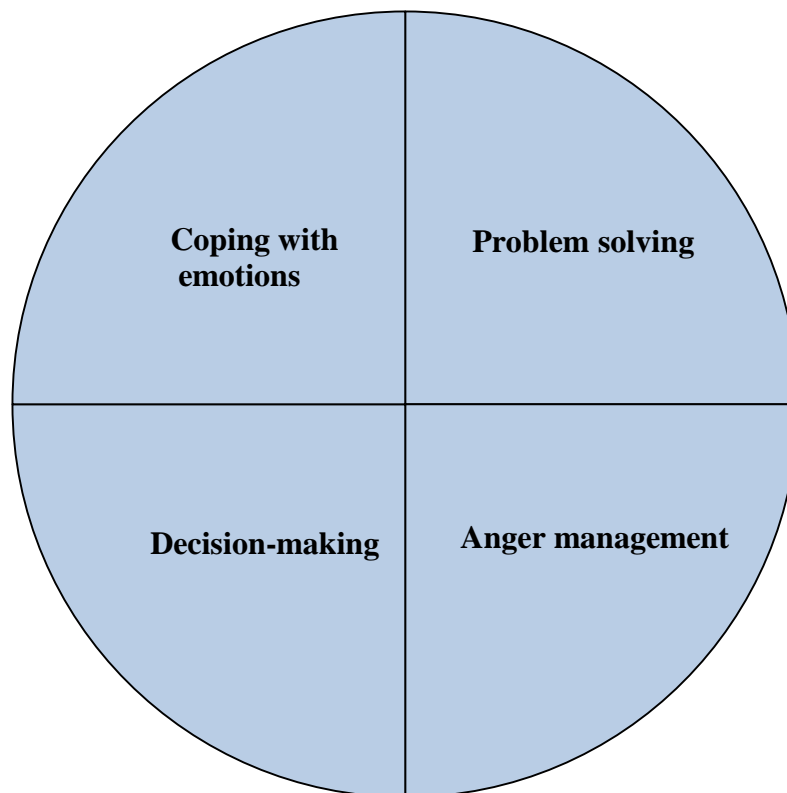


Figure 5.3: Four domains on which the programme focused

The third phase consists of three modules with a number of three sessions. The focus in the third phase is directed on ways in which the offenders should utilise their newly acquired skills in their daily functioning. In summary, nine modules are covered during these three phases, namely (a) establishing the group; (b) learning the

basics of chess; (c) coping with emotions; (d) decision making; (e) problem solving; (f) anger management; (g) taking responsibility; (h) review of the programme; and (i) termination of the programme.

5.10.2 Objectives of the parts and modules

The detailed objectives of each part of the programme and the modules can be viewed in Table 5.2.

Table 5.2

Objectives of the programme and modules

Part or module	Name of Part or module	Objectives
Part 1	Introduction	<ul style="list-style-type: none"> • Establishment of the group • Facilitation of the basics of chess • Create understanding of the game • Create comfortableness towards the game • Allow opportunities to gain experience in playing chess
Module 1.1	Establishing the group (two sessions)	<ul style="list-style-type: none"> • Creation of a cohesive group that will contribute to an atmosphere of respect, truth, and change • Develop a platform for participation and disclosure • Increase confidence in sharing personal information
Module 1.2	The basics of chess (13 sessions)	<ul style="list-style-type: none"> • Facilitate the basics of chess • Create understanding of the game • Create comfortableness towards the game • Allow opportunities to gain experience in playing chess • Create a conducive environment in which the offenders will start adoring the art of chess

Part or module	Name of Part or module	Objectives
Part 2	Chess and life skills	<ul style="list-style-type: none"> • Identify the correlation between chess and life skills • Improve life skills by using chess as a vehicle of change • Focusing on and improving life skills
Module 2.1	Coping with emotions (eight sessions)	<ul style="list-style-type: none"> • Improvement of emotional management • Enhancement of self-awareness • Improvement of stress-management • Creation of effective communication
Module 2.2	Decision-making (four sessions)	<ul style="list-style-type: none"> • Improvement of decision-making • Establishing cultural diversity • Enhancing assertiveness
Module 2.3	Problem solving (two sessions)	<ul style="list-style-type: none"> • Improvement of problem solving skills • Enhancing creativity
Module 2.4	Anger management (four sessions)	<ul style="list-style-type: none"> • Improvement of anger management skills • Enhancement of relationship skills
Part 3	Taking responsibility, review, and termination	<ul style="list-style-type: none"> • To test the group members' ability to take responsibility for their actions and lives • To review anything that should be reviewed
Module 3.1	Taking responsibility (one session)	<ul style="list-style-type: none"> • To test the group members' ability to take responsibility for their actions and lives
Module 3.2	Review (one session)	<ul style="list-style-type: none"> • To give group members the opportunity to consolidate the learning that took place throughout the programme • To enhance motivation to change
Module 3.3	Termination (one session)	<ul style="list-style-type: none"> • To determine the group members' feelings and attitude regarding the programme • To terminate the group

5.11 Summary

After considering the literature in this chapter, the following is evident:

- The main objectives of programme development are to provide important information and to develop crucial skills needed to succeed
- The principles of psycho-education can be used to develop detailed effective programmes
- Psycho-education enables individuals to reach their human potential and to live meaningful lives after they have acquired important skills
- Regarding this study, the focus was on whether the programme enabled the young adult offenders to improve their life skills, which eventually would enable them to adjust effectively in the correctional environment
- Programme evaluation is crucial to identify whether a programme has been successful and whether it has achieved what it is supposed to achieve
- The purpose of programme evaluation in this study was to determine whether (a) the intervention had achieved the desired goals; (b) change had occurred in the group members; and (c) the intervention had addressed what it purported to address

Chapter 6

Research Methodology

6.1 Introduction

This chapter details the research design and research methodology of the current study. Attention is also given to the research participants, research hypothesis, the measuring instruments utilized during this study, and the statistical procedures used.

The objective of the study, as mentioned in Chapter 1, was to develop, implement and evaluate a life skills programme for young adult offenders with the aim of improving their life skills. The researcher made use of a posttest and two follow-up tests, respectively three months and six months after the completion of the programme, to measure the short-term, medium-term, and long-term effects of the programme. The *life skills* of the offenders in this study are the dependent variables while exposure or non-exposure to the *life skills* programme is the independent variable.

It is evident that there was an experimental intervention in this study, and a quasi-experimental pretest-posttest research design (Huysamen, 1985, 1998; McBurney & White, 2010; Stangor, 2011, 2015) was utilized to achieve the aim of this study, and the experiment included an intervention.

6.2 Research Sample

Official permission was obtained to conduct the programme and research in a private maximum-security correctional centre in South Africa, and 120 literate young male adult offenders between the ages of 21 and 25 years, with long-term sentences, were selected randomly using the systematic random sampling technique. The

systematic random sampling technique is a probability sampling method that entails the selection of every n th person from a sampling frame (Stangor, 2011, 2015). There were three exclusion criteria, namely (i) offenders with an educational/literacy level below Grade 8 were excluded from the study as well as (ii) offenders that were near to a possible release date or (iii) that could not speak and understand English. The inclusion criteria were that the offenders (i) should have an educational/literacy level of Grade 8 and higher, (ii) should be between the ages of 21 and 25 years, (iii) should be able to speak and understand English, and (iv) should serve long sentences (minimum 10 years).

The participants were assigned randomly (to control for possible nuisance variables) into two groups, namely (a) an experimental group and (b) a control group. The Solomon four-group design (Braver & Braver, 1988; Huysamen, 1998; Lusk et al., 1999) was utilized in this study, and this statistical method will be discussed later in this chapter. Thus, there were two experimental groups and two control groups that had been drawn randomly from the sample of participants. Half of all study participants (both experimental and control groups) were assigned randomly to receive pre-intervention and post-intervention assessments. The other half were assigned randomly to receive post-intervention assessments only. Therefore, one experimental group and one control group underwent the pretesting while all the groups completed the posttesting and the follow-up tests.

The experimental group attended the structured *Life Skills* programme for a period of six months, while the control group participated in the normal daily activities of the correctional centre that did not include any other forms of intervention programmes. The life skills (problem solving abilities, decision-making abilities, abilities to cope with emotions, and abilities to manage anger) of the young adult offenders and the

effect of the programme were assessed immediately before the programme commenced (pretesting), while posttesting occurred immediately (short term) after the programme had concluded. Follow-up evaluations were conducted three months (medium term) and six months (long term) after the completion of the programme. The instruments utilized for the pretesting, posttesting, and follow-up evaluations were (i) the Coping Strategy Indicator (CSI) (Desmond, Shevlin, & MacLachlan, 2006); (ii) the Melbourne Decision Making Questionnaire (MDMQ) (Mann, Burnett, Radford, & Ford, 1997); (iii) the Trait Emotional Intelligence Questionnaire (TEIQue) (Mikolajczak, Luminet, Leroy, & Roy, 2007); and (iv) the Aggression Questionnaire (AQ) (Buss & Perry, 1992). The advantage of using young adult offenders in a maximum-security correctional environment is that they will be available for follow-up evaluations after long intervals, given their long sentences.

6.3 Measuring Instruments

The following instruments were utilized in the study:

- Biographical questionnaire
- Trait Emotional Intelligence Questionnaire (TEIQue)
- Aggression Questionnaire (AQ)
- The Coping Strategy Indicator (CSI)
- The Melbourne Decision Making Questionnaire (MDMQ)
- Semantic differential scale

Each of these measuring instruments will now be discussed in more detail.

6.3.1 Biographical questionnaire

A biographical questionnaire was administered to collect background information of the participants. The questions of the biographical questionnaire focused on (i) gender, (ii) age, (iii) ethnicity, (iv) mother tongue, (v) school grade, (vi) years studied after school, (vii) type of sentence, (viii) sentence length, and (ix) number of years already incarcerated.

6.3.2 Trait Emotional Intelligence Questionnaire (TEIQue)

The Trait Emotional Intelligence Questionnaire (TEIQue) (Mikolajczak et al., 2007) was utilized to measure the offenders' abilities to cope with emotions. The TEIQue is based on the conceptual framework of trait emotional intelligence and consists of 153 items rated on a seven-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) and encompasses fifteen subscales organised under four factors: well-being, self-control, emotionality and sociability, and global trait EI (Baughman et al., 2011; Lin, Kannappan, & Lau, 2013; Martskvishvili, Arutinov, & Mestvirishvili, 2013; Mikolajczak et al., 2007; Mouton, Hansenne, Delcour, & Cloes, 2013; Petrides, Vernon, Schermer, & Veselka, 2010; Sánchez-Ruiz, Hernández-Torrano, Pérez-González, Batey, & Petrides, 2011; Vernon, Villani, Schermer, & Petrides, 2008). The fifteen subscales are (i) adaptability, (ii) assertiveness, (iii) emotion expression, (iv) others' emotion management, (v) emotion perception, (vi) emotion regulation, (vii) empathy, (viii) happiness, (ix) impulsivity, (x) optimism, (xi) relationship skills, (xii) self-esteem, (xiii) self-motivation, (xiv) social competence, and (xv) stress management (Lin et al., 2013; Mouton et al., 2013; Petrides et al., 2010; Sánchez-Ruiz et al., 2011; Tett, Fox, & Wang, 2005). High scores on all the subscales, except for impulsivity, indicate improved or well-

developed trait emotional intelligence. Cronbach's alpha coefficient for this scale has been identified at 0.88 – 0.94 for males and 0.86 – 0.95 for females (Martskvishvili et al., 2013; Mikolajczak et al., 2007). Internal consistencies for the fifteen subscales of the TEIQue have been identified as 0.79 – 0.80 for self-esteem; 0.88 – 0.89 for emotion expression; 0.70 – 0.74 for self-motivation; 0.79 – 0.80 for emotion regulation; 0.86 – 0.91 for happiness; 0.70 – 0.73 for empathy; 0.75 – 0.81 for social competence; 0.64 – 0.75 for impulsivity; 0.73 – 0.80 for emotion perception; 0.80 – 0.81 for stress management; 0.71 – 0.75 for emotion management; 0.80 – 0.83 for optimism; 0.68 – 0.70 for relationship skills; 0.69 – 0.74 for adaptability; and 0.75 – 0.76 for assertiveness. Cronbach's alpha coefficients for the four factors have been identified as 0.83 – 0.91 for well-being; 0.79 – 0.89 for self-control; 0.78 – 0.90 for emotionality; and 0.81 – 0.89 for sociability (Mikolajczak et al., 2007; Petrides, 2006).

6.3.3 Aggression Questionnaire (AQ)

The Aggression Questionnaire (AQ) (Buss & Perry, 1992) was used to measure the offenders' abilities to manage anger. The AQ is a 29-item self-report inventory rated on a five-point Likert-type scale, where 1 signifies that the statement is extremely uncharacteristic of me and 5 signifies that the statement is extremely characteristic of me. The AQ consists of four factors, namely physical aggression (*nine items; e.g., "If I have to resort to violence to protect my rights, I will"*), verbal aggression (*five items; e.g., "I tell my friends openly when I do not agree with them"*), anger (*seven items; e.g., "Some of my friends think I am a hothead"*), and hostility (*eight items; e.g., "I wonder why sometimes I feel so bitter about things"*). Higher scores on each factor represent higher levels of aggression (Archer & Webb, 2006; Buss & Perry, 1992;

Combs et al., 2006; Daoust, Loper, Magaletta, & Diamond, 2006; Diamond, Wang, & Buffington-Vollum, 2005; Falkenbach, Poythress, Falki, & Manchak, 2007; Gerevich, Bacskai, & Czobor, 2007; Herzog, Hughes, & Jordan, 2010; Kirsh, Mounts, & Olczak, 2006; Lahm, 2008; Loza & Loza-Fanous, 1999a, 1999b; Mills & Kroner, 2003; Moller & Deci, 2010; Palmer & Thakordas, 2005; Quinsey, Book, & Lalumiere, 2001; Ronen & Rosenbaum, 2010; Scarpa, 2001; Scarpa et al., 2002; Smith, Mullis, Kern, & Brack, 1999). The AQ has been used mostly in studies with university undergraduates or high school students as research samples (Herzog et al., 2010; Hornsveld, Muris, Kraaimaat, & Meesters, 2009; Kirsh et al., 2006; Quinsey et al., 2001; Scarpa et al., 2002; Smith et al., 1999; Vigil-Colet, Lorenzo-Seva, Codorniu-Raga, & Morales, 2005). Palmer and Thakordas (2005) and Loza and Loza-Fanous (1999a, 1999b), however, utilized the AQ on a sample of imprisoned young adult male offenders, Diamond et al. (2005) administered the questionnaire with mentally ill male offenders, and Loots (2010) administered the questionnaire on male maximum-security offenders in a South African correctional centre.

The internal consistency reliability (Cronbach alpha) of each factor on the AQ has been identified in various studies as physical aggression (0.78 – 0.83), verbal aggression (0.68 – 0.76), anger (0.70 – 0.85) and hostility (0.71 – 0.87) with a high internal consistency for the overall scale (0.86 – 0.90) (Buss & Perry, 1992; Falkenbach et al., 2007; Gerevich et al., 2007; Moller & Deci, 2010; Ongen, 2010; Palmer & Thakordas, 2005; Scarpa, 2001; Scarpa, Hurley, Shumate, & Haden, 2006). On the South African offender sample, Loots (2010) found the following internal consistency reliability for each factor, namely 0.65 for physical aggression, 0.56 for verbal aggression, 0.60 for anger, and 0.71 for hostility, with a high internal consistency of 0.87 for the overall scale.

6.3.4 The Coping Strategy Indicator (CSI)

The Coping Strategy Indicator (CSI) (Desmond et al., 2006) was utilized to measure the offenders' abilities to solve problems. The CSI is a 33-item, self-administered questionnaire that consists of three subscales, namely problem solving (e.g., "*Brainstormed all possible solutions before deciding what to do*"), avoidance (e.g., "*Slept more than usual*") and social support (e.g., "*Confided fears and worries to a friend or a relative*"). The items of the CSI are scaled on a three-point Likert-type scale, namely 1 (*not at all*), 2 (*a little*), and 3 (*a lot*) (Amirkhan, 1990, 1994; Joseph & Kuo, 2009; Kirchner, Forns, Munoz, & Pereda, 2008; Marsh et al., 2010; Shorter-Gooden, 2004; Soderstrom et al., 2001; Sullivan, Schroeder, Dudley, & Dixon, 2010). The 11 items in the problem solving subscale measure the individual's ability to manipulate his surroundings. The seeking social support subscale consists of 11 items and measures how much an individual looks for help from others. The 11 items in the avoidance subscale indicate whether an individual is inclined to avoid situations as part of his coping strategy. High scores on the problem solving and seeking social support subscales, and low scores on the avoidance subscale will indicate better problem solving abilities. The Cronbach's alpha coefficients indicate adequate internal consistency for each of the subscales ranging from 0.82 – 0.98 for problem solving, 0.88 – 0.98 for seeking social support, and 0.75 – 0.96 for avoidance (Amirkhan, 1990, 1994; Desmond et al., 2006; Soderstrom et al., 2001; Sullivan et al., 2010).

6.3.5 The Melbourne Decision Making Questionnaire (MDMQ)

The Melbourne Decision Making Questionnaire (MDMQ) (Mann et al., 1997) was utilized to measure the offenders' decision-making abilities. The MDMQ consists of four subscales, namely buckpassing (e.g., *"I prefer letting others make decisions"* or *"I prefer to leave decisions to others"*), procrastination (e.g., *"I postpone making decisions until it is too late to make a choice"* or *"I put off making decisions"*), vigilance (e.g., *"When I have to make a decision, I like to stop and consider all the possible alternatives"* or *"When making decisions I like to collect lots of information"*) and hyper-vigilance (e.g., *"When I have to make a decision, I feel as if I am pressed by urgency"* or *"I feel as if I am under tremendous pressure when making decisions"*) (Bouckennooghe, Vanderheyden, Mestdagh, & Van Laethem, 2007; Certel, Bahadir, & Sönmez, 2013; Deemer, Carter, & Lobrano, 2010; Deemer, Martens, & Buboltz, 2010; Di Fabio & Blustein, 2010; Isaksson, Hajdarević, Jutterström, & Hörnsten, 2013; Jurišová & Sarmány-Schuller, 2013; Kamhalová, Halama, & Gurňáková, 2013; Mann et al., 1997; Mann et al., 1998; Umeh & Omari-Asor, 2011). The scale consists of 22 items, and the participants had to evaluate whether the statements corresponded to their situations based on a three-point Likert-type scale (*1 = not true; 2 = sometimes true; 3 = true*) (Certel et al., 2013; Di Fabio & Blustein, 2010; Jurišová & Sarmány-Schuller, 2013; Kamhalová et al., 2013; Mann et al., 1997; Mann et al., 1998; Umeh & Omari-Asor, 2011). Buckpassing is defined as the tendency to avoid or escape making decisions by projecting the responsibility of making decisions onto others (Certel et al., 2013; Di Fabio & Blustein, 2010; Jurišová & Sarmány-Schuller, 2013; Kamhalová et al., 2013; Mann et al., 1997; Mann et al., 1998; Yates et al., 2010). Vigilance involves the careful clarification of goals and the evaluation of all the alternatives before decisions are made (Certel et al.,

2013; Di Fabio & Blustein, 2010; Jurišová & Sarmány-Schuller, 2013; Kamhalová et al., 2013; Mann et al., 1997; Mann et al., 1998). Hyper-vigilance is the frantic search for solutions and the impulsive decision making to choose the first solution that is found (Certel et al., 2013; Di Fabio & Blustein, 2010; Jurišová & Sarmány-Schuller, 2013; Kamhalová et al., 2013; Mann et al., 1997; Mann et al., 1998). Procrastination refers to the tendency to put off making decisions (Certel et al., 2013; Di Fabio & Blustein, 2010; Jurišová & Sarmány-Schuller, 2013; Kamhalová et al., 2013; Mann et al., 1997; Yates et al., 2010) and the inability to explore options and change behaviour (Ariely & Wertenbroch, 2002; Murray, 2003). High scores on the vigilance subscale and low scores on the hyper-vigilance, buckpassing and procrastination subscales will be indicative of increased or proper decision-making abilities. The Cronbach alpha coefficients for the subscales have been identified as 0.73 – 0.80 for vigilance, 0.67 – 0.74 for hyper-vigilance, 0.77 – 0.87 for buckpassing, and 0.70 – 0.81 for procrastination (Bouckenooghe et al., 2007; Mann et al., 1997; Mann et al., 1998).

6.3.6 Semantic differential scale

A semantic differential scale is a rating tool that is developed to measure social attitudes (Ajani & Stork, 2013; Al-Hindawe, 1996) or the connotative meaning of objects, events, or concepts. A semantic differential scale uses a bipolar rating scale (whether it is seven-point or five-point) with opposing adjectives that the participants can select to indicate their connotation towards an object or concept in question. The scale has the advantage that the participants can indicate whether the facilitator was skilled in facilitating the programme and whether the lessons achieved what they were supposed to achieve. Further advantages of the semantic differential scale is that it is easily understandable, easy to construct, easy to use, and allows the participants to

focus only on the categories of evaluation provided (Ajani & Stork, 2013; Al-Hindawe, 1996). The satisfaction of participants is influenced strongly by the quality of the programme and relates to improved treatment results and retention (Marsden et al., 2000; Melnick, Hawke, & Wexler, 2004). Treatment satisfaction can serve as a tool to evaluate treatment outcome because unsatisfied individuals can leave a treatment programme prematurely (Marsden et al., 2000).

The Semantic Differential scale (Appendix B) in this study was utilized to measure the satisfaction of the offenders. Higher scores reflect greater satisfaction with the programme and its relevance. The scale focused on perceptions of the offenders regarding each session; therefore, in essence, it focuses on the programme and the facilitator.

6.3.7 Internal consistencies for the subscales of the various measuring instruments

The internal consistencies of the various subscales of the measuring instruments are reported in Table 6.1 for the pretest, posttest and two follow-up evaluations. Cronbach's alpha coefficient (α) was calculated for this purpose.

Table 6.1

Cronbach's Alpha Coefficients for the Subscales of each Measuring Instrument

Measuring instrument		α coefficient			
		Pretest	Posttest	Follow-up 1	Follow-up 2
CSI	Social support	0.72	0.86	0.80	0.81
	Problem solving	0.68	0.90	0.85	0.85
	Avoidance	0.62	0.66	0.72	0.62
MDMQ	Vigilance	0.83	0.78	0.67	0.77
	Buckpassing	0.83	0.73	0.70	0.76
	Procrastination	0.79	0.70	0.67	0.68
	Hyper-vigilance	0.16	0.53	0.69	0.71
AQ	Physical aggression	0.62	0.70	0.69	0.80
	Verbal aggression	0.55	0.61	0.40	0.67
	Anger	0.72	0.77	0.76	0.75
	Hostility	0.74	0.77	0.85	0.87
TEIQue	Adaptability	0.08	0.38	0.35	0.47
	Assertiveness	0.06	0.19	0.007	0.20
	Emotion expression	0.24	0.56	0.67	0.60
	Others' emotion management	0.37	0.32	0.44	0.35
	Emotion perception	0.47	0.59	0.59	0.59
	Emotion regulation	0.49	0.52	0.64	0.54
	Empathy	0.34	0.15	0.56	0.35
	Happiness	0.68	0.62	0.71	0.79
	Impulsivity	0.53	0.62	0.61	0.67
	Optimism	0.37	0.29	0.45	0.54
	Relationship skills	-0.07	0.38	0.29	0.37
	Self-esteem	0.48	0.56	0.57	0.64
	Self-motivation	0.30	0.17	0.22	0.27
	Social competence	0.20	0.55	0.63	0.62

Stress management	0.48	0.58	0.59	0.72
Well-being	0.79	0.77	0.79	0.81
Self-control	0.56	0.76	0.82	0.77
Emotionality	0.69	0.76	0.81	0.79
Sociability	0.22	0.56	0.56	0.46
Global	0.87	0.91	0.93	0.93

Only the subscales with acceptable reliabilities will be used in the analyses that follow. The dimensions that were used to measure the domains can be viewed in Figure 6.1.

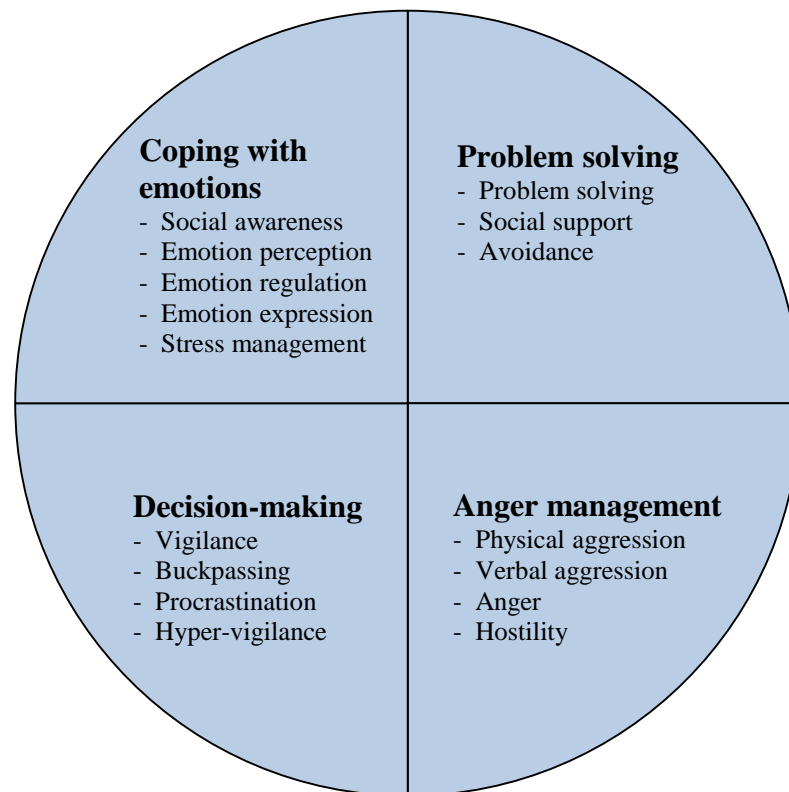


Figure 6.1: Dimensions used to assess the domains

The method of data gathering will be discussed next.

6.4 Data Gathering

All the participants completed a biographical questionnaire, after which one of the experimental groups and one of the control groups completed the pretests (regarding the dependent variables). The experimental groups completed semantic differential scales after each session to measure their satisfaction with the sessions and the programme as a whole. After the completion of the programme, posttest measures were administered to both the experimental groups and control groups. Follow-up measures were conducted respectively three months and six months after the completion of the programme to measure the sustainability of the programme. The programme facilitator, a registered psychologist who was trained in the application of the various questionnaires, was available during the administration of these questionnaires to answer any questions that might arise. Table 6.2 indicates the participants' involvement in the study.

Table 6.2

Indication of Participants' Involvement in the Study

	Pretest	Intervention	Posttest	Follow-up 1	Follow-up 2
Experimental Group 1	Completed	Completed	Completed	Completed	Completed
Experimental Group 2	Did not complete	Completed	Completed	Completed	Completed
Control Group 1	Completed	Did not complete	Completed	Completed	Completed
Control Group 2	Did not complete	Did not complete	Completed	Completed	Completed

6.5 Research Questions

For the purposes of this study, two research questions were formulated, namely:

- Will the life skills of the young adult offenders be enhanced by this life skills psychoeducational intervention programme?
- What will the short-, medium- and long-term effects of the programme be?

The following research hypothesis to be investigated has been formulated to answer these research questions:

The young adult male offenders in the *Life Skills* programme (experimental group) will in the short, medium and long term exhibit improved levels of life skills (e.g., cope better with their emotions; solve problems more effectively; make improved, constructive decisions; and manage their anger more successfully) in comparison with the young adult male offenders who did not participate in the intervention programme (control group).

6.6 Statistical Procedure

Testing can threaten the internal validity of the study, as the pretest measurement can cause changes in the posttest measures. The Solomon four-group design was applied in this study to investigate the effectiveness of the programme and to control the effects that pretesting may have, since it provides high external and internal validity (Braver & Braver, 1988; Huysamen, 1998; Lusk et al., 1999). This design helps to control for any internal validity concerns such as maturation, testing, and loss of participants (Arbaugh, 2000; Barkauskas, Lusk, & Eakin, 2005; Feilzer, 2007;

Probst, 2003). Holdnak, Clemons and Bushardt (1990) reported the following advantages to implementing the Solomon four-group design, namely:

- It eliminates the effect of pretest sensitization
- It is viewed as a strong mechanism of control with regard to threats of internal validity
- It evaluates the interaction between the pretest and the programme (treatment)
- It is one of the most powerful experimental research designs
- It increases external validity because the effect of pretest sensitization is investigated

Although there are one-treatment condition experimental designs (such as pre- and posttest control group design and the posttest-only control group design), only the Solomon four-group design is able to test for the presence of pretest sensitization (Braver & Braver, 1988). In this study were four groups, namely the two experimental groups and the two control groups. Two of these groups were subjected to the pretest design, namely one of the experimental groups and one of the control groups, while the remaining two groups, namely the other experimental group and the other control group, were not subjected to the pretest design. The participants in all four groups were subjected to the posttests in respect of the dependent variables. The Solomon four-group design is shown in Table 6.3.

Table 6.3

Representation of the Solomon Four-group Design

Group		Pretest	Treatment	Posttest
1	<i>R</i>	O_1	<i>X</i>	O_2
2	<i>R</i>		<i>X</i>	O_5
3	<i>R</i>	O_3		O_4
4	<i>R</i>			O_6

Note. *O* = outcome measure; *X* = treatment; *R* = randomization

The main advantage of the Solomon four-group design is that it is capable of measuring the effect of pretest sensitization. Pretest sensitization occurs when participants become aware of the experimental intervention because they are exposed to a pretest of the dependent variables, and therefore react differently towards the post- and follow-up tests than they would if there were no pretesting. This limits the generalizability of the results of a sample that has been exposed to pretesting to the remaining population that has not been exposed to pretesting (Helmstadter, 1970).

The statistical analysis method, as presented by Braver and Braver (1988), which should be followed in this design, is complicated, but it remains a method of analysis that is valuable in measuring the effect of the experimental intervention and the effect of pretesting. During the first phase of the analysis, it is necessary to determine the possible effect of pretest sensitization; thus, whether the *Outcomes measure (O)* is influenced by the *Treatment (X)* if a pretest occurs. When pretest sensitization is present, the *Outcomes measure for the experimental group with pretesting (O₂)* will be higher than the *Outcomes measure for the control group with pretesting (O₄)*, but the *Outcomes measure for the experimental group without pretesting (O₅)* will not be higher than the *Outcomes measure for the control without pretesting (O₆)* (view Table 6.3 in this regard). The statistical test used in this case is a 2 x 2 between-groups

analysis of variance (ANOVA) that is conducted on the posttest scores of the four groups. The two relevant factors (main effects) are the presence of an intervention (yes/no) and the presence of a pretest (yes/no). To use this technique to determine whether pretest sensitization has occurred, the interaction between the mentioned two factors needs to be investigated.

It is assumed that pretest sensitization has occurred when the interaction delivers statistical significant results. It is then recommended that the analyses be followed up with two additional tests. With the first test, the average posttest scores of Groups 1 and 3, who both completed the pretest, are compared, and with the second test, the average posttest scores of Groups 2 and 4, who both did not complete the pretest, are compared. When the difference in posttest scores for Groups 2 and 4 differ from the posttest scores for Groups 1 and 3, it can be concluded that pretest sensitization has occurred and that the intervention will have an effect only when pretesting is present (Shuttleworth, 2009). However, when the interaction does not deliver statistical significant results, it can be concluded that pretest sensitization did not occur, and it should be investigated whether the intervention (*Life Skills* programme) had an effect. This is done by investigating the effect of the intervention (treatment) on the posttest scores. When this main effect produces statistical significant results, it can be concluded that the intervention (*Life Skills* programme) had an effect that had not been influenced by the effect of pretest sensitization. Thus, it would prove that the *Life Skills* programme (treatment) had a statistically significant effect on the life skills of the offenders, irrespective of whether there was pretesting or not.

When the main effect (intervention) does not deliver significant results, the analyses will be followed up with an analysis of covariance (ANCOVA) performed on the posttest scores, with the pretest scores as the covariates. If the ANCOVA

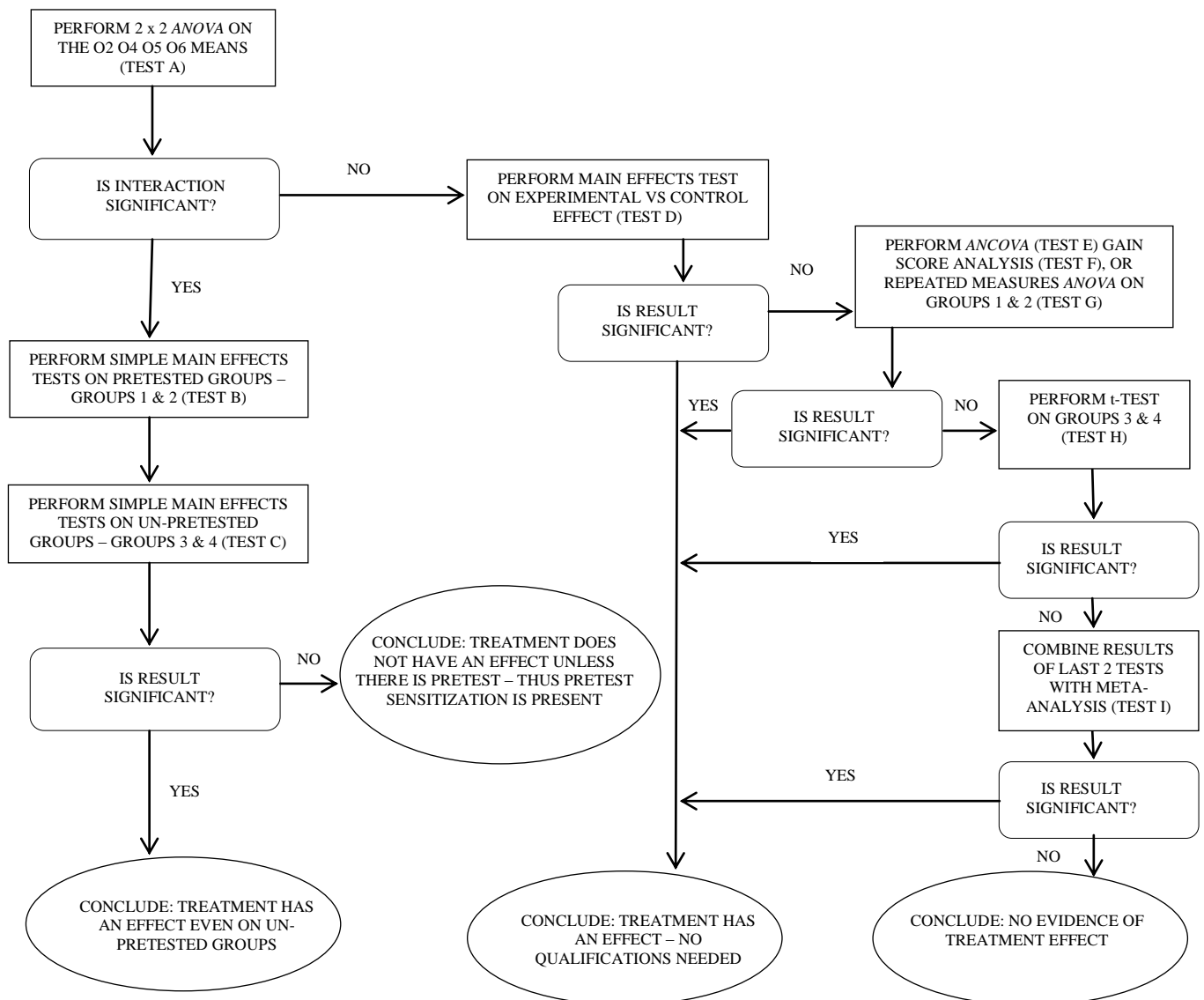
delivers statistically significant results, it can also be concluded that the intervention (*Life Skills* programme) has had an influence on the dependent variables (*life skills*), irrespective of whether pretesting occurred. If the ANCOVA does not deliver significant results, the next step will be to conduct a *t*-test for independent groups with regard to the posttest scores of Groups 3 and 4. If significant differences in averages are obtained, it can be concluded that the intervention had an effect, and further analyses can be discontinued.

If no significant differences in the averages are found, then the last step in the analytical procedure will be a meta-analysis that will enable the combination of results from disparate and independent tests of the same hypothesis in a statistical manner (Rosenthal, 1978). With this technique, the *p*-level of each of the respective statistical tests is converted to a normal deviate (*z*) value. These *z*-scores are then combined into single z_{meta} scores by means of the following formula:

$$z_{meta} = \sum_i z_{pi} / \sqrt{k}$$

where z_{pi} is the corresponding *z*-value to the one-tailed *p*-value of the *i*th statistical test and where *k* is the number of such statistical tests.

The Solomon four-group design is illustrated in Figure 6.2.



Note. O = Outcome measure; ANOVA = Analysis of variance; ANCOVA = Analysis of covariance
 Figure 6.2: Flowchart of tests and conclusions for the Solomon four-group design

Attention is paid to the practical significance of these results to comment on the relevance of statistical significant results obtained from the investigation in this study. The effect sizes are calculated as a measure of practical significance (Steyn, 1999). The methods employed in determining the effect sizes differ due to the variety of statistical procedures performed.

Because the ANOVA and *t*-tests are the most prominent techniques utilized during data analysis, a brief description of the effect sizes is provided. During the execution of the *F*-test (analysis of variance), the following guideline values for effect sizes can be used, namely $f = 0,10$ – small effect; $f = 0,25$ – medium effect; and $f = 0,40$ – large effect. The effect sizes of the differences between the two sets of averages were calculated by means of determining Cohen's *d* (Cohen, 1988). This statistical procedure expresses the difference between the two means in terms of the size of the standard deviation. In this case, the guideline values are $d = 0,20$ small effect, $d = 0,50$ medium effect and $d = 0,80$ large effect. The 1% and 5% levels of significance were used throughout the data analyses, and the Statistical Package for the Social Sciences program (IBM Incorporated, 2014) was used to analyse the data. In this study, the researcher worked with the raw scores of the measuring instruments, and the scores on the subscales are used to measure the offenders' life skills.

6.7 Ethical Considerations

Official permission was obtained to conduct the programme and research in a private maximum-security correctional centre located in South Africa. The data were collected with the help of the programme facilitator, a registered and experienced clinical psychologist, who also facilitated the programme. The participants were informed about the nature and objectives of the research and were requested to provide written informed consent (Appendix A) before participating in this study. The participants were ensured of their anonymity and confidentiality at all times. The participants were informed of the voluntary nature of the study. To avoid disadvantaging the members of the control group, they would be allowed to complete the programme at a later stage after the research had been completed. However, this

would not form part of the research. Numbers were assigned to offenders to ensure their anonymity by making sure that it would be impossible to decode the identity of the offender by using collateral data. The researchers promised no incentives to the participants in order to motivate them to participate.

6.8 Summary

- The research problem was identified as young adult male offenders lacking the necessary life skills to adjust successfully in a correctional environment
- The correctional centre requested an intervention programme that could develop young adult offenders to adjust more effectively
- Pretests, posttests, and follow-up tests were conducted to evaluate whether the young adult offenders had acquired the necessary skills that would enable them to adjust more effectively
- Adequate internal reliability consistencies were calculated for the subscales of all the measuring instruments
- The Solomon four-group design was used as the statistical procedure in this study

Chapter 7

Results

7.1 Introduction

The following group classifications should be kept in mind when interpreting the results:

- Group 1 = experimental group with pretesting (Experimental Group 1)
- Group 2 = experimental group without pretesting (Experimental Group 2)
- Group 3 = control group with pretesting (Control Group 1)
- Group 4 = control group without pretesting (Control Group 2).

The effect of the programme was tested in the short term (posttests directly after the programme), the medium term (first follow-up three months after the programme) and the long term (second follow-up six months after the programme). The statistical analyses that follow focused on these three terms, and each domain that was tested is investigated separately. The effect of the programme is discussed, after which the group members' experiences of the programme are discussed.

7.2 Descriptive Statistics

The frequencies for the research sample are calculated according to the four groupings regarding their ethnicity, age, mother tongue, type of offence, time in prison, and sentence length. This information is given in Table 7.1.

Table 7.1

Distribution of Offenders according to Ethnicity, Age, Mother Tongue, Type of Offence, Time in Prison and Sentence Length for the Four Groups

Variable	Category	Group 1		Group 2		Group 3		Group 4		Total group	
		N	%	N	%	N	%	N	%	N	%
Ethnicity	Black	21	95.5	21	100.0	19	86.4	26	83.9	87	90.6
	Coloured	1	4.5	0	0.0	3	13.6	4	12.9	8	8.3
	White	0	0.0	0	0.0	0	0.0	1	3.2	1	1.0
Age	21 years old	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	22 years old	1	4.5	0	0.0	0	0.0	2	6.5	3	3.1
	23 years old	4	18.2	4	19.1	2	9.1	11	35.5	21	21.9
	24 years old	5	22.7	7	33.3	7	31.8	11	35.5	30	31.3
	25 years old	12	54.6	10	47.6	13	59.1	7	22.5	42	43.7
Mother tongue	South Sotho	16	72.7	10	47.6	12	54.5	11	35.5	49	51.0
	North Sotho	0	0.0	1	4.8	0	0.0	1	3.2	2	2.1
	Xhosa	2	9.1	4	19.0	5	22.7	3	9.7	14	14.6
	Zulu	1	4.5	2	9.5	0	0.0	4	12.9	7	7.3
	Tswana	2	9.1	4	19.0	2	9.1	6	19.4	14	14.6
	Afrikaans	1	4.5	0	0.0	3	13.6	4	12.9	8	8.3
	Other	0	0.0	0	0.0	0	0.0	2	6.5	2	2.1
Type of crime	Economic	3	13.6	4	19.0	5	22.7	8	25.8	20	20.8
	Violent	5	22.7	6	28.6	9	40.9	11	35.5	31	32.3
	Sexual	14	63.6	11	52.4	8	36.4	12	38.7	45	46.9
Time in prison	1 – 5 years	18	81.8	19	90.5	13	59.1	29	93.5	79	82.3
	6 – 10 years	4	18.2	2	9.5	9	40.9	2	6.5	17	17.7
	11 – 15 years	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	16 – 20 years	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	21 – 25 years	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Sentence length	10 – 15 years	8	36.4	11	52.4	9	40.9	15	48.4	43	44.8
	16 – 20 years	8	36.4	7	33.3	6	27.3	7	22.5	28	29.2
	21 – 25 years	5	22.7	2	9.5	5	22.7	6	19.4	18	18.7
	Longer than 25 years	1	4.5	1	4.8	2	9.1	3	9.7	7	7.3

Note: Group 1 = Experimental Group 1; Group 2 = Experimental Group 2; Group 3 = Control Group 1; and Group 4 = Control Group 2

Initially, 120 young adult male offenders were selected randomly to be part of the research study, but during the course of the research project, 17 offenders from the experimental group and seven from the control group were lost due to internal and external transfers of these offenders. The final group (experimental groups and control groups) consisted of 96 offenders. There were no offenders who voluntarily dropped out of the programme and the offenders were only allowed to continue with the programme if they had a 100% attendance rate. The biographical information obtained from the participants indicated that the majority of the participants were black offenders (90.6%), while the rest were coloured offenders (8.3%) and white offenders (1.0%). The ages of the experimental group ranged from 22 to 25 years. The majority of the participants were 25 years old (43.7%), while the mean age was 24 years. Seven categories were created for the participants' home language, namely South Sotho, North Sotho, Xhosa, Zulu, Tswana, Afrikaans, and "Other". According to Table 7.1, the largest number of participants (51.0%) was Southern Sotho-speaking. Of the sample, 14.6% were Xhosa-speaking, 14.6% Tswana-speaking, 8.3% Afrikaans-speaking and 7.3% Zulu-speaking. A very small number of participants (2.1%) spoke Northern Sotho.

Most of the participants (46.9%) were sentenced for sexual offences, while 32.8% were sentenced for violent offences, and 20.8% were sentenced for economic

offences. The majority of the participants (82.3%) had served between one and five years of their sentences, while the rest (17.7%) had served between six and ten years of their sentences. Regarding sentence length, most of the participants (43.8%) received a sentence of between 10 and 15 years, while 29.2% and 18.7% respectively received sentences between 16 and 20 years and between 21 and 25 years. Seven participants (7.3%) received sentences of longer than 25 years.

7.3 Hypothesis Testing

The stated research hypothesis will now be discussed. The effect of pretest sensitization was investigated as first priority in each case, because the Solomon four-group design was used. The objective of the programme was to improve various life skills of the participants, namely coping with emotions, decision-making, problem solving, and anger management. Various measuring instruments (as discussed in Chapter 6) were used to measure the different dimensions of these domains, which will be dealt with separately in the discussion of the results.

7.4 Problem Solving Domain

Measures regarding three dimensions of the problem solving domain were investigated, namely Social Support, Problem Solving and Avoidance. Table 7.2 shows the minimum scores, maximum scores, means (\bar{X}) and standard deviations (s) of these three dimensions for the experimental and control groups regarding the pretest, posttest, and follow-up tests.

Table 7.2

Minimum Scores, Maximum Scores, Means and Standard Deviations for the Experimental and Control Groups regarding the Pretest, Posttest, and Follow-up Tests of the Problem Solving Dimensions

Problem solving dimensions	Test time	Experimental group (n = 43)				Control group (n = 53)			
		Min	Max	\bar{X}	s	Min	Max	\bar{X}	s
Social support	Pre	21	32	27.23	3.05	17	33	24.09	4.33
	Post	14	33	27.35	4.38	15	33	25.62	4.92
	Follow 1	21	33	28.16	2.98	17	33	26.57	4.49
	Follow 2	20	33	27.42	3.86	15	33	26.83	4.19
Problem solving	Pre	20	33	27.00	3.67	17	31	24.68	3.67
	Post	18	33	29.09	3.77	14	33	27.42	5.97
	Follow 1	21	33	28.49	4.10	15	33	28.23	4.96
	Follow 2	20	33	29.44	3.53	20	33	29.64	3.44
Avoidance	Pre	17	32	24.00	4.34	19	30	23.18	2.97
	Post	13	30	21.88	3.94	15	31	22.49	3.74
	Follow 1	15	33	22.30	4.53	15	33	22.92	3.77
	Follow 2	15	31	21.81	3.84	15	33	22.40	3.71

Note: Group 1 = Experimental Group 1; Group 2 = Experimental Group 2; Group 3 = Control Group

1; and Group 4 = Control Group 2

The comparison between the scores of the average pretest, posttest and follow-up tests of the experimental group and the control group in Table 7.2 indicates larger differences in averages for the experimental group than for the control group. It will now be investigated whether these differences are statistically significant after the role of pretest sensitization has been considered and ruled out.

The means (\bar{X}) and standard deviations (s) of the subscales of the Coping Strategy Indicator (CSI) for the four groups regarding the scores of the pretest, posttest and

follow-up tests are depicted in Table 7.3. Groups 2 and 4 did not complete the pretests; therefore, no descriptive statistics regarding pretesting are available for them.

Table 7.3

Means (\bar{X}) and Standard Deviations (s) for the Four Groups regarding the Scores of the Pretest, Posttest and Follow-up Tests on the Subscales of the Coping Strategy

Indicator (CSI)

Problem solving dimensions	Test time	Group 1		Group 2		Group 3		Group 4	
		\bar{X}	s	\bar{X}	s	\bar{X}	s	\bar{X}	s
Social support	Pre	27.23	3.05	-	-	24.09	4.33	-	-
	Post	28.86	3.28	25.76	4.89	24.05	5.31	26.74	4.38
	Follow 1	28.59	2.36	27.71	3.51	26.59	5.08	26.55	4.10
	Follow 2	28.00	3.62	26.81	4.08	26.05	4.56	27.39	3.88
Problem solving	Pre	27.00	3.67	-	-	24.68	3.67	-	-
	Post	28.68	4.10	29.52	3.44	25.82	6.39	28.55	5.47
	Follow 1	29.00	3.69	27.95	4.52	28.00	5.55	28.39	4.57
	Follow 2	30.23	3.49	28.62	3.47	28.64	4.17	30.35	2.65
Avoidance	Pre	24.00	4.34	-	-	23.18	2.97	-	-
	Post	21.68	4.19	22.10	3.75	21.68	3.53	23.06	3.84
	Follow 1	23.32	5.28	21.24	3.39	23.32	4.39	22.65	3.31
	Follow 2	21.73	4.44	21.90	3.21	22.82	4.31	22.10	3.27

Note: Group 1 = Experimental Group 1; Group 2 = Experimental Group 2; Group 3 = Control Group 1; and Group 4 = Control Group 2

The possible effect of the *Life Skills* programme on the problem solving skills of the offenders will now be investigated by looking for possible differences on the three subscales of the CSI, between (i) the pretest and posttest scores, (ii) the pretest and follow-up test 1 scores (medium term) and (iii) pretest and follow-up test 2 scores (long term).

7.4.1 Influence of the programme on Social Support

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Social Support* (as a problem solving skill) of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Social Support* posttest scores of the four groups. The results can be viewed in Table 7.4.

Table 7.4

Results of the ANOVA on the Posttest Scores of Social Support

Source	MS	df	F	p	f
Pretest vs. Not (P)	0.962	1	0.047	0.828	
Treatment vs. Not (T)	86.256	1	4.241	0.042	
P x T	196.850	1	9.678**	0.002	0.31
Error	20.340	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.4 indicate that there is significant interaction ($p = 0.002$) on the 1% level of significance between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), with a medium to large effect size of 0.31. Thus, it would seem as if pretest sensitization was present. This analysis was followed up with two additional statistical tests. First, the average posttest scores on *Social Support* for the two groups with pretesting (groups one and three) were compared (Test A) and then, second, the average posttest scores on *Social Support* for the two groups without pretesting (Groups 2 and 4) were compared (Test B). The *t*-test for independent groups was used for this purpose, and the results are presented in Table 7.5.

Table 7.5

Comparison of the Means according to Tests A and B on the Posttest Scores for Social Support

Test	Group 1 (n=22)		Group 3 (n=22)		<i>t</i>	<i>p</i>	<i>d</i>
	\bar{X}	<i>s</i>	\bar{X}	<i>s</i>			
Test A	28.86	3.28	24.05	5.31	3.622**	0.001	0.19
Test	Group 2 (n=21)		Group 4 (n=31)		<i>t</i>	<i>p</i>	<i>d</i>
	\bar{X}	<i>s</i>	\bar{X}	<i>s</i>			
Test B	25.76	4.89	26.74	4.38	-0.755	0.454	

** $p \leq 0,01$

* $p \leq 0,05$

It is evident from Table 7.5 that there is a difference between the results of Test A and Test B. After further investigation, it is clear that there is no significant difference in the average *Social Support* scores for the two groups without pretesting (Groups 2 and 4), while there were significant differences between the averages on the 1% level of significance for Test A (groups with pretesting). However, the effect size of this result is small and therefore of no practical importance. It is also apparent from Table 7.5 that Group 1 (experimental group with pretesting) has achieved a significantly higher average score on *Social Support* in the posttest than Group 3 (control group with pretesting) has. This result indicates that the programme did improve the *Social Support* of the offenders in the short term, but that this improvement occurred only because pretesting occurred.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Social Support* (as a problem solving skill) of the offenders, a 2 x 2 between-groups

ANOVA analysis was performed on the average *Social Support* follow-up 1 scores of the four groups. The results can be viewed in Table 7.6.

Table 7.6

Results of the ANOVA on the Follow-up 1 Scores of Social Support

Source	MS	df	F	p	f
Pretest vs. Not (P)	4.947	1	0.323	0.571	
Treatment vs. Not (T)	58.687	1	3.828*	0.050	0.20
P x T	4.074	1	0.266	0.607	
Error	15.333	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.6 indicate that there is no significant interaction ($p = 0.607$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Social Support*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.6, it is apparent that a statistical significant result has been obtained, as the calculated F -value of 3.828 is significant on the 5% level of significance. This result emphasises a medium effect size ($f = 0.20$) and is of practical importance. Thus, it can be concluded that the programme did have an effect (the experimental group participants achieved significantly higher average follow-up 1 scores in the medium term on *Social Support* than those in the control group), and this effect occurred without any prerequisite. In other words, the *Life Skills* programme did improve the *Social Support* of the offenders significantly in the medium term (the average follow-up 1 scores are significantly higher than the average pretest scores), regardless of whether there was pretesting or not.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Social Support* (as problem solving skill) of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Social Support* follow-up 2 scores of the four groups. The results are presented in Table 7.7.

Table 7.7

Results of the ANOVA on the Follow-up 2 Scores of Social Support

Source	MS	df	F	p	f
Pretest vs. Not (P)	0.134	1	0.008	0.928	
Treatment vs. Not (T)	11.102	1	0.682	0.411	
P x T	37.452	1	2.306	0.132	
Error	16.278	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.7 indicate that there is no significant interaction ($p = 0.132$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), in the follow-up 2 scores of the participants for *Social Support*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.7 it is evident that no significant result ($p = 0.411$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Social Support* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.8.

Table 7.8

Results of the ANCOVA on the Follow-up 2 Scores of Social Support for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.279	1	0.022	0.883
Error	12.750	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.8 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.883$), and this analysis was followed by an independent t -test on the follow-up 2 scores of *Social Support* for Groups 2 and 4, seeing that these two groups only have posttests on the dependent variables. This test delivered a t -value of -0.516 for 50 degrees of freedom and a corresponding p -value of 0.608. No significant result was achieved; therefore a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.15 + 0.52)/\sqrt{2} = 0.474$; $p = 0.1506$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant long-term effect on the *Social Support* of the offenders.

7.4.2 Influence of the programme on Problem Solving

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Problem Solving* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Problem Solving* posttest scores of the four groups. The results can be viewed in Table 7.9.

Table 7.9

Results of the ANOVA on the Posttest Scores of Problem Solving

Source	MS	df	F	p	f
Pretest vs. Not (P)	74.717	1	2.931	0.090	
Treatment vs. Not (T)	86.297	1	3.386	0.069	
P x T	20.876	1	0.819	0.368	
Error	25.489	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.9 indicate that there is no significant interaction ($p = 0.368$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), in the posttest scores of the participants for *Problem Solving*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.9, it is apparent that no significant result ($p = 0.069$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Problem Solving* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.10.

Table 7.10

Results of the ANCOVA on the Posttest Scores of Problem Solving for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	43.625	1	1.559	0.219
Error	27.991	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.10 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.219$), and this analysis was followed with an independent t -test on the posttest scores of *Problem Solving* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 0.724 for 50 degrees of freedom and a corresponding p -value of 0.472. No significant result was achieved; therefore a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(1.23 + 0.71)/\sqrt{2} = 1.407$; $p = 0.016$. It is clear that a significant result was obtained from this meta-analysis, and that it can be accepted that the treatment did have a significant effect on the *Problem Solving* variable in the short term. The participants in the experimental group achieved significantly higher average posttest scores than the participants in the control group did. The *Life Skills* programme improved the *Problem Solving* of the offenders in the short term (the average posttest scores are significantly higher than the average pretest scores), regardless of whether there was pretesting or not.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Problem Solving* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Problem Solving* follow-up 1 scores of the four groups. The results are presented in Table 7.11.

Table 7.11

Results of the ANOVA on the Follow-up 1 Scores of Problem Solving

Source	MS	df	F	p	f
Pretest vs. Not (P)	2.555	1	0.119	0.731	
Treatment vs. Not (T)	1.871	1	0.087	0.768	
P x T	12.053	1	0.563	0.455	
Error	21.416	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.11 indicate that there is no significant interaction ($p = 0.455$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), in the follow-up 1 scores of the participants for *Problem Solving*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.11 it is apparent that no significant result ($p = 0.768$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Problem Solving* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.12.

Table 7.12

Results of the ANCOVA on the Follow-up 1 Scores of Problem Solving for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.349	1	0.017	0.898
Error	21.087	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.12 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.898$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Problem Solving* for Groups 2 and 4, seeing that these groups only had posttests on the dependent variables. This test delivered a t -value of 0.338 for 50 degrees of freedom and a corresponding p -value of 0.737. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.13 + 0.33)/\sqrt{2} = 0.325$; $p = 0.126$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Problem Solving* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Problem Solving* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Problem Solving* follow-up 2 scores of the four groups. The results can be viewed in Table 7.13.

Table 7.13

Results of the ANOVA on the Follow-up 2 Scores of Problem Solving

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	0.071	1	0.006	0.938	
Treatment vs. Not (T)	0.123	1	0.011	0.918	
P x T	64.800	1	5.556*	0.021	0.24
Error	11.663	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.13 indicate that there is a significant interaction ($p = 0.021$) on the 5% level of significance between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), with a medium effect size of 0.24. Thus it would seem as if pretest sensitization was present. This analysis was followed up with two additional statistical tests. First, the average follow-up 2 scores on *Problem Solving* for the two groups with pretesting (Groups 1 and 3) were compared (Test A), and second, the average follow-up 2 scores on *Problem Solving* for the two groups without pretesting (Groups 2 and 4) were compared (Test B). The t -test for independent groups was used for this purpose, and the results can be viewed in Table 7.14.

Table 7.14

Comparison of the Means according to Tests A and B on the Follow-up 2 Scores for Problem Solving

Test	Group 1 (n=22)		Group 3 (n=22)		t	p	d
	\bar{X}	s	\bar{X}	s			
Test A	30.23	3.49	28.64	4.17	1.372	0.177	
Test	Group 2 (n=21)		Group 4 (n=31)		t	p	d
	\bar{X}	s	\bar{X}	s			
Test B	28.62	3.47	30.35	2.65	-2.043*	0.046	0.18

** $p \leq 0,01$

* $p \leq 0,05$

It is evident from Table 7.14 that there is a difference between the results of Test A and Test B. After further investigation, it is clear that there is no significant difference in the average *Problem Solving* follow-up 2 scores for the two groups with pretesting (Groups 1 and 3), while there are significant differences between the averages on the 5% level of significance for test B (groups without pretesting).

However, the effect size of this result is small, and it seems as if the participants of the experimental group that completed the pretest have achieved a significantly higher average on *Problem Solving* than did the participants of the control group who were also exposed to the pretesting. This result indicates that the programme did not significantly improve the *Problem Solving* of the offenders in the long term.

7.4.3 Influence of the programme on Avoidance

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Avoidance* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Avoidance* posttest scores of the four groups. The results can be viewed in Table 7.15.

Table 7.15

Results of the ANOVA on the Posttest Scores of Avoidance

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	18.889	1	1.282	0.260	
Treatment vs. Not (T)	5.501	1	0.373	0.543	
P x T	5.501	1	0.373	0.543	
Error	14.731	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.15 indicate that there is no significant interaction ($p = 0.543$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Avoidance*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on

the posttest scores was calculated, and from Table 7.15, it is evident that no significant result ($p = 0.543$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Avoidance* variable, with the pretest scores as the covariates. The results are represented in Table 7.16.

Table 7.16

Results of the ANCOVA on the Posttest Scores of Avoidance for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	1.838	1	0.156	0.695
Error	11.819	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.16 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.695$), and this analysis was followed with an independent t -test on the posttest scores of *Avoidance* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 0.901 for 50 degrees of freedom and a corresponding p -value of 0.372. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.38 + 0.88)/\sqrt{2} = 0.89$; $p = 0.76$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant short-term effect on the *Avoidance* of the offenders.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Avoidance* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Avoidance* follow-up 1 scores of the four groups. The results can be viewed in Table 7.17.

Table 7.17

Results of the ANOVA on the Follow-up 1 Scores of Avoidance

Source	MS	df	F	p	f
Pretest vs. Not (P)	44.381	1	2.633	0.108	
Treatment vs. Not (T)	11.592	1	0.688	0.409	
P x T	11.592	1	0.688	0.409	
Error	16.853	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.17 indicate that there is no significant interaction ($p = 0.409$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Avoidance*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.17, it is evident that no significant result ($p = 0.409$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Avoidance* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.18.

Table 7.18

Results of the ANCOVA on the Follow-up 1 Scores of Avoidance for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	5.836	1	0.456	0.503
Error	12.806	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.18 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.503$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Avoidance* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 1.143 for 50 degrees of freedom and a corresponding p -value of 0.143. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.68 + 1.48)/\sqrt{2} = 1.53$; $p = 0.12$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Avoidance* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Avoidance* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Avoidance* follow-up 2 scores of the four groups. The results are presented in Table 7.19.

Table 7.19

Results of the ANOVA on the Follow-up 2 Scores of Avoidance

Source	MS	df	F	p	f
Pretest vs. Not (P)	1.732	1	0.120	0.730	
Treatment vs. Not (T)	9.637	1	0.667	0.416	
P x T	4.731	1	0.327	0.569	
Error	14.458	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.19 indicate that there is no significant interaction ($p = 0.569$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Avoidance*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.19, it is evident that no significant result ($p = 0.416$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Avoidance* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.20.

Table 7.20

Results of the ANCOVA on the Follow-up 2 Scores of Avoidance for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	25.652	1	1.667	0.204
Error	15.392	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.20 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.204$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Avoidance* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 0.209 for 50 degrees of freedom and a corresponding p -value of 0.835. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(1.28 + 0.20)/\sqrt{2} = 1.05$; $p = 0.30$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant long-term effect on the *Avoidance* of the offenders.

7.5 Anger Management Domain

Measures regarding four dimensions of the anger management domain, namely Physical Aggression, Verbal Aggression, Anger, and Hostility, were investigated. Table 7.21 shows the minimum scores, maximum scores, means (\bar{X}), and standard deviations (s) of these four dimensions for the experimental and control groups regarding the pretest, posttest and follow-up tests.

Table 7.21

Minimum Scores, Maximum Scores, Means and Standard Deviations for the Experimental and Control Groups regarding the Pretest, Posttest, and Follow-up Tests of the Anger Management Dimensions

Anger management dimensions	Test time	Experimental group (n = 43)				Control group (n = 53)			
		Min	Max	\bar{X}	s	Min	Max	\bar{X}	s
Physical aggression	Pre	12	42	25.86	7.52	13	39	27.23	5.96
	Post	9	38	20.30	8.20	9	38	22.28	7.72
	Follow 1	9	40	21.09	7.64	9	40	22.36	6.84
	Follow 2	9	41	21.16	8.79	9	39	20.23	7.37
Verbal aggression	Pre	8	25	17.55	4.10	11	25	17.59	4.31
	Post	5	24	15.60	5.00	9	25	16.15	4.12
	Follow 1	11	23	16.67	3.42	8	25	16.26	3.96
	Follow 2	6	23	15.14	4.95	6	23	14.21	4.26
Anger	Pre	9	35	17.95	5.60	8	32	19.45	6.73
	Post	7	34	16.93	6.26	7	30	17.83	6.59
	Follow 1	7	33	17.19	6.34	7	31	17.58	6.31
	Follow 2	9	32	17.51	6.25	7	31	15.92	5.96
Hostility	Pre	15	39	23.59	6.35	15	39	27.05	6.44
	Post	8	36	21.53	7.03	8	37	22.06	7.11
	Follow 1	8	39	21.44	8.16	10	40	22.55	8.10
	Follow 2	8	36	20.91	8.60	8	40	20.08	8.23

Note: Group 1 = Experimental Group 1; Group 2 = Experimental Group 2; Group 3 = Control Group 1 and Group 4 = Control Group 2

The comparison between the average scores of the pretest, posttest and follow-up tests of the experimental group and the control group in Table 7.21 indicates larger differences in averages for the control group than for the experimental group. It will

now be investigated whether these differences are statistically significant after the role of pretest sensitization has been considered and ruled out.

The means (\bar{X}) and standard deviations (s) of the subscales of the Aggression Questionnaire (AQ) for the four groups regarding the scores of the pretest, posttest, and follow-up tests are depicted in Table 7.22. Groups 2 and 4 did not complete the pretests; therefore, no descriptive statistics for pretesting are available for them.

Table 7.22

Means (\bar{X}) and Standard Deviations (s) for the Four Groups regarding the Scores of the Pretest, Posttest and Follow-up Tests on the Subscales of the Aggression Questionnaire (AQ)

Anger management dimensions	Test time	Group 1		Group 2		Group 3		Group 4	
		\bar{X}	s	\bar{X}	s	\bar{X}	s	\bar{X}	s
Physical aggression	Pre	25.86	7.52	-	-	27.23	5.96	-	-
	Post	20.36	8.41	20.24	8.19	25.32	8.92	20.13	6.02
	Follow 1	20.77	8.11	21.43	7.29	23.14	6.03	21.81	7.41
	Follow 2	20.00	8.94	22.38	8.67	19.09	7.52	21.03	7.28
Verbal aggression	Pre	17.55	4.10	-	-	17.59	4.31	-	-
	Post	15.00	5.86	16.24	3.94	17.55	4.70	15.16	3.39
	Follow 1	16.77	3.54	16.57	3.37	16.77	4.26	15.90	3.77
	Follow 2	15.18	4.74	15.10	5.27	14.77	5.03	13.81	3.65
Anger	Pre	17.95	5.60	-	-	19.45	6.73	-	-
	Post	17.36	6.94	16.48	5.59	20.91	7.43	15.65	4.99
	Follow 1	16.86	6.96	17.52	5.78	17.68	7.00	17.52	5.89
	Follow 2	15.95	6.02	19.14	6.22	16.50	6.61	15.52	5.54

Hostility	Pre	23.59	6.35	-	-	27.05	6.44	-	-
	Post	20.64	7.78	22.48	6.19	24.59	8.34	20.26	5.56
	Follow 1	21.68	9.47	21.19	6.74	23.05	8.75	22.19	7.73
	Follow 2	18.82	8.38	23.10	8.47	19.82	10.39	20.26	6.47

Note: Group 1 = Experimental Group 1; Group 2 = Experimental Group 2; Group 3 = Control Group 1 and Group 4 = Control Group 2

The possible effect of the *Life Skills* programme on the anger management skills of the offenders will now be investigated by looking for possible differences, on the four subscales of the Aggression Questionnaire (AQ), between (i) the pretest and posttest scores, (ii) the pretest and follow-up test 1 scores (medium term); and (iii) the pretest and follow-up test 2 scores (long term).

7.5.1 Influence of the programme on Physical Aggression

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Physical Aggression* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Physical Aggression* posttest scores of the four groups. The results can be viewed in Table 7.23.

Table 7.23

Results of the ANOVA on the Posttest Scores of Physical Aggression

Source	MS	df	F	p	f
Pretest vs. Not (P)	165.388	1	2.723	0.102	
Treatment vs. Not (T)	137.474	1	2.264	0.136	
P x T	150.130	1	2.472	0.119	
Error	60.730	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.23 indicate that there is no significant interaction ($p = 0.119$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Physical Aggression*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.23, it is apparent that no statistical significant result ($p = 0.136$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Physical Aggression* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.24.

Table 7.24

Results of the ANCOVA on the Posttest Scores of Physical Aggression for Groups 1 and 3

Source	MS	df	F	p	f
Treatment vs. Not	248.931	1	3.764*	0.048	0.27
Error	76.267	41			

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.24 indicates that the ANCOVA delivered a significant F -value ($p = 0.048$), and it can be concluded that the programme did have a significant effect on the *Physical Aggression* of the offenders in the short term. The calculated F -value indicates a medium effect size ($f = 0.27$) and is of moderate practical importance. The participants in the experimental group achieved a significantly lower average posttest score in the short term on *Physical Aggression* than the participants in the control group did. In other words, the *Life Skills* programme did improve the *Physical Aggression* of the offenders significantly in the short term (the average posttest scores are significantly lower than the average pretest scores), regardless of whether there was pretesting or not.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Physical Aggression* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Physical Aggression* follow-up 1 scores of the four groups. The results can be viewed in Table 7.25.

Table 7.25

Results of the ANOVA on the Follow-up 1 Scores of Physical Aggression

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	2.660	1	0.050	0.823	
Treatment vs. Not (T)	44.008	1	0.833	0.364	
P x T	23.089	1	0.437	0.510	
Error	52.853	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.25 indicate that there is no significant interaction ($p = 0.510$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Physical Aggression*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.25, it is evident that no significant result ($p = 0.364$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Physical Aggression* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.26.

Table 7.26

Results of the ANCOVA on the Follow-up 1 Scores of Physical Aggression for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	52.464	1	1.015	0.320
Error	51.683	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.26 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.320$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Physical Aggression* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.181 for 50 degrees of freedom and a corresponding p -value of 0.857. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.99 + 0.18)/\sqrt{2} = 0.83$; $p = 0.09$. It is also evident here that no significant result was achieved, and it

can be concluded that the programme did not have a significant medium-term effect on the *Physical Aggression* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Physical Aggression* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Physical Aggression* follow-up 2 scores of the four groups. The results are presented in Table 7.27.

Table 7.27

Results of the ANOVA on the Follow-up 2 Scores of Physical Aggression

Source	MS	df	F	p	f
Pretest vs. Not (P)	109.390	1	1.687	0.197	
Treatment vs. Not (T)	29.848	1	0.460	0.499	
P x T	1.132	1	0.017	0.895	
Error	64.845	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.27 indicate that there is no significant interaction ($p = 0.895$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Physical Aggression*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.27, it is evident that no significant result ($p = 0.499$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed

on the follow-up 2 scores of the *Physical Aggression* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.28.

Table 7.28

Results of the ANCOVA on the Follow-up 2 Scores of Physical Aggression for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	18.676	1	0.283	0.597
Error	65.920	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.28 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.597$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Physical Aggression* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 0.606 for 50 degrees of freedom and a corresponding p -value of 0.547. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.52 + 0.58)/\sqrt{2} = 0.78$; $p = 0.46$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant long-term effect on the *Physical Aggression* of the offenders.

7.5.2 Influence of the programme on Verbal Aggression

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Verbal Aggression* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed

on the average *Verbal Aggression* posttest scores of the four groups. The results can be viewed in Table 7.29.

Table 7.29

Results of the ANOVA on the Posttest Scores of Verbal Aggression

Source	MS	df	F	p	f
Pretest vs. Not (P)	7.691	1	0.383	0.537	
Treatment vs. Not (T)	12.629	1	0.630	0.430	
P x T	76.826	1	3.830	0.053	
Error	20.059	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.29 indicate that there is no significant interaction ($p = 0.053$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Verbal Aggression*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.29, it is evident that no significant result ($p = 0.430$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Verbal Aggression* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.30.

Table 7.30

Results of the ANCOVA on the Posttest Scores of Verbal Aggression for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	70.009	1	2.863	0.098
Error	24.457	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.30 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.098$), and this analysis was followed with an independent t -test on the posttest scores of *Verbal Aggression* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 1.050 for 50 degrees of freedom and a corresponding p -value of 0.299. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(1.65 + 1.04)/\sqrt{2} = 1.90$; $p = 0.05$. The superior power of the meta-analytical technique emphasised that a significant result was obtained, and it can be concluded that the programme did have a significant effect on the *Verbal Aggression* of the offenders in the short term. The participants in the experimental group achieved significantly lower average posttest scores on the *Verbal Aggression* variable than those in the control group did. In other words, the *Life Skills* programme did improve the *Verbal Aggression* of the offenders in the short term (the average posttest scores are significantly lower than the average pretest scores), regardless of whether there was pretesting or not.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Verbal Aggression* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Verbal Aggression* follow-up 1 scores of the four groups. The results can be viewed in Table 7.31.

Table 7.31

Results of the ANOVA on the Follow-up 1 Scores of Verbal Aggression

Source	MS	df	F	p	f
Pretest vs. Not (P)	6.714	1	0.475	0.492	
Treatment vs. Not (T)	2.614	1	0.185	0.668	
P x T	2.614	1	0.185	0.668	
Error	14.126	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.31 indicate that there is no significant interaction ($p = 0.668$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Verbal Aggression*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.31, it is evident that no significant result ($p = 0.668$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Verbal Aggression* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.32.

Table 7.32

Results of the ANCOVA on the Follow-up 1 Scores of Verbal Aggression for Groups 1 and 3

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>
Treatment vs. Not	0.005	1	0.001	0.984
Error	11.768	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.32 indicates that the ANCOVA did not deliver a significant *F*-value ($p = 0.984$), and this analysis was followed with an independent *t*-test on the follow-up 1 scores of *Verbal Aggression* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a *t*-value of 0.654 for 50 degrees of freedom and a corresponding *p*-value of 0.516. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the *t*-test in the following formula: $(0.03 + 0.67)/\sqrt{2} = 0.49$; $p = 0.14$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Verbal Aggression* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Verbal Aggression* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Verbal Aggression* follow-up 2 scores of the four groups. The results are presented in Table 7.33.

Table 7.33

Results of the ANOVA on the Follow-up 2 Scores of Verbal Aggression

Source	MS	df	F	p	f
Pretest vs. Not (P)	6.491	1	0.304	0.582	
Treatment vs. Not (T)	16.880	1	0.792	0.376	
P x T	4.531	1	0.212	0.646	
Error	21.324	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.33 indicate that there is no significant interaction ($p = 0.646$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Verbal Aggression*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.33 it is evident that no significant result ($p = 0.376$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Verbal Aggression* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.34.

Table 7.34

Results of the ANCOVA on the Follow-up 2 scores of Verbal Aggression for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	1.991	1	0.090	0.766
Error	22.150	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.34 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.766$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Verbal Aggression* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 1.043 for 50 degrees of freedom and a corresponding p -value of 0.302. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.31 + 1.04)/\sqrt{2} = 0.95$; $p = 0.34$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant long-term effect on the *Verbal Aggression* of the offenders.

7.5.3 Influence of the programme on Anger

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Anger* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Anger* posttest scores of the four groups. The results can be viewed in Table 7.35.

Table 7.35

Results of the ANOVA on the Posttest Scores of Anger

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	221.560	1	5.750	0.019	
Treatment vs. Not (T)	43.142	1	1.120	0.293	
P x T	112.150	1	2.910	0.091	
Error	38.535	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.35 indicate that there is no significant interaction ($p = 0.091$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Anger*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.35 it is evident that no significant result ($p = 0.293$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Anger* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.36.

Table 7.36

Results of the ANCOVA on the Posttest Scores of Anger for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	77.157	1	1.949	0.170
Error	39.579	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.36 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.170$), and this analysis was followed with an independent t -test on the posttest scores of *Anger* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 0.561 for 50 degrees of freedom and a corresponding p -value of 0.577. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(1.41 + 0.55)/\sqrt{2} = 1.39$; $p = 0.16$. It is also evident here that no significant result was achieved, and it can be concluded

that the programme did not have a significant short-term effect on the *Anger* of the offenders.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Anger* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Anger* follow-up 1 scores of the four groups. The results can be viewed in Table 7.37.

Table 7.37

Results of the ANOVA on the Follow-up 1 Scores of Anger

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	1.432	1	0.035	0.852	
Treatment vs. Not (T)	3.846	1	0.094	0.760	
P x T	3.994	1	0.098	0.755	
Error	40.895	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.37 indicate that there is no significant interaction ($p = 0.755$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Anger*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.37 it is evident that no significant result ($p = 0.760$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the

follow-up 1 scores of the *Anger* variable, with the pretest scores as the covariates.

The results can be viewed in Table 7.38.

Table 7.38

Results of the ANCOVA on the Follow-up 1 Scores of Anger for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.327	1	0.010	0.921
Error	32.805	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.38 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.921$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Anger* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 0.005 for 50 degrees of freedom and a corresponding p -value of 0.996. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.10 + 0.00)/\sqrt{2} = 0.07$; $p = 0.94$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Anger* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Anger* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Anger* follow-up 2 scores of the four groups. The results are presented in Table 7.39.

Table 7.39

Results of the ANOVA on the Follow-up 2 scores of Anger

Source	MS	df	F	p	f
Pretest vs. Not (P)	28.454	1	0.776	0.381	
Treatment vs. Not (T)	55.591	1	1.515	0.221	
P x T	101.923	1	2.779	0.099	
Error	36.682	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.39 indicate that there is no significant interaction ($p = 0.099$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Anger*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.39 it is evident that no significant result ($p = 0.221$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Anger* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.40.

Table 7.40

Results of the ANCOVA on the Follow-up 2 Scores of Anger for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.084	1	0.002	0.962
Error	37.287	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.40 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.962$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Anger* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 2.203 for 50 degrees of freedom and a corresponding p -value of 0.032. This result is significant on the 5% level of significance. After revisiting Table 7.22, it is evident that the control group ($\bar{X} = 15.52$; $s = 5.54$) achieved a significantly lower average *Anger* score on the follow-up 2 scores than the experimental group ($\bar{X} = 19.14$; $s = 6.22$) did. This implies that the programme was unsuccessful in reducing the *Anger* of the offenders in the long term.

7.5.4 Influence of the programme on Hostility

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Hostility* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Hostility* posttest scores of the four groups. The results can be viewed in Table 7.41.

Table 7.41

Results of the ANOVA on the Posttest Scores of Hostility

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	36.391	1	0.756	0.387	
Treatment vs. Not (T)	17.655	1	0.367	0.546	
P x T	223.097	1	4.634	0.034	0.23
Error	48.148	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.41 indicate that there is significant interaction ($p = 0.034$) on the 5% level of significance between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), with a medium effect size of 0.23. It would thus seem as if pretest sensitization was present. This analysis was followed up with two additional statistical tests. Firstly, the average posttest scores on *Hostility* for the two groups with pretesting (Groups 1 and 3) were compared (Test A) and then, secondly, the average posttest scores on *Hostility* for the two groups without pretesting (Groups 2 and 4) were compared (Test B). The t -test for independent groups was utilized for this purpose, and the results are presented in Table 7.42.

Table 7.42

Comparison of the Means according to Tests A and B on the Posttest Scores for Hostility

Test	Group 1 (n=22)		Group 3 (n=22)		t	p	d
	\bar{X}	s	\bar{X}	s			
Test A	20.64	7.78	24.59	8.34	-1.625	0.112	
Test	Group 2 (n=21)		Group 4 (n=31)		t	p	d
	\bar{X}	s	\bar{X}	s			
Test B	22.48	6.19	20.26	5.56	1.348	0.184	

** $p \leq 0,01$

* $p \leq 0,05$

From Table 7.42 it is evident that no significant results were obtained for both Test A and Test B. This result indicates that the programme did not have any significant influence on the *Hostility* of the offenders in the short term.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Hostility* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Hostility* follow-up 1 scores of the four groups. The results can be viewed in Table 7.43.

Table 7.43

Results of the ANOVA on the Follow-up 1 Scores of Hostility

Source	MS	df	F	p	f
Pretest vs. Not (P)	10.565	1	0.157	0.693	
Treatment vs. Not (T)	32.797	1	0.487	0.487	
P x T	0.761	1	0.011	0.916	
Error	67.389	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.43 indicate that there is no significant interaction ($p = 0.916$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Hostility* and therefore it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.43 it is evident that no significant result ($p = 0.487$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Hostility* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.44.

Table 7.44

Results of the ANCOVA on the Follow-up 1 Scores of Hostility for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	6.603	1	0.096	0.758
Error	68.764	41		

** $p \leq 0,01$

* $p \leq 0,05$

The ANCOVA result did not deliver a significant F -value ($p = 0.758$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Hostility* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.483 for 50 degrees of freedom and a corresponding p -value of 0.631. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.31 + 0.50)/\sqrt{2} = 0.57$; $p = 0.56$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Hostility* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Hostility* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Hostility* follow-up 2 scores of the four groups. The results are presented in Table 7.45.

Table 7.45

Results of the ANOVA on the Follow-up 2 Scores of Hostility

Source	MS	df	F	p	f
Pretest vs. Not (P)	130.277	1	1.862	0.176	
Treatment vs. Not (T)	19.763	1	0.282	0.596	
P x T	86.212	1	1.232	0.270	
Error	69.960	92			

** $p \leq 0,01$

* $p \leq 0,01$

The results of Table 7.45 indicate that there is no significant interaction ($p = 0.270$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Hostility* and therefore it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.45 it is evident that no significant result ($p = 0.596$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Hostility* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.46.

Table 7.46

Results of the ANCOVA on the Follow-up 2 Scores of Hostility for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	10.835	1	0.141	0.709
Error	76.815	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.46 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.709$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Hostility* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 1.368 for 50 degrees of freedom and a corresponding p -value of 0.178. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.39 + 1.34)/\sqrt{2} = 1.22$; $p = 0.22$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant long-term effect on the *Hostility* of the offenders.

7.6 Decision-making Domain

Measures regarding four dimensions of the decision-making domain were investigated, namely Vigilance, Buckpassing, Procrastination and Hyper-vigilance. Table 7.47 depicts the minimum scores, maximum scores, means (\bar{X}) and standard deviations (s) of these four dimensions for the experimental and control groups regarding the pretest, posttest, and follow-up tests.

Table 7.47

Minimum Scores, Maximum Scores, Means and Standard Deviations for the Experimental and Control Groups regarding the Pretest, Posttest, and Follow-up

Tests for the Decision-making Dimensions

Decision-making dimensions	Test time	Experimental group (n = 43)				Control group (n = 53)			
		Min	Max	\bar{X}	s	Min	Max	\bar{X}	s
Vigilance	Pre	2	12	6.91	3.70	2	11	6.27	2.52
	Post	5	12	10.35	1.70	3	12	9.08	2.90
	Follow 1	7	12	10.47	1.50	2	12	9.91	2.22
	Follow 2	5	12	10.23	1.70	2	12	10.23	2.30
Buckpassing	Pre	0	11	4.23	3.28	0	12	5.00	3.76
	Post	0	10	3.49	2.45	0	12	4.70	2.99
	Follow 1	0	12	3.72	2.41	0	12	4.70	2.91
	Follow 2	0	12	3.67	2.80	1	12	4.66	2.86
Procrastination	Pre	0	10	4.14	3.16	1	10	5.68	2.19
	Post	0	10	4.40	2.89	0	10	3.92	2.38
	Follow 1	0	9	3.79	2.73	0	10	4.09	2.45
	Follow 2	0	10	3.77	2.50	0	10	3.51	2.39
Hyper-vigilance	Pre	2.1	7.0	4.29	1.10	2.7	6.3	4.30	0.96
	Post	2.3	6.6	4.42	1.12	0.8	7.0	4.63	1.02
	Follow 1	2.3	6.3	4.36	1.08	2.4	7.0	4.65	1.01
	Follow 2	2.0	6.9	4.61	1.16	1.7	7.0	4.56	1.06

Note: Group 1 = Experimental Group 1; Group 2 = Experimental Group 2; Group 3 = Control Group 1 and Group 4 = Control Group 2

The comparison between the average scores of the pretest, posttest and follow-up tests of the experimental group and the control group in Table 7.47 indicates larger differences in averages for the control group than for the experimental group. It will

now be investigated whether these differences are statistically significant after the role of pretest sensitization has been considered and ruled out.

The means (\bar{X}) and standard deviations (s) of the subscales of the Melbourne Decision Making Questionnaire (MDMQ) for the four groups regarding the scores of the pretest, posttest and follow-up tests are depicted in Table 7.48. Groups 2 and 4 did not complete the pretests; therefore, no descriptive statistics for them regarding pretesting are available.

Table 7.48

Means (\bar{X}) and Standard Deviations (s) for the Four Groups regarding the Scores of the Pretest, Posttest and Follow-up Tests on the Subscales of the Melbourne Decision Making Questionnaire (MDMQ)

Decision-making dimensions	Test time	Group 1		Group 2		Group 3		Group 4	
		\bar{X}	s	\bar{X}	s	\bar{X}	s	\bar{X}	s
Vigilance	Pre	6.91	3.70	-	-	6.27	2.52	-	-
	Post	10.27	1.72	10.43	1.72	8.45	3.15	9.52	2.68
	Follow 1	10.55	1.53	10.38	1.49	10.14	2.43	9.74	2.08
	Follow 2	10.09	1.79	10.38	1.62	9.82	3.00	10.52	1.63
Buckpassing	Pre	4.23	3.28	-	-	5.00	3.76	-	-
	Post	3.82	2.57	3.14	2.33	4.41	3.34	4.90	2.76
	Follow 1	3.64	2.73	3.81	2.08	5.18	3.26	4.35	2.64
	Follow 2	3.64	3.04	3.71	2.61	4.59	3.50	4.71	2.38
Procrastination	Pre	4.14	3.16	-	-	5.68	2.19	-	-
	Post	4.18	2.85	4.62	2.99	4.45	2.24	3.55	2.44
	Follow 1	3.36	2.70	4.24	2.75	4.55	2.82	3.77	2.15
	Follow 2	3.55	2.38	4.00	2.66	4.18	2.48	3.03	2.25

Hyper-vigilance	Pre	4.29	1.10	-	-	4.32	0.98	-	-
	Post	4.41	0.99	4.42	1.27	4.66	1.12	4.60	0.97
	Follow 1	4.28	1.11	4.43	1.07	4.41	0.93	4.82	1.05
	Follow 2	4.57	0.81	4.64	1.46	4.20	0.97	4.81	1.07

Note: Group 1 = Experimental Group 1; Group 2 = Experimental Group 2; Group 3 = Control Group 1 and Group 4 = Control Group 2

The possible effect of the *Life Skills* programme on the decision-making skills of the offenders will now be investigated by looking for possible differences on the four subscales of the MDMQ between (i) the pretest and posttest scores, (ii) the pretest and follow-up test 1 scores (medium term) and (iii) pretest and follow-up test 2 scores (long term).

7.6.1 Influence of the programme on Vigilance

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Vigilance* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Vigilance* posttest scores of the four groups. The results can be viewed in Table 7.49.

Table 7.49

Results of the ANOVA on the Posttest Scores of Vigilance

Source	MS	df	F	p	f
Pretest vs. Not (P)	8.678	1	1.460	0.230	
Treatment vs. Not (T)	43.659	1	7.347	0.008	0.27
P x T	4.803	1	0.808	0.371	
Error	5.942	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.49 indicate that there is no significant interaction ($p = 0.371$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Vigilance*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.49, it is apparent that a statistical significant result has been obtained, as the calculated *F*-value of 7.347 is significant on the 1% level of significance. This result indicates a medium to large effect size ($f = 0.27$) and is of practical importance. Therefore, it can be concluded that the programme did have an effect (the experimental group participants achieved significantly higher average posttest scores in the short-term on *Vigilance* than those in the control group), and this effect occurred without any prerequisite. In other words, the *Life Skills* programme did improve the *Vigilance* of the offenders significantly in the short term (the average posttest scores are significantly higher than the average pretest scores), regardless of whether there was pretesting or not.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Vigilance* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Vigilance* follow-up 1 scores of the four groups. The results can be viewed in Table 7.50.

Table 7.50

Results of the ANOVA on the Follow-up 1 Scores of Vigilance

Source	MS	df	F	p	f
Pretest vs. Not (P)	1.829	1	0.482	0.489	
Treatment vs. Not (T)	6.432	1	1.696	0.196	
P x T	0.310	1	0.082	0.776	
Error	3.793	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.50 indicate that there is no significant interaction ($p = 0.776$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Vigilance*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.50, it is evident that no significant result ($p = 0.196$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Vigilance* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.51.

Table 7.51

Results of the ANCOVA on the Follow-up 1 Scores of Vigilance for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	1.955	1	0.461	0.501
Error	4.240	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.51 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.501$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Vigilance* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 1.209 for 50 degrees of freedom and a corresponding p -value of 0.232. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.67 + 1.23)/\sqrt{2} = 1.35$; $p = 0.18$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Vigilance* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Vigilance* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Vigilance* follow-up 2 scores of the four groups. The results are presented in Table 7.52.

Table 7.52

Results of the ANOVA on the Follow-up 2 Scores of Vigilance

Source	MS	df	F	p	f
Pretest vs. Not (P)	5.715	1	1.349	0.248	
Treatment vs. Not (T)	0.111	1	0.026	0.872	
P x T	0.974	1	0.230	0.633	
Error	4.237	92			

** $p \leq 0,01$

* $p \leq 0,01$

The results of Table 7.52 indicate that there is no significant interaction ($p = 0.633$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Vigilance*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.52, it is evident that no significant result ($p = 0.872$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Vigilance* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.53.

Table 7.53

Results of the ANCOVA on the Follow-up 2 Scores of Vigilance for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.199	1	0.034	0.854
Error	5.789	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.53 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.854$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Vigilance* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.294 for 50 degrees of freedom and a corresponding p -value of 0.770 . No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.18 + 0.31)/\sqrt{2} = 0.35$; $p = 0.72$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant long-term effect on the *Vigilance* of the offenders.

7.6.2 Influence of the programme on Buckpassing

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Buckpassing* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Buckpassing* posttest scores of the four groups. The results can be viewed in Table 7.54.

Table 7.54

Results of the ANOVA on the Posttest Scores of Buckpassing

Source	MS	df	F	p	f
Pretest vs. Not (P)	0.192	1	0.025	0.875	
Treatment vs. Not (T)	32.371	1	4.184*	0.044	0.21
P x T	8.008	1	1.035	0.312	
Error	7.738	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.54 indicate that there is no significant interaction ($p = 0.312$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Buckpassing*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.54, it is apparent that a statistical significant result has been obtained, as the calculated *F*-value of 4.184 is significant on the 5% level of significance. This result indicates a medium effect size ($f = 0.21$) and is of practical importance. Therefore, it can be concluded that the programme did have an effect (the experimental group participants achieved significantly lower average posttest scores in the short term on *Buckpassing* than those in the control group), and this effect occurred without any prerequisite. In other words, the *Life Skills* programme did improve the *Buckpassing* of the offenders significantly in the short term (the average posttest scores are significantly lower than the average pretest scores), regardless of whether there was pretesting or not.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Buckpassing* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Buckpassing* follow-up 1 scores of the four groups. The results can be viewed in Table 7.55.

Table 7.55

Results of the ANOVA on the Follow-up 1 Scores of Buckpassing

Source	MS	df	F	p	f
Pretest vs. Not (P)	2.503	1	0.340	0.561	
Treatment vs. Not (T)	33.595	1	4.567*	0.024	0.24
P x T	7.355	1	0.375	0.375	
Error		92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.55 indicate that there is no significant interaction ($p = 0.375$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Buckpassing*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.55, it is apparent that a statistical significant result has been obtained, as the calculated *F*-value of 4.567 is significant on the 5% level of significance. This result indicates a medium effect size ($f = 0.24$) and is of practical importance. Therefore, it can be concluded that the programme did have an effect (the experimental group participants achieved significantly lower average follow-up 1 scores in the medium term on *Buckpassing* than those in the control group), and this effect occurred without any prerequisite. In other words, the *Life Skills* programme did improve the *Buckpassing*

of the offenders significantly in the medium term (the average follow-up 1 scores are significantly lower than the average pretest scores), regardless of whether there was pretesting or not.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Buckpassing* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Buckpassing* follow-up 2 scores of the four groups. The results are presented in Table 7.56.

Table 7.56

Results of the ANOVA on the Follow-up 2 Scores of Buckpassing

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	0.227	1	0.027	0.869	
Treatment vs. Not (T)	22.263	1	2.698	0.104	
P x T	0.010	1	0.001	0.973	
Error	8.251	92			

** $p \leq 0,01$

* $p \leq 0,01$

The results of Table 7.56 indicate that there is no significant interaction ($p = 0.973$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Buckpassing*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.56, it is evident that no significant result ($p = 0.104$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed

on the follow-up 2 scores of the *Buckpassing* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.57.

Table 7.57

Results of the ANCOVA on the Follow-up 2 Scores of Buckpassing for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	5.940	1	0.591	0.446
Error	10.044	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.57 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.446$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Buckpassing* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -1.422 for 50 degrees of freedom and a corresponding p -value of 0.161. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.77 + 1.41)/\sqrt{2} = 1.54$; $p = 0.12$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant long-term effect on the *Buckpassing* of the offenders.

7.6.3 Influence of the programme on Procrastination

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Procrastination* of the offenders, a 2 x 2 between-groups ANOVA analysis was

performed on the average *Procrastination* posttest scores of the four groups. The results can be viewed in Table 7.58.

Table 7.58

Results of the ANOVA on the Posttest Scores of Procrastination

Source	MS	df	F	p	f
Pretest vs. Not (P)	1.288	1	0.186	0.667	
Treatment vs. Not (T)	3.728	1	0.540	0.464	
P x T	10.567	1	1.530	0.219	
Error	6.906	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.58 indicate that there is no significant interaction ($p = 0.219$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Procrastination*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.58, it is evident that no significant result ($p = 0.464$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Procrastination* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.59.

Table 7.59

Results of the ANCOVA on the Posttest Scores of Procrastination for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.592	1	0.100	0.753
Error	5.908	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.59 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.753$), and this analysis was followed with an independent t -test on the posttest scores of *Procrastination* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 1.414 for 50 degrees of freedom and a corresponding p -value of 0.163. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.33 + 1.41)/\sqrt{2} = 1.23$; $p = 0.22$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant short-term effect on the *Procrastination* of the offenders.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Procrastination* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Procrastination* follow-up 1 scores of the four groups. The results can be viewed in Table 7.60.

Table 7.60

Results of the ANOVA on the Follow-up 1 Scores of Procrastination

Source	MS	df	F	p	f
Pretest vs. Not (P)	0.062	1	0.009	0.923	
Treatment vs. Not (T)	3.018	1	0.454	0.502	
P x T	15.858	1	2.385	0.126	
Error	6.650	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.60 indicate that there is no significant interaction ($p = 0.126$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Procrastination*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.60, it is evident that no significant result ($p = 0.502$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Procrastination* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.61.

Table 7.61

Results of the ANCOVA on the Follow-up 1 Scores of Procrastination for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	4.379	1	0.631	0.432
Error	6.943	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.61 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.432$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Procrastination* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 0.680 for 50 degrees of freedom and a corresponding p -value of 0.500. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.81 + 0.67)/\sqrt{2} = 1.05$; $p = 0.30$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Procrastination* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Procrastination* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Procrastination* follow-up 2 scores of the four groups. The results are presented in Table 7.62.

Table 7.62

Results of the ANOVA on the Follow-up 2 Scores of Procrastination

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	2.828	1	0.479	0.491	
Treatment vs. Not (T)	0.643	1	0.109	0.742	
P x T	15.067	1	2.549	0.114	
Error	5.910	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.62 indicate that there is no significant interaction ($p = 0.114$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Procrastination*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.62, it is evident that no significant result ($p = 0.742$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Procrastination* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.63.

Table 7.63

Results of the ANCOVA on the Follow-up 2 Scores of Procrastination for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.190	1	0.036	0.850
Error	5.273	41		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.63 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.850$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Procrastination* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 1.410 for 50 degrees of freedom and a corresponding p -value of 0.165. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.07 + 1.41)/\sqrt{2} = 1.05$; $p = 0.30$. It is also evident here that no significant result was achieved, and it

can be concluded that the programme did not have a significant long-term effect on the *Procrastination* of the offenders.

7.6.4 Influence of the programme on Hyper-vigilance

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Hyper-vigilance* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Hyper-vigilance* posttest scores of the four groups. The results can be viewed in Table 7.64.

Table 7.64

Results of the ANOVA on the Posttest Scores of Hyper-vigilance

Source	MS	df	F	p	f
Pretest vs. Not (P)	0.016	1	0.013	0.909	
Treatment vs. Not (T)	1.056	1	0.895	0.346	
P x T	0.029	1	0.025	0.876	
Error	1.179	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.64 indicate that there is no significant interaction ($p = 0.876$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Hyper-vigilance*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.64, it is evident that no significant result ($p = 0.346$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with

pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Hyper-vigilance* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.65.

Table 7.65

Results of the ANCOVA on the Posttest Scores of Hyper-vigilance for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.334	1	0.301	0.586
Error	1.108	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.65 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.586$), and this analysis was followed with an independent t -test on the posttest scores of *Hyper-vigilance* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.566 for 50 degrees of freedom and a corresponding p -value of 0.574. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.55 + 0.58)/\sqrt{2} = 0.80$; $p = 0.42$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant short-term effect on the *Hyper-vigilance* of the offenders.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Hyper-vigilance* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Hyper-vigilance* follow-up 1 scores of the four groups. The results can be viewed in Table 7.66.

Table 7.66

Results of the ANOVA on the Follow-up 1 Scores of Hyper-vigilance

Source	MS	df	F	p	f
Pretest vs. Not (P)	1.813	1	1.653	0.202	
Treatment vs. Not (T)	1.562	1	1.424	0.236	
P x T	0.377	1	0.344	0.559	
Error	1.097	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.66 indicate that there is no significant interaction ($p = 0.559$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Hyper-vigilance*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.66, it is evident that no significant result ($p = 0.236$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Hyper-vigilance* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.67.

Table 7.67

Results of the ANCOVA on the Follow-up 1 Scores of Hyper-vigilance for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.172	1	0.156	0.695
Error	1.107	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.67 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.695$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Hyper-vigilance* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -1.282 for 50 degrees of freedom and a corresponding p -value of 0.206. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.39 + 1.28)/\sqrt{2} = 1.18$; $p = 0.24$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Hyper-vigilance* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Hyper-vigilance* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Hyper-vigilance* follow-up 2 scores of the four groups. The results are presented in Table 7.68.

Table 7.68

Results of the ANOVA on the Follow-up 2 Scores of Hyper-vigilance

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	2.718	1	2.247	0.137	
Treatment vs. Not (T)	0.224	1	0.185	0.668	
P x T	1.656	1	1.369	0.245	
Error	1.210	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.68 indicate that there is no significant interaction ($p = 0.245$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Hyper-vigilance*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.68, it is evident that no significant result ($p = 0.668$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Hyper-vigilance* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.69.

Table 7.69

Results of the ANCOVA on the Follow-up 2 Scores of Hyper-vigilance for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	1.745	1	2.298	0.137
Error	0.759	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.69 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.137$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Hyper-vigilance* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.478 for 50 degrees of freedom and a corresponding p -value of 0.635. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(1.48 + 0.50)/\sqrt{2} = 1.40$; $p = 0.16$. It is also evident here that no significant result was achieved, and it

can be concluded that the programme did not have a significant long-term effect on the *Hyper-vigilance* of the offenders.

7.7 Coping with Emotions Domain

Measures regarding five dimensions of the coping with emotions domain were investigated, namely Social Awareness, Emotion Perception, Emotion Regulation, Emotion Expression, and Stress Management. Table 7.70 depicts the minimum scores, maximum scores, means (\bar{X}) and standard deviations (s) of these five dimensions for the experimental and control groups regarding the pretest, posttest and follow-up tests.

Table 7.70

Minimum Scores, Maximum Scores, Means (\bar{X}) and Standard Deviations (s) for the Experimental and Control Groups regarding the Pretest, Posttest, and Follow-up Tests for the Coping with Emotions Dimensions

Coping with emotions dimensions	Test time	Experimental group (n = 43)				Control group (n = 53)			
		Min	Max	\bar{X}	s	Min	Max	\bar{X}	s
Social awareness	Pre	2.5	5.9	4.46	0.82	3.9	6.3	4.80	0.64
	Post	2.6	6.4	4.75	0.88	3.1	7.0	4.92	0.96
	Follow 1	2.6	7.0	4.80	0.93	3.0	7.0	4.97	1.01
	Follow 2	3.1	6.5	5.02	0.97	3.2	7.0	5.09	0.83
Emotion perception	Pre	3.2	6.4	4.68	0.88	3.3	6.4	5.13	0.92
	Post	3.4	7.0	5.17	1.01	2.8	7.0	5.21	0.98
	Follow 1	2.8	6.4	4.96	0.93	3.0	7.0	5.06	1.01
	Follow 2	3.4	6.6	5.09	0.88	3.4	7.0	4.98	0.95

Emotion regulation	Pre	2.7	6.6	4.49	1.01	3.6	5.5	4.59	0.59
	Post	2.8	7.0	4.80	0.84	2.7	6.8	4.76	0.91
	Follow 1	3.0	6.9	4.66	0.90	3.5	7.0	4.75	0.95
	Follow 2	2.9	6.2	4.76	0.79	3.0	7.0	4.67	0.86
Emotion expression	Pre	3.2	6.4	4.66	0.84	2.0	5.8	4.58	0.82
	Post	2.8	6.6	4.82	0.94	2.2	7.0	4.80	1.05
	Follow 1	2.6	7.0	4.71	1.11	2.7	7.0	4.95	1.06
	Follow 2	2.5	6.4	4.73	0.80	1.5	7.0	4.83	1.16
Stress management	Pre	2.8	6.3	4.67	0.92	2.4	6.4	4.69	1.01
	Post	2.2	6.6	4.79	1.09	2.4	6.4	4.67	0.94
	Follow 1	1.8	6.9	4.64	1.00	2.4	6.4	4.92	0.94
	Follow 2	2.2	6.4	4.72	0.99	2.1	7.0	4.54	1.23

Note: Group 1 = Experimental Group 1; Group 2 = Experimental Group 2; Group 3 = Control Group 1 and Group 4 = Control Group 2

The comparison between the average scores of the pretest, posttest and follow-up tests of the experimental group and the control group in Table 7.70 indicates larger differences in averages for the control group than for the experimental group. It will now be investigated whether these differences are statistically significant after the role of pretest sensitization has been considered and ruled out.

The means (\bar{X}) and standard deviations (s) of the subscales of the Trait Emotional Intelligence Questionnaire (TEIQue) for the four groups regarding the scores of the pretest, posttest and follow-up tests are depicted in Table 7.71. Groups 2 and 4 did not complete the pretests; therefore, no descriptive statistics regarding pretesting are available for them.

Table 7.71

Means (\bar{X}) and Standard Deviations (s) for the Four Groups Regarding the Scores of the Pretest, Posttest and Follow-up Tests on the Subscales of the Trait Emotional Intelligence Questionnaire (TEIQue)

Coping with emotions dimensions	Test time	Group 1		Group 2		Group 3		Group 4	
		\bar{X}	s	\bar{X}	s	\bar{X}	s	\bar{X}	s
Social awareness	Pre	4.46	0.82	-	-	4.81	0.65	-	-
	Post	4.78	0.87	4.72	0.91	4.48	0.78	5.24	0.97
	Follow 1	4.70	1.05	4.92	0.79	4.65	0.95	5.19	1.00
	Follow 2	5.11	0.98	4.92	0.98	4.85	0.66	5.26	0.90
Emotion perception	Pre	4.68	0.88	-	-	5.11	0.94	-	-
	Post	5.19	0.95	5.16	1.09	5.01	1.16	5.36	0.82
	Follow 1	4.75	1.02	5.18	0.78	4.96	1.07	5.13	0.98
	Follow 2	5.19	0.85	5.00	0.91	4.87	0.99	5.06	0.93
Emotion regulation	Pre	4.49	1.01	-	-	4.58	0.60	-	-
	Post	4.61	0.81	4.99	0.85	4.58	0.97	4.89	0.86
	Follow 1	4.52	0.94	4.80	0.85	4.67	0.98	4.81	0.94
	Follow 2	4.82	0.73	4.69	0.86	4.40	0.67	4.86	0.94
Emotion expression	Pre	4.66	0.84	-	-	4.55	0.82	-	-
	Post	4.74	1.04	4.91	0.84	4.62	1.15	4.92	0.97
	Follow 1	4.55	1.12	4.88	1.10	4.67	1.04	5.14	1.04
	Follow 2	4.77	0.85	4.70	0.78	4.71	1.00	4.92	1.27
Stress management	Pre	4.67	0.92	-	-	4.73	1.01	-	-
	Post	4.83	1.11	4.75	1.09	4.35	0.95	4.91	0.86
	Follow 1	4.46	1.05	4.83	0.95	4.72	1.11	5.05	0.80
	Follow 2	4.85	0.90	4.60	1.08	4.02	1.29	4.91	1.06

Note: Group 1 = Experimental Group 1; Group 2 = Experimental Group 2; Group 3 = Control Group 1

and Group 4 = Control Group 2

The possible effect of the *Life Skills* programme on the coping with emotions skills of the offenders will now be investigated by looking for possible differences on the five subscales of the TEIQue between (i) the pretest and posttest scores, (ii) the pretest and follow-up test 1 scores (medium term), and (iii) pretest and follow-up test 2 scores (long term).

7.7.1 Influence of the programme on Social Awareness

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Social Awareness* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Social Awareness* scores of the four groups. The results can be viewed in Table 7.72.

Table 7.72

Results of the ANOVA on the Posttest Scores of Social Awareness

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	2.862	1	3.554	0.063	
Treatment vs. Not (T)	0.283	1	0.351	0.555	
P x T	3.809	1	4.730	0.032	0.22
Error	0.805	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.72 indicate that there is significant interaction ($p = 0.032$) on the 5% level of significance between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), with a medium effect size of 0.22. Thus, it would seem as if pretest sensitization was present. This analysis was followed up with two additional

statistical tests. First, the average posttest scores on *Social Awareness* for the two groups with pretesting (Groups 1 and 3) were compared (Test A) and then, second, the average posttest scores on *Social Awareness* for the two groups without pretesting (Groups 2 and 4) were compared (Test B). The *t*-test for independent groups was used for this purpose, and the results are presented in Table 7.73

Table 7.73

Comparison of the Means according to Tests A and B on the Posttest Scores for Social Awareness

Test	Group 1 (n=22)		Group 3 (n=22)		<i>t</i>	<i>p</i>	<i>d</i>
	\bar{X}	<i>s</i>	\bar{X}	<i>s</i>			
Test A	4.78	0.87	4.48	0.78	1.171	0.248	
Test	Group 2 (n=21)		Group 4 (n=31)		<i>t</i>	<i>p</i>	<i>d</i>
	\bar{X}	<i>s</i>	\bar{X}	<i>s</i>			
Test B	4.72	0.91	5.24	0.97	-1.192	0.062	

** $p \leq 0,01$

* $p \leq 0,05$

From Table 7.73, it is evident that no significant results were achieved for Test A and Test B, which implies that the programme did not have a significant influence on the *Social Awareness* of the offenders in the short term.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Social Awareness* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Social Awareness* follow-up 1 scores of the four groups. The results can be viewed in Table 7.74.

Table 7.74

Results of the ANOVA on the Follow-up 1 Scores of Social Awareness

Source	MS	df	F	p	f
Pretest vs. Not (P)	3.437	1	3.716	0.057	
Treatment vs. Not (T)	0.304	1	0.328	0.568	
P x T	0.626	1	0.677	0.413	
Error	0.925	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.74 indicate that there is no significant interaction ($p = 0.413$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Social Awareness*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.74, it is evident that no significant result ($p = 0.568$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Social Awareness* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.75.

Table 7.75

Results of the ANCOVA on the Follow-up 1 Scores of Social Awareness for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.276	1	0.277	0.602
Error	0.998	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.75 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.602$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Social Awareness* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -1.063 for 50 degrees of freedom and a corresponding p -value of 0.293. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.52 + 1.04)/\sqrt{2} = 1.10$; $p = 0.28$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Social Awareness* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Social Awareness* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Social Awareness* follow-up 2 scores of the four groups. The results are presented in Table 7.76.

Table 7.76

Results of the ANOVA on the Follow-up 2 Scores of Social Awareness

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	0.267	1	0.335	0.564	
Treatment vs. Not (T)	0.038	1	0.047	0.828	
P x T	2.173	1	2.718	0.103	
Error	0.800	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.76 indicate that there is no significant interaction ($p = 0.103$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Social Awareness*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.76, it is evident that no significant result ($p = 0.828$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Social Awareness* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.77.

Table 7.77

Results of the ANCOVA on the Follow-up 2 Scores of Social Awareness for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	1.483	1	2.240	0.142
Error	0.662	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.77 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.142$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Social Awareness* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -1.302 for 50 degrees of freedom and a corresponding p -value of 0.199. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(1.38 + 1.28)/\sqrt{2} = 1.95$; $p = 0.06$. It is also evident here that no significant result was achieved, and it

can be concluded that the programme did not have a significant long-term effect on the *Social Awareness* of the offenders.

7.7.2 Influence of the programme on Emotion Perception

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Emotion Perception* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Emotion Perception* posttest scores of the four groups. The results can be viewed in Table 7.78.

Table 7.78

Results of the ANOVA on the Posttest Scores of Emotion Perception

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	0.578	1	0.576	0.450	
Treatment vs. Not (T)	0.004	1	0.004	0.949	
P x T	0.811	1	0.809	0.371	
Error	1.002	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.78 indicate that there is no significant interaction ($p = 0.371$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Emotion Perception*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.78, it is evident that no significant result ($p = 0.949$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with

pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Emotion Perception* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.79.

Table 7.79

Results of the ANCOVA on the Posttest Scores of Emotion Perception for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.658	1	0.576	0.452
Error	1.142	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.79 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.452$), and this analysis was followed with an independent t -test on the posttest scores of *Emotion Perception* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.748 for 50 degrees of freedom and a corresponding p -value of 0.458. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.74 + 0.74)/\sqrt{2} = 1.05$; $p = 0.30$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant short-term effect on the *Emotion Perception* of the offenders.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Emotion Perception* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed

on the average *Emotion Perception* follow-up 1 scores of the four groups. The results can be viewed in Table 7.80.

Table 7.80

Results of the ANOVA on the Follow-up 1 Scores of Emotion Perception

Source	MS	df	F	p	f
Pretest vs. Not (P)	2.042	1	2.138	0.147	
Treatment vs. Not (T)	0.159	1	0.167	0.684	
P x T	0.403	1	0.422	0.518	
Error	0.955	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.80 indicate that there is no significant interaction ($p = 0.518$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Emotion Perception*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.80, it is evident that no significant result ($p = 0.684$) was obtained on the 1% level of significance.

The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Emotion Perception* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.81.

Table 7.81

Results of the ANCOVA on the Follow-up 1 Scores of Emotion Perception for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.030	1	0.028	0.867
Error	1.065	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.81 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.867$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Emotion Perception* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 0.190 for 50 degrees of freedom and a corresponding p -value of 0.850. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.18 + 0.20)/\sqrt{2} = 0.27$; $p = 0.78$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Emotion Perception* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Emotion Perception* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Emotion Perception* follow-up 2 scores of the four groups. The results are presented in Table 7.82.

Table 7.82

Results of the ANOVA on the Follow-up 2 Scores of Emotion Perception

Source	MS	df	F	p	f
Pretest vs. Not (P)	3.223	1	0.001	0.995	
Treatment vs. Not (T)	0.386	1	0.448	0.505	
P x T	0.843	1	0.978	0.325	
Error	0.862	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.82 indicate that there is no significant interaction ($p = 0.325$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Emotion Perception*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.82, it is evident that no significant result ($p = 0.505$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 2 scores of the *Emotion Perception* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.83.

Table 7.83

Results of the ANCOVA on the Follow-up 2 Scores of Emotion Perception for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	1.724	1	2.003	0.165
Error	0.860	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.83 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.165$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Emotion Perception* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.234 for 50 degrees of freedom and a corresponding p -value of 0.816 . No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(1.41 + 0.25)/\sqrt{2} = 1.17$; $p = 0.24$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant long-term effect on the *Emotion Perception* of the offenders.

7.7.3 Influence of the programme on Emotion Regulation

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Emotion Regulation* of the offenders, a 2×2 between-groups ANOVA analysis was performed on the average *Emotion Regulation* posttest scores of the four groups. The results can be viewed in Table 7.84.

Table 7.84

Results of the ANOVA on the Posttest Scores of Emotion Regulation

Source	MS	df	F	p	f
Pretest vs. Not (P)	2.791	1	3.621	0.060	
Treatment vs. Not (T)	0.095	1	0.123	0.726	
P x T	0.032	1	0.042	0.838	
Error	0.771	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.84 indicate that there is no significant interaction ($p = 0.838$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Emotion Regulation*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.84, it is evident that no significant result ($p = 0.726$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Emotion Regulation* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.85.

Table 7.85

Results of the ANCOVA on the Posttest Scores of Emotion Regulation for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.084	1	0.115	0.737
Error	0.730	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.85 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.737$), and this analysis was followed with an independent t -test on the posttest scores of *Emotion Regulation* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of 0.416 for 50 degrees of freedom and a corresponding p -value of 0.679. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.33 + 0.41)/\sqrt{2} = 0.52$; $p = 0.60$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant short-term effect on the *Emotion Regulation* of the offenders.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Emotion Regulation* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Emotion Regulation* follow-up 1 scores of the four groups. The results can be viewed in Table 7.86.

Table 7.86

Results of the ANOVA on the Follow-up 1 Scores of Emotion Regulation

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	1.062	1	1.217	0.273	
Treatment vs. Not (T)	0.156	1	0.178	0.674	
P x T	0.128	1	0.146	0.703	
Error	0.873	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.86 indicate that there is no significant interaction ($p = 0.703$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Emotion Regulation*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.86, it is evident that no significant result ($p = 0.674$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Emotion Regulation* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.87.

Table 7.87

Results of the ANCOVA on the Follow-up 1 Scores of Emotion Regulation for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.205	1	0.230	0.634
Error	0.892	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.87 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.634$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Emotion Regulation* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.030 for 50 degrees of freedom and a corresponding p -value of 0.976. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.50 + 0.05)/\sqrt{2} = 0.39$; $p = 0.70$. It is also evident here that no significant result was achieved, and it

can be concluded that the programme did not have a significant medium-term effect on the *Emotion Regulation* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Emotion Regulation* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Emotion Regulation* follow-up 2 scores of the four groups. The results are presented in Table 7.88.

Table 7.88

Results of the ANOVA on the Follow-up 2 Scores of Emotion Regulation

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	0.629	1	0.928	0.338	
Treatment vs. Not (T)	0.345	1	0.509	0.477	
P x T	2.042	1	3.009	0.086	
Error	0.678	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.88 indicate that there is no significant interaction ($p = 0.086$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Emotion Regulation*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.88, it is evident that no significant result ($p = 0.477$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed

on the follow-up 2 scores of the *Emotion Regulation* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.89.

Table 7.89

Results of the ANCOVA on the Follow-up 2 Scores of Emotion Regulation for Groups 1 and 3

Source	MS	df	F	p	f
Treatment vs. Not	2.037	1	3.963*	0.050	0.20
Error	0.517	40			

** $p \leq 0,01$

* $p \leq 0,05$

The ANCOVA result delivered a significant F -value ($p = 0.050$) on the 5% level of significance with a medium effect size ($f = 0.20$). Therefore, it can be concluded that the programme did have an effect on the *Emotion Regulation* of the offenders in the long term. By using the pretest scores as the covariates, it was found that the experimental group achieved a significantly higher average on *Emotion Regulation* than the control group did. The *Emotion Regulation* of the offenders was improved by the programme, regardless of the possible influence of pretest sensitization.

7.7.4 Influence of the programme on Emotion Expression

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Emotion Expression* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Emotion Expression* posttest scores of the four groups. The results can be viewed in Table 7.90.

Table 7.90

Results of the ANOVA on the Posttest Scores of Emotion Expression

Source	MS	df	F	p	f
Pretest vs. Not (P)	1.356	1	1.334	0.251	
Treatment vs. Not (T)	0.073	1	0.071	0.790	
P x T	0.091	1	0.090	0.765	
Error	1.017	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.90 indicate that there is no significant interaction ($p = 0.765$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Emotion Expression*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.90, it is evident that no significant result ($p = 0.790$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Emotion Expression* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.91.

Table 7.91

Results of the ANCOVA on the Posttest Scores of Emotion Expression for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.459	1	0.390	0.536
Error	1.177	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.91 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.536$), and this analysis was followed with an independent t -test on the posttest scores of *Emotion Expression* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.026 for 50 degrees of freedom and a corresponding p -value of 0.980 . No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.64 + 0.03)/\sqrt{2} = 0.47$; $p = 0.64$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant short-term effect on the *Emotion Expression* of the offenders.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Emotion Expression* of the offenders, a 2×2 between-groups ANOVA analysis was performed on the average *Emotion Expression* follow-up 1 scores of the four groups. The results can be viewed in Table 7.92.

Table 7.92

Results of the ANOVA on the Follow-up 1 Scores of Emotion Expression

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	3.767	1	3.245	0.075	
Treatment vs. Not (T)	0.871	1	0.750	0.389	
P x T	0.130	1	0.112	0.738	
Error	1.161	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.92 indicate that there is no significant interaction ($p = 0.738$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Emotion Expression*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.92 it is evident that no significant result ($p = 0.389$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Emotion Expression* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.93.

Table 7.93

Results of the ANCOVA on the Follow-up 1 Scores of Emotion Expression for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.034	1	0.030	0.864
Error	1.137	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.93 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.864$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Emotion Expression* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.886 for 50 degrees of freedom and a corresponding p -value of 0.380. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.18 + 0.88)/\sqrt{2} = 0.75$; $p = 0.66$. It is also evident here that no significant result was achieved, and it

can be concluded that the programme did not have a significant medium-term effect on the *Emotion Expression* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Emotion Expression* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Emotion Expression* follow-up 2 scores of the four groups. The results are presented in Table 7.94.

Table 7.94

Results of the ANOVA on the Follow-up 2 Scores of Emotion Expression

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	0.122	1	0.115	0.735	
Treatment vs. Not (T)	0.154	1	0.145	0.704	
P x T	0.459	1	0.434	0.512	
Error	1.059	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.94 indicate that there is no significant interaction ($p = 0.512$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 2 scores of the participants for *Emotion Expression*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 2 scores was calculated, and from Table 7.94, it is evident that no significant result ($p = 0.704$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 2 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed

on the follow-up 2 scores of the *Emotion Expression* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.95.

Table 7.95

Results of the ANCOVA on the Follow-up 2 Scores of Emotion Expression for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.074	1	0.082	0.776
Error	0.907	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.95 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.776$), and this analysis was followed with an independent t -test on the follow-up 2 scores of *Emotion Expression* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.709 for 50 degrees of freedom and a corresponding p -value of 0.482. No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.31 + 0.71)/\sqrt{2} = 0.72$; $p = 0.46$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant long-term effect on the *Emotion Expression* of the offenders.

7.7.5 Influence of the programme on Stress Management

Pretest and posttest scores

To investigate the short-term effect of the *Life Skills* programme on the *Stress Management* of the offenders, a 2 x 2 between-groups ANOVA analysis was

performed on the average *Stress Management* posttest scores of the four groups. The results can be viewed in Table 7.96.

Table 7.96

Results of the ANOVA on the Posttest Scores of Stress Management

Source	MS	df	F	p	f
Pretest vs. Not (P)	1.370	1	1.371	0.245	
Treatment vs. Not (T)	0.640	1	0.640	0.426	
P x T	2.414	1	2.416	0.124	
Error	0.999	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.96 indicate that there is no significant interaction ($p = 0.124$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the posttest scores of the participants for *Stress Management*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the posttest scores was calculated, and from Table 7.96, it is evident that no significant result ($p = 0.426$) was obtained on the 1% level of significance. The effect of the treatment on the posttest scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the posttest scores of the *Stress Management* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.97.

Table 7.97

Results of the ANCOVA on the Posttest Scores of Stress Management for Groups 1 and 3

Source	MS	df	F	p	f
Treatment vs. Not	3.835	1	4.300	0.045	0.31
Error	0.892	40			

** $p \leq 0,01$

* $p \leq 0,05$

The ANCOVA result delivered a significant F -value ($p = 0.045$) on the 5% level of significance. Therefore, it can be concluded that the programme had a significant effect on the *Stress Management* of the offenders in the short term. The calculated F -value indicates a medium effect size ($f = 0.31$); therefore, the results are of average practical importance. The participants in the experimental group achieved a significantly higher average posttest score than the participants in the control group did. In other words, the *Life Skills* programme significantly improved the *Stress Management* of the offenders in the short term (the average posttest scores are significantly higher than the average pretest scores), regardless of whether there was pretesting or not.

Pretest and follow-up 1 scores

To investigate the medium-term effect of the *Life Skills* programme on the *Stress Management* of the offenders, a 2 x 2 between-groups ANOVA analysis was performed on the average *Stress Management* follow-up 1 scores of the four groups. The results can be viewed in Table 7.98.

Table 7.98

Results of the ANOVA on the Follow-up 1 Scores of Stress Management

Source	MS	df	F	p	f
Pretest vs. Not (P)	2.836	1	3.014	0.086	
Treatment vs. Not (T)	1.371	1	1.457	0.231	
P x T	0.007	1	0.007	0.932	
Error	0.941	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.98 indicate that there is no significant interaction ($p = 0.932$) between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), on the follow-up 1 scores of the participants for *Stress Management*. Therefore, it can be concluded that pretest sensitization did not occur in this regard. The effect of the treatment on the follow-up 1 scores was calculated, and from Table 7.98, it is evident that no significant result ($p = 0.231$) was obtained on the 1% level of significance. The effect of the treatment on the follow-up 1 scores of Groups 1 and 3 (the two groups with pretesting) was thus investigated, whereby an ANCOVA was performed on the follow-up 1 scores of the *Stress Management* variable, with the pretest scores as the covariates. The results can be viewed in Table 7.99.

Table 7.99

Results of the ANCOVA on the Follow-up 1 Scores of Stress Management for Groups 1 and 3

Source	MS	df	F	p
Treatment vs. Not	0.599	1	0.494	0.486
Error	1.132	40		

** $p \leq 0,01$

* $p \leq 0,05$

Table 7.99 indicates that the ANCOVA did not deliver a significant F -value ($p = 0.486$), and this analysis was followed with an independent t -test on the follow-up 1 scores of *Stress Management* for Groups 2 and 4, seeing that these two groups only had posttests on the dependent variables. This test delivered a t -value of -0.919 for 50 degrees of freedom and a corresponding p -value of 0.362 . No significant result was achieved; therefore, a meta-analytical technique was implemented, combining the results of the ANCOVA and the t -test in the following formula: $(0.18 + 0.92)/\sqrt{2} = 0.78$; $p = 0.44$. It is also evident here that no significant result was achieved, and it can be concluded that the programme did not have a significant medium-term effect on the *Stress Management* of the offenders.

Pretest and follow-up 2 scores

To investigate the long-term effect of the *Life Skills* programme on the *Stress Management* of the offenders, a 2×2 between-groups ANOVA analysis was performed on the average *Stress Management* follow-up 2 scores of the four groups. The results are presented in Table 7.100.

Table 7.100

Results of the ANOVA on the Follow-up 2 Scores of Stress Management

Source	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>f</i>
Pretest vs. Not (P)	2.400	1	2.012	0.159	
Treatment vs. Not (T)	1.549	1	1.299	0.257	
P x T	7.612	1	6.382*	0.013	0.25
Error	1.193	92			

** $p \leq 0,01$

* $p \leq 0,05$

The results of Table 7.100 indicate that there is significant interaction ($p = 0.013$) on the 5% level of significance between the two main effects, namely Pretesting (yes/no) and Treatment (yes/no), with a medium effect size of 0.25. Thus, it would seem as if pretest sensitization was present. This analysis was followed up with two additional statistical tests. First, the average follow-up 2 scores on *Stress Management* for the two groups with pretesting (Groups 1 and 3) were compared (Test A) and then, second, the average follow-up 2 scores on *Stress Management* for the two groups without pretesting (Groups 2 and 4) were compared (Test B). The t -test for independent groups was used for this purpose, and the results are presented in Table 7.101.

Table 7.101

Comparison of the Means according to Tests A and B on the Follow-up 2 Scores of Stress Management

Test	Group 1 (n=22)		Group 3 (n=22)		t	p	d
	\bar{X}	s	\bar{X}	s			
Test A	4.85	0.90	4.02	1.29	2.457*	0.018	0.65
Test	Group 2 (n=21)		Group 4 (n=31)		t	p	d
	\bar{X}	s	\bar{X}	s			
Test B	4.60	1.08	4.91	1.06	-1.034	0.306	

** $p \leq 0,01$

* $p \leq 0,05$

It is evident from Table 7.101 that there is a difference between the results of tests A and B. After further investigation, it is clear that there are no significant differences in the average *Stress Management* scores for the two groups without pretesting (Groups 2 and 4), while there are significant differences between the averages on the 5% level of significance for test A (groups with pretesting). The

effect size of this result is medium and is therefore of average practical importance. It is also apparent from Table 7.101 that Group 1 (experimental group with pretesting) has achieved significantly higher average *Stress Management* follow-up 2 scores than Group 3 (control group with pretesting) did. This result indicates that the programme did improve the *Stress Management* of the offenders in the long term, but that this improvement occurred only because pretesting occurred.

7.8 Summary of the Results

A summary of the results can be viewed in Table 7.102.

Table 7.102

Summary of Significant Results to Determine the Effect of the Programme

Domains and dimensions	Short term		Medium term		Long term	
	Without	With	Without	With	Without	With
	PTS	PTS	PTS	PTS	PTS	PTS
Problem solving:						
Social support	-	X	X	-	-	-
Problem solving	X	-	-	-	-	-
Avoidance	-	-	-	-	-	-
Anger management:						
Physical aggression	X	-	-	-	-	-
Verbal aggression	X	-	-	-	-	-
Anger	-	-	-	-	-	-
Hostility	-	-	-	-	-	-
Decision making:						
Vigilance	X	-	-	-	-	-
Buckpassing	X	-	X	-	-	-
Procrastination	-	-	-	-	-	-
Hyper-vigilance	-	-	-	-	-	-

Coping with emotions:						
Social awareness	-	-	-	-	-	-
Emotion perception	-	-	-	-	-	-
Emotion regulation	-	-	-	-	X	-
Emotion expression	-	-	-	-	-	-
Stress management	X	-	-	-	-	X

Note: PTS = Pre-test sensitization, X = Effect, - = No effect

First, it is evident that, in the short term, the *Life Skills* programme had an effect on the following dimensions for the offenders: (i) two dimensions of problem solving (*Social Support* and *Problem Solving*); (ii) two dimensions of anger management (*Physical Aggression* and *Verbal Aggression*); (iii) two dimensions of decision-making (*Vigilance* and *Buckpassing*); and (iv) one dimension of coping with emotions (*Stress Management*). The programme accented an effect for only one of the problem solving dimensions (*Social Support*) when pretesting was present, while the programme accented an effect for the remaining six dimensions in the short term, regardless of whether pretesting occurred or not.

Second, it is evident that, in the medium term, the programme had an effect on the following dimensions for the offenders: *Social Support* and *Buckpassing*. In both these cases, the effect of the programme is not dependent on whether pretesting occurred; therefore, the programme was able to improve the *Social Support* and *Buckpassing* of the offenders in the medium term. These two dimensions were also improved by the programme in the short term, although the improvement of *Social Support* was dependable on pretesting.

Third, it is evident that, in the long term, the programme had an effect on the following dimensions for the offenders: *Emotion Regulation* and *Stress Management*. The long-term effect of the programme on *Emotion Regulation* occurred without

pretest sensitization, while the effect on *Stress Management* occurred only because pretesting was done.

A significant effect was achieved on only one dimension, namely *Buckpassing* (as part of the decision-making domain), in the short and medium term, without pretest sensitization having an influence.

7.9 Evaluation of Sessions and Programme

A final dimension pertaining to the evaluation of the *Life Skills* programme includes the results obtained from the semantic differential scale, which served as a quantitative indicator of the programme's quality and practical application value. The semantic differential scale was used after each session to evaluate the programme, and data that were not covered by the measuring instruments were obtained regarding the physical composition and layout, contents, presentation, and structure of the *Life Skills* programme. The semantic differential scale consisted of three sections. In Section 1, the participants evaluated their own participation in the sessions, namely (i) positive vs negative; (ii) energetic vs lazy; and (iii) involved vs uninvolved. In Section 2, the participants evaluated the session itself, namely (i) meaningful vs insignificant; (ii) insightful vs vague; (iii) interesting vs dull; (iv) experiential vs unpractical; and (v) beneficial vs unhelpful. In Section 3, they evaluated the facilitator, namely (i) helpful vs unhelpful; (ii) enthusiastic vs lazy; (iii) fair vs biased; (iv) educated vs uneducated; and (v) prepared vs unprepared. Each statement was answered on a semantic differential scale with response options ranging from one to five. In the evaluation of the programme, more negative experiences of and perceptions about the programme were indicated by a score above three, while a score below three reflected more positive experiences and perceptions related to the

programme. A response of three was considered neutral. The results of the semantic differential scale will now be discussed per session.

Module 1.1 – Establishing the group

Session 1 – Introduction

The mean scores of the items on the semantic differential scale for Session 1 can be viewed in Figure 7.1.

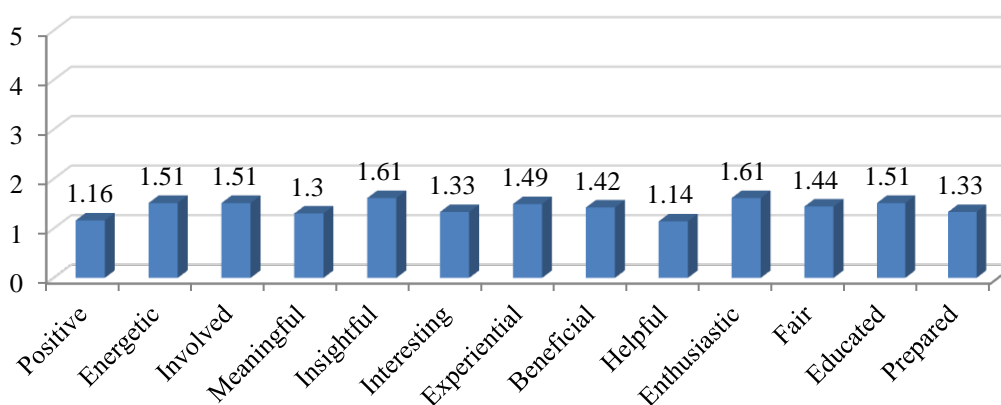


Figure 7.1: Graphical representation of the mean scores per item for Session 1

The results presented in Figure 7.1 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 1 had been completed.

Session 2 – Group cohesion and fears

The mean scores of the items on the semantic differential scale for Session 2 can be viewed in Figure 7.2.

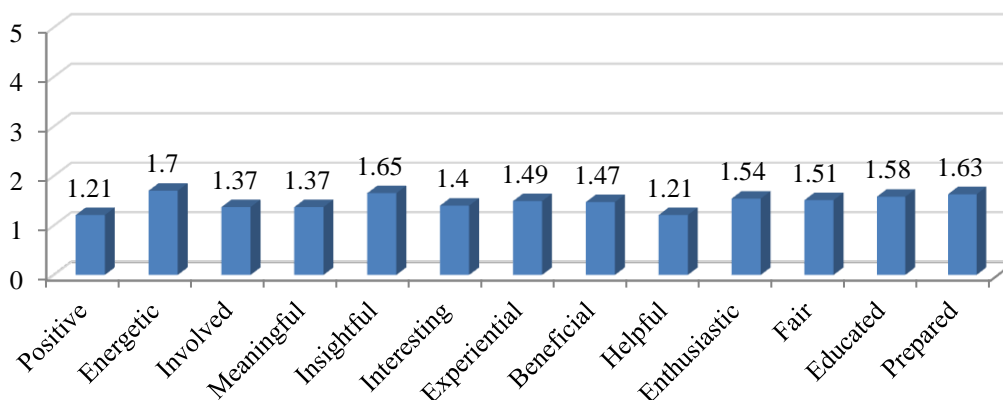


Figure 7.2: Graphical representation of the mean scores per item for Session 2

The results presented in Figure 7.2 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 2 had been completed.

Module 1.2 – The basics of chess

Session 1 – The basics of chess

The mean scores of the items on the semantic differential scale for Session 1 can be viewed in Figure 7.3.

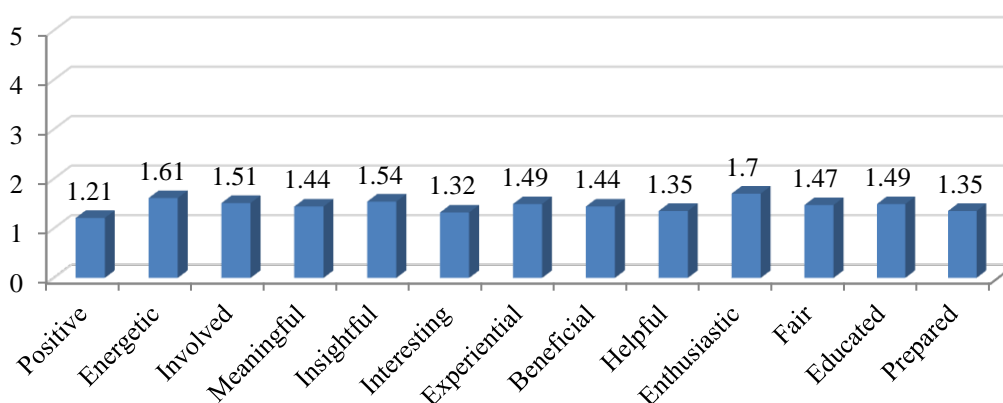


Figure 7.3: Graphical representation of the mean scores per item for Session 1

The results presented in Figure 7.3 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 1 had been completed.

Session 2 – Basic moves: Pawns and knights

The mean scores of the items on the semantic differential scale for Session 2 can be viewed in Figure 7.4.

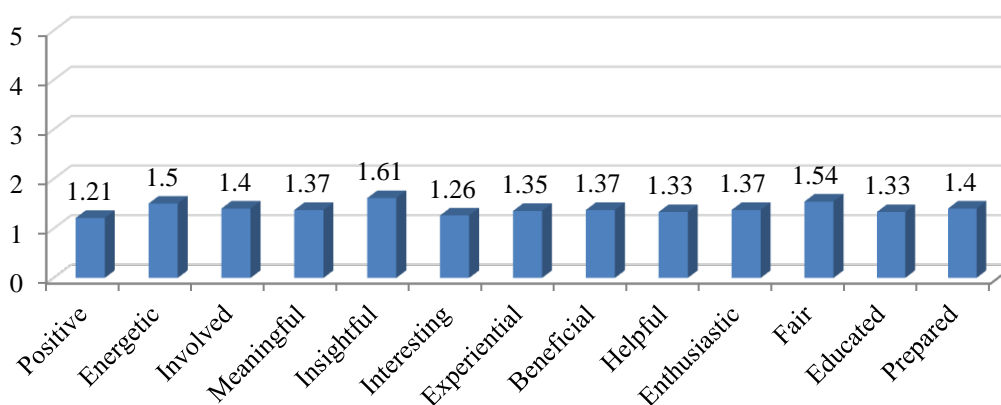


Figure 7.4: Graphical representation of the mean scores per item for Session 2

The results presented in Figure 7.4 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 2 had been completed.

Session 3 – Basic moves: Bishops and rooks

The mean scores of the items on the semantic differential scale for Session 3 can be viewed in Figure 7.5.

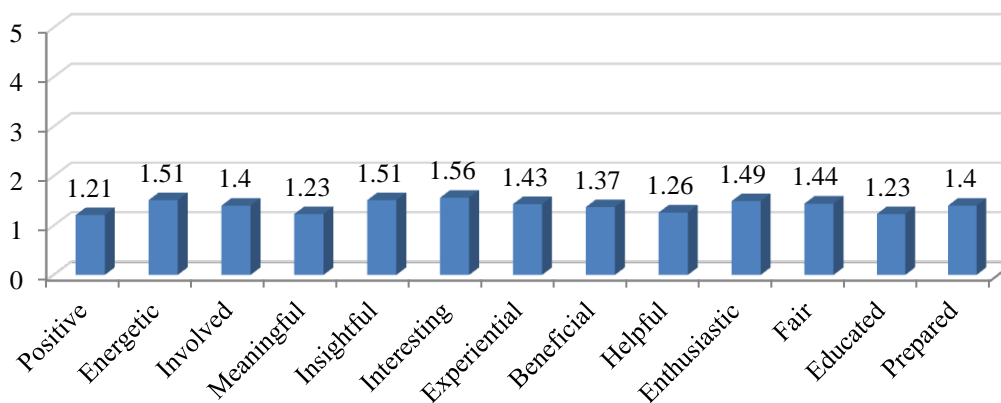


Figure 7.5: Graphical representation of the mean scores per item for Session 3

The results presented in Figure 7.5 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 3 had been completed.

Session 4 – Basic moves: Kings and queens

The mean scores of the items on the semantic differential scale for Session 4 can be viewed in Figure 7.6.

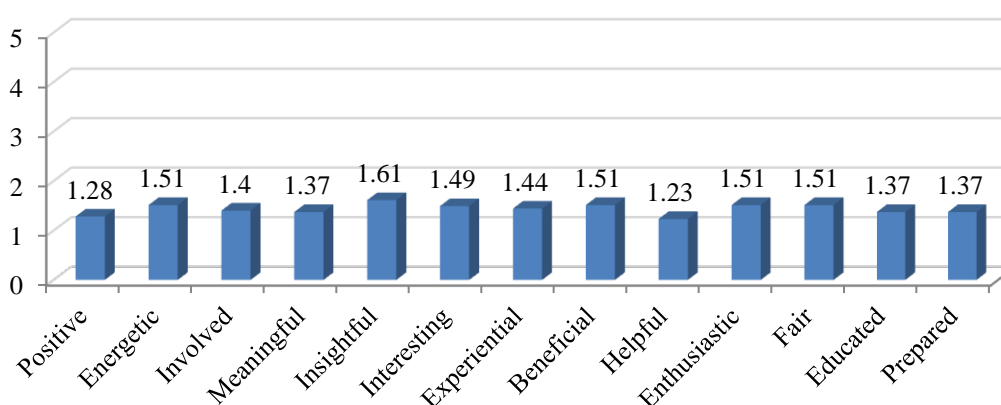


Figure 7.6: Graphical representation of the mean scores per item for Session 4

The results presented in Figure 7.6 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 4 had been completed.

Session 5 – Basic move: Castling

The mean scores of the items on the semantic differential scale for Session 5 can be viewed in Figure 7.7.

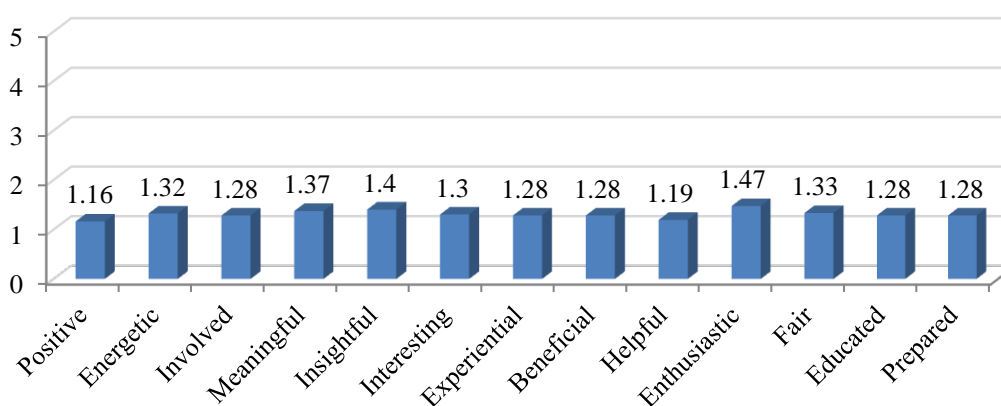


Figure 7.7: Graphical representation of the mean scores per item for Session 5

The results presented in Figure 7.7 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 5 had been completed.

Session 6 – Further basics of chess

The mean scores of the items on the semantic differential scale for Session 6 can be viewed in Figure 7.8.

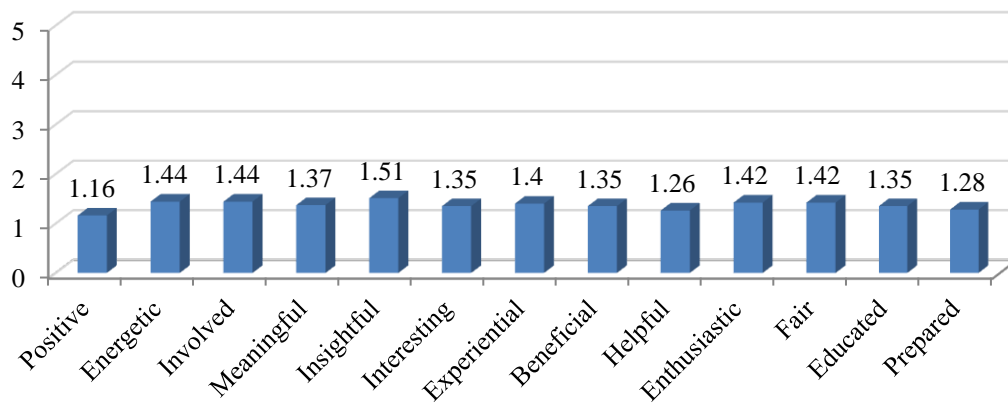


Figure 7.8: Graphical representation of the mean scores per item for Session 6

The results presented in Figure 7.8 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 6 had been completed.

Session 7 – Chess rules

The mean scores of the items on the semantic differential scale for Session 7 can be viewed in Figure 7.9.

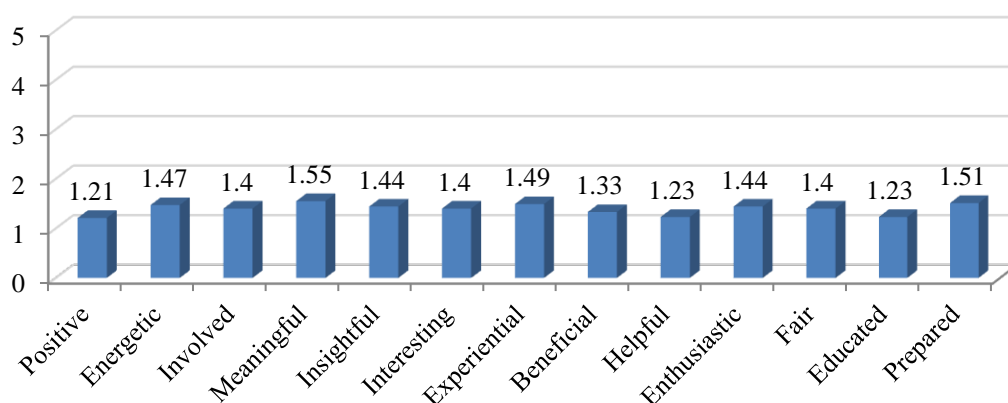


Figure 7.9: Graphical representation of the mean scores per item for Session 7

The results presented in Figure 7.9 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 7 had been completed.

Session 8 – Chess quiz

The mean scores of the items on the semantic differential scale for Session 8 can be viewed in Figure 7.10.

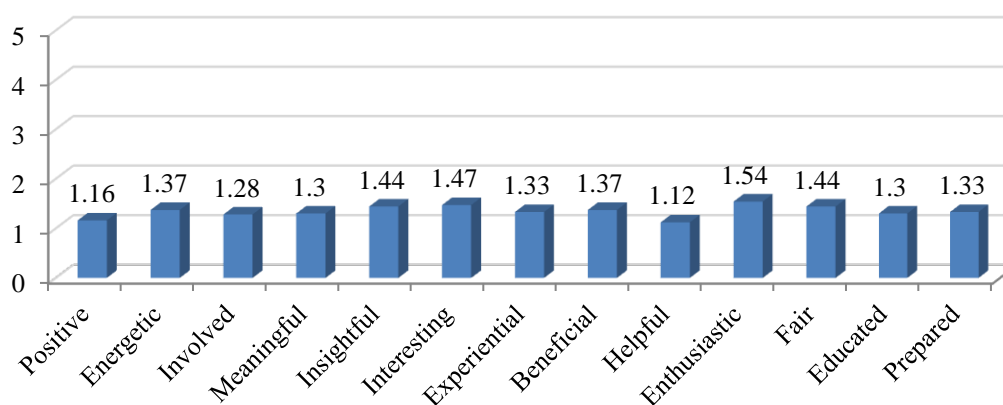


Figure 7.10: Graphical representation of the mean scores per item for Session 8

The results presented in Figure 7.10 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 8 had been completed.

Session 9 – Socially experiencing the basics of chess

The mean scores of the items on the semantic differential scale for Session 9 can be viewed in Figure 7.11.

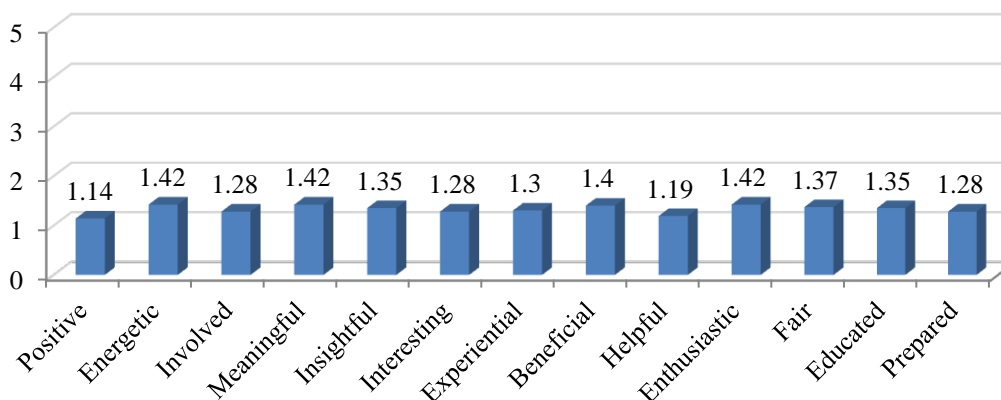


Figure 7.11: Graphical representation of the mean scores per item for Session 9

The results presented in Figure 7.11 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 9 had been completed.

Session 10 – Socially experiencing the basics of chess

The mean scores of the items on the semantic differential scale for Session 10 can be viewed in Figure 7.12.

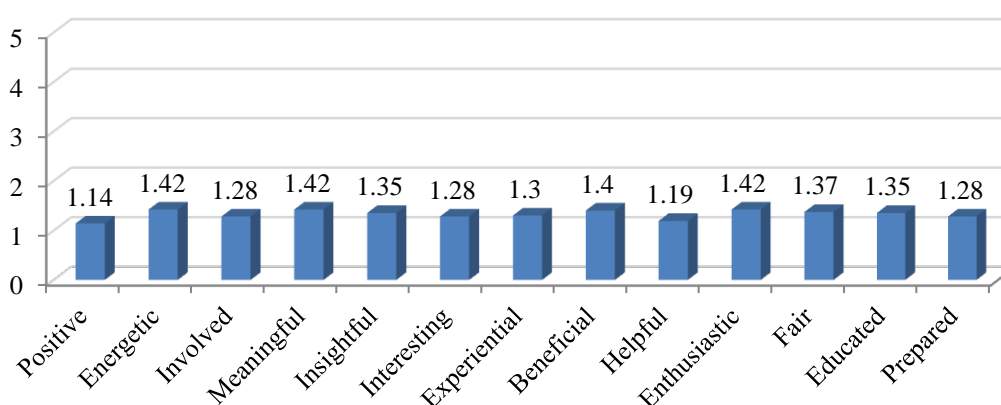


Figure 7.12: Graphical representation of the mean scores per item for Session 10

The results presented in Figure 7.12 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 10 had been completed.

Session 11 – Socially experiencing the basics of chess

The mean scores of the items on the semantic differential scale for Session 11 can be viewed in Figure 7.13.

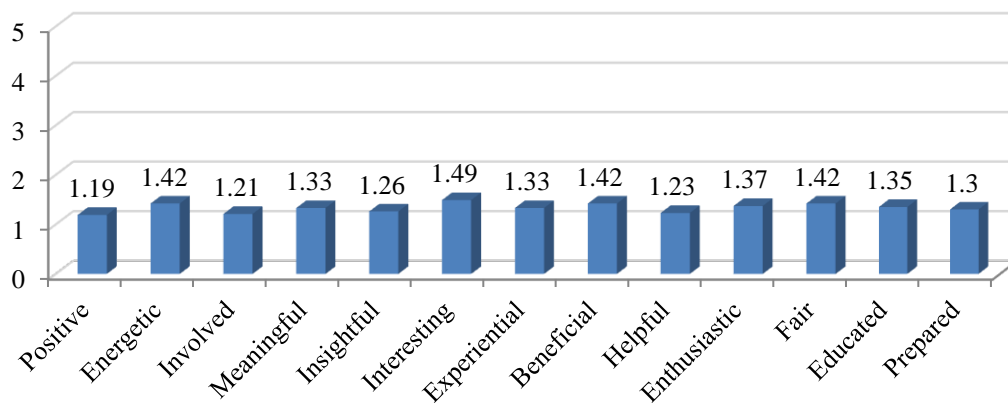


Figure 7.13: Graphical representation of the mean scores per item for Session 11

The results presented in Figure 7.13 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 11 had been completed.

Session 12 – Socially experiencing the basics of chess

The mean scores of the items on the semantic differential scale for Session 12 can be viewed in Figure 7.14.

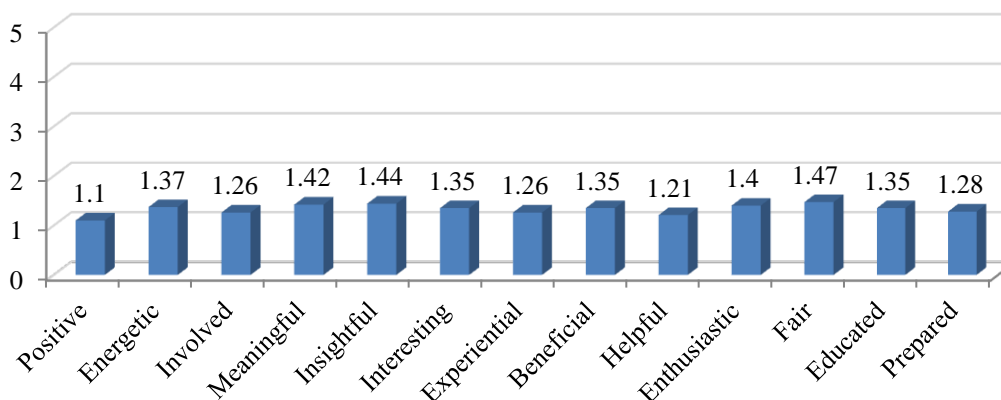


Figure 7.14: Graphical representation of the mean scores per item for Session 12

The results presented in Figure 7.14 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 12 had been completed.

Session 13 – Socially experiencing the basics of chess

The mean scores of the items on the semantic differential scale for Session 13 can be viewed in Figure 7.15.

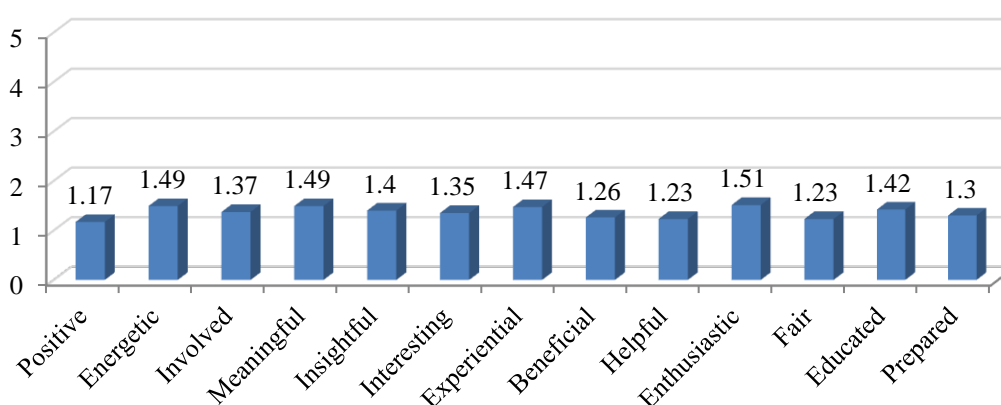


Figure 7.15: Graphical representation of the mean scores per item for Session 13

The results presented in Figure 7.15 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 13 had been completed.

Module 2.1 – Coping with emotions

Session 1 – Self-awareness

The mean scores of the items on the semantic differential scale for Session 1 can be viewed in Figure 7.16.

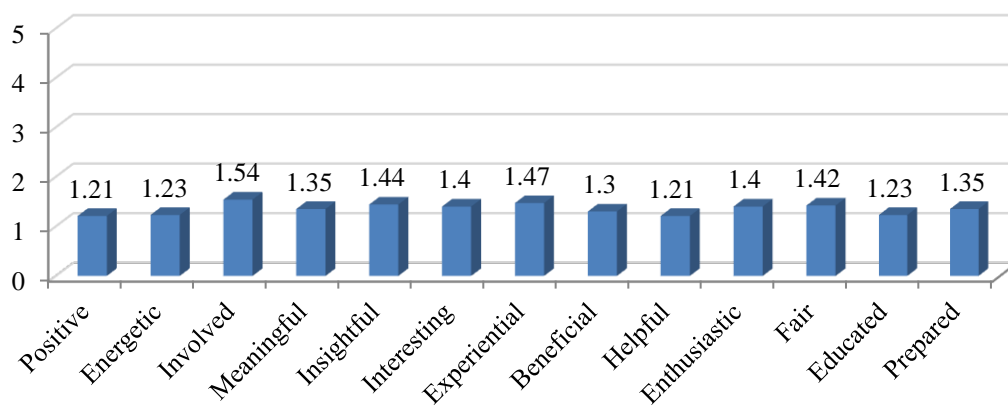


Figure 7.16: Graphical representation of the mean scores per item for Session 1

The results presented in Figure 7.16 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 1 had been completed.

Session 2 – Improving self-awareness

The mean scores of the items on the semantic differential scale for Session 2 can be viewed in Figure 7.17.

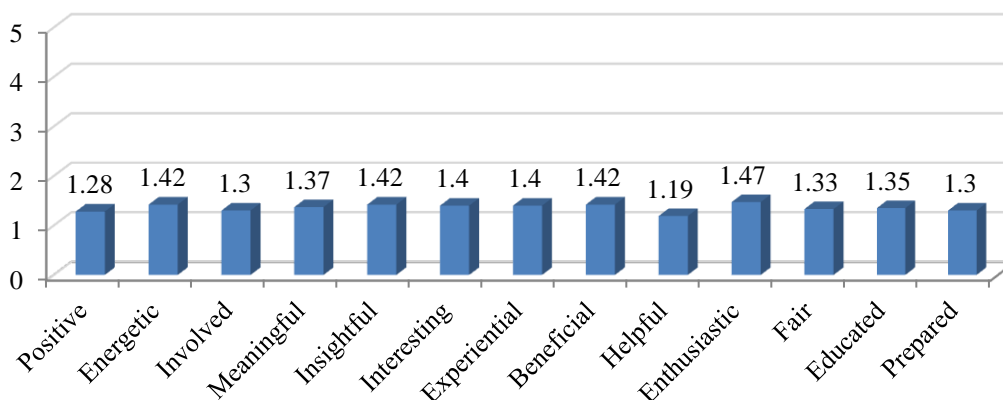


Figure 7.17: Graphical representation of the mean scores per item for Session 2

The results presented in Figure 7.17 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 2 had been completed.

Session 3 – Communication

The mean scores of the items on the semantic differential scale for Session 3 can be viewed in Figure 7.18.

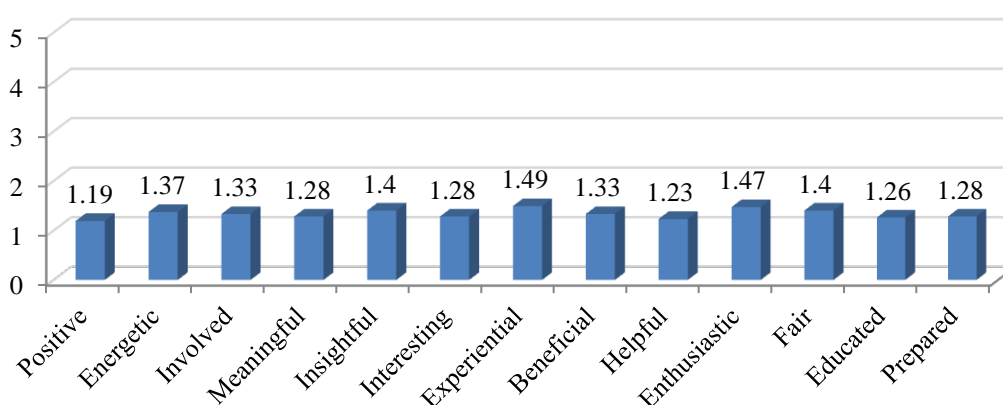


Figure 7.18: Graphical representation of the mean scores per item for Session 3

The results presented in Figure 7.18 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 3 had been completed.

Session 4 – Communication

The mean scores of the items on the semantic differential scale for Session 4 can be viewed in Figure 7.19.

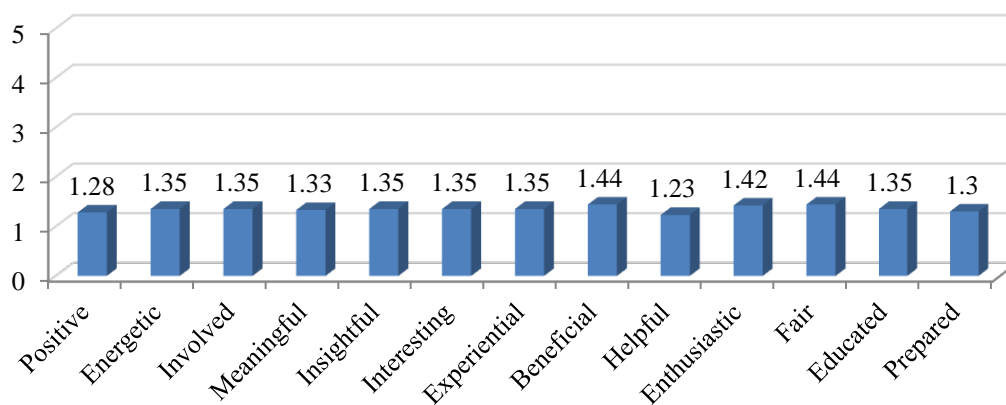


Figure 7.19: Graphical representation of the mean scores per item for Session 4

The results presented in Figure 7.19 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 4 had been completed.

Session 5 – Coping with emotions

The mean scores of the items on the semantic differential scale for Session 5 can be viewed in Figure 7.20.

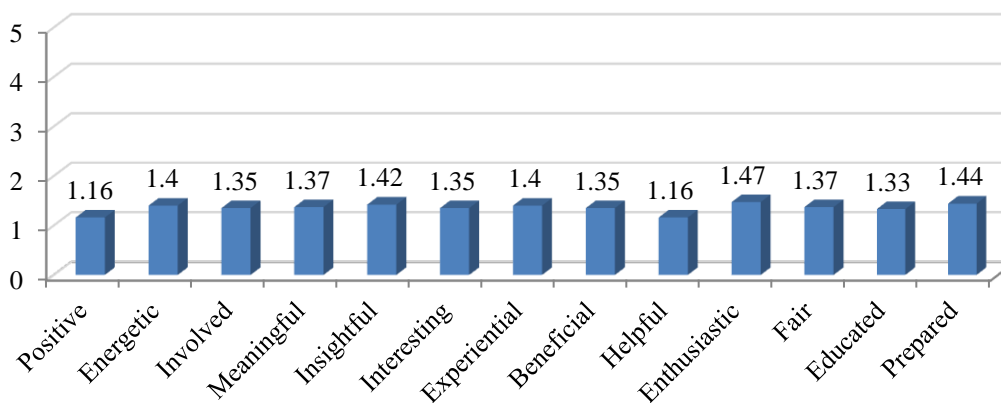


Figure 7.20: Graphical representation of the mean scores per item for Session 5

The results presented in Figure 7.20 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 5 had been completed.

Session 6 – Coping with emotions

The mean scores of the items on the semantic differential scale for Session 6 can be viewed in Figure 7.21.

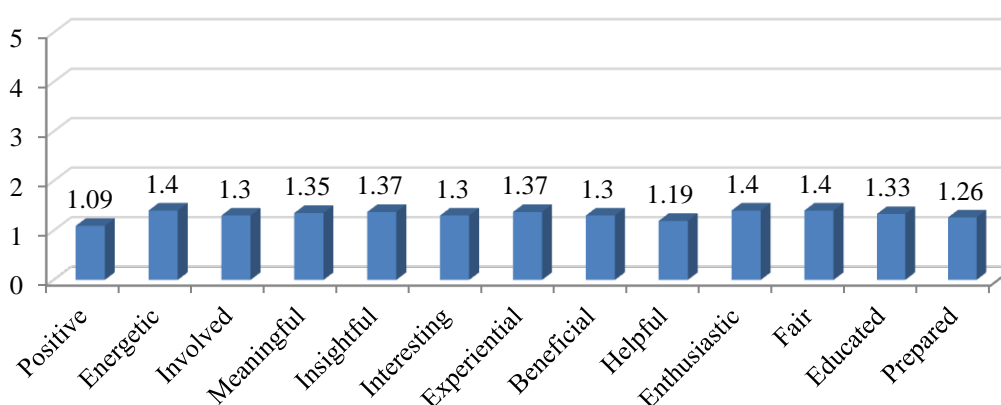


Figure 7.21: Graphical representation of the mean scores per item for Session 6

The results presented in Figure 7.21 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 6 had been completed.

Session 7 – Stress management

The mean scores of the items on the semantic differential scale for Session 7 can be viewed in Figure 7.22.

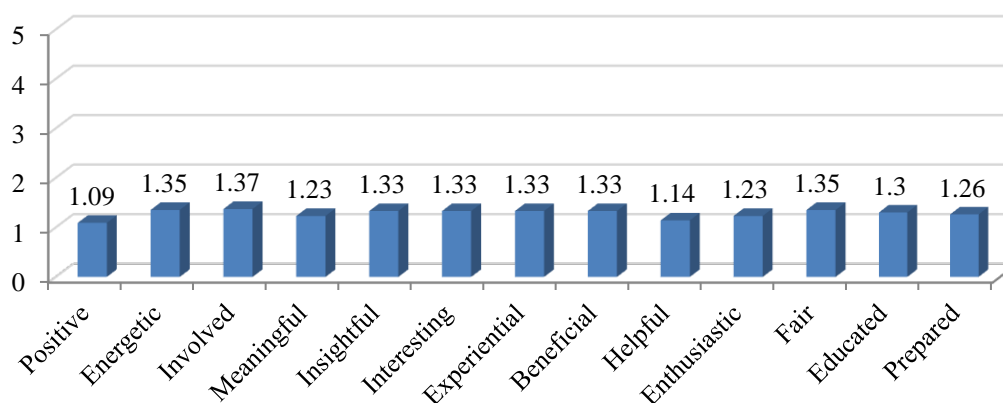


Figure 7.22: Graphical representation of the mean scores per item for Session 7

The results presented in Figure 7.22 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 7 had been completed.

Session 8 – Stress Management

The mean scores of the items on the semantic differential scale for Session 8 can be viewed in Figure 7.23.

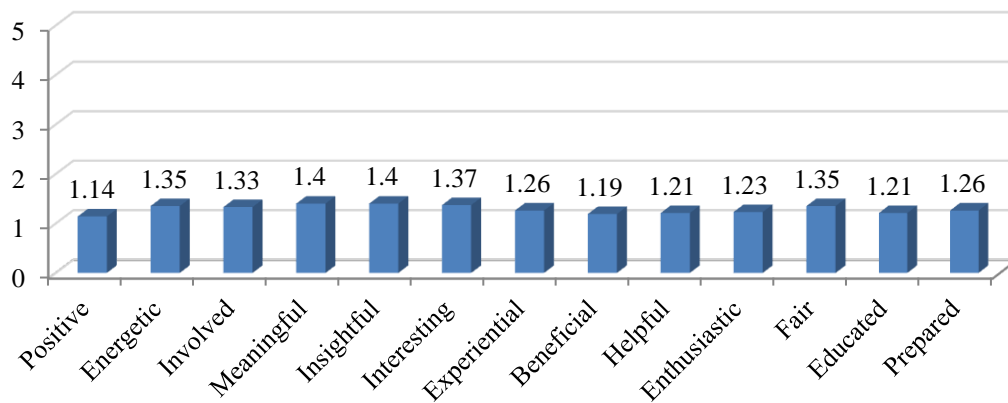


Figure 7.23: Graphical representation of the mean scores per item for Session 8

The results presented in Figure 7.23 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 8 had been completed.

Module 2.2 – Decision-making

Session 1 – Decision-making

The mean scores of the items on the semantic differential scale for Session 1 can be viewed in Figure 7.24.

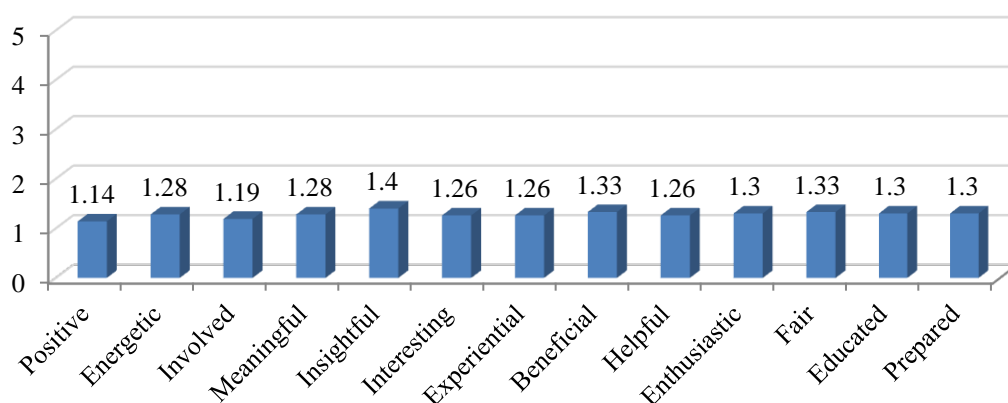


Figure 7.24: Graphical representation of the mean scores per item for Session 1

The results presented in Figure 7.24 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 1 had been completed.

Session 2 – Decision-making and goal setting

The mean scores of the items on the semantic differential scale for Session 2 can be viewed in Figure 7.25.

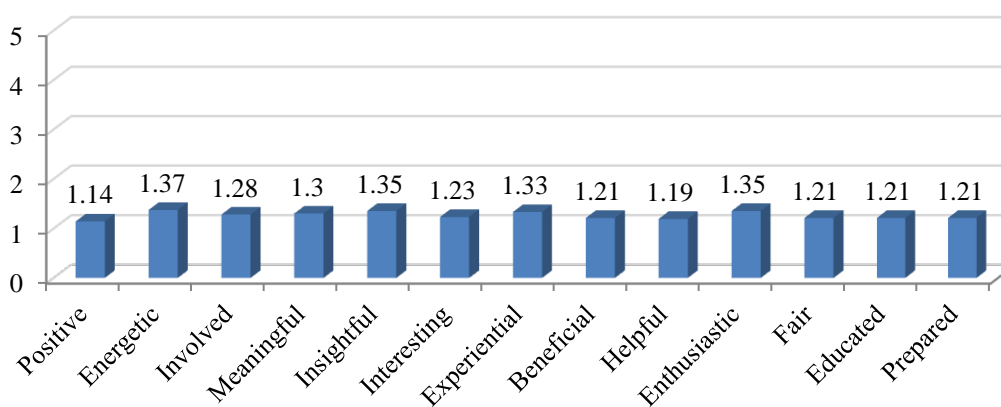


Figure 7.25: Graphical representation of the mean scores per item for Session 2

The results presented in Figure 7.25 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 2 had been completed.

Session 3 – Decision-making and assertiveness

The mean scores of the items on the semantic differential scale for Session 3 can be viewed in Figure 7.26.

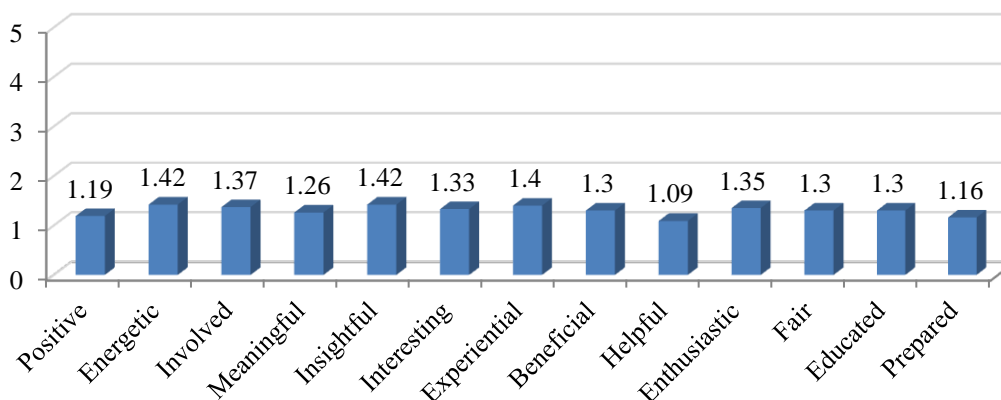


Figure 7.26: Graphical representation of the mean scores per item for Session 3

The results presented in Figure 7.26 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 3 had been completed.

Session 4 – Decision-making and cultural diversity

The mean scores of the items on the semantic differential scale for Session 4 can be viewed in Figure 7.27.

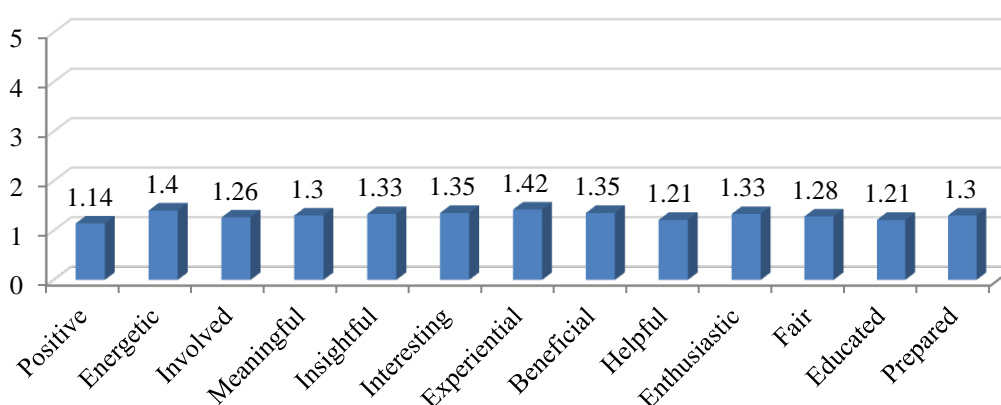


Figure 7.27: Graphical representation of the mean scores per item for Session 4

The results presented in Figure 7.27 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 4 had been completed.

Module 2.3 – Problem solving

Session 1 – Problem solving

The mean scores of the items on the semantic differential scale for Session 1 can be viewed in Figure 7.28.

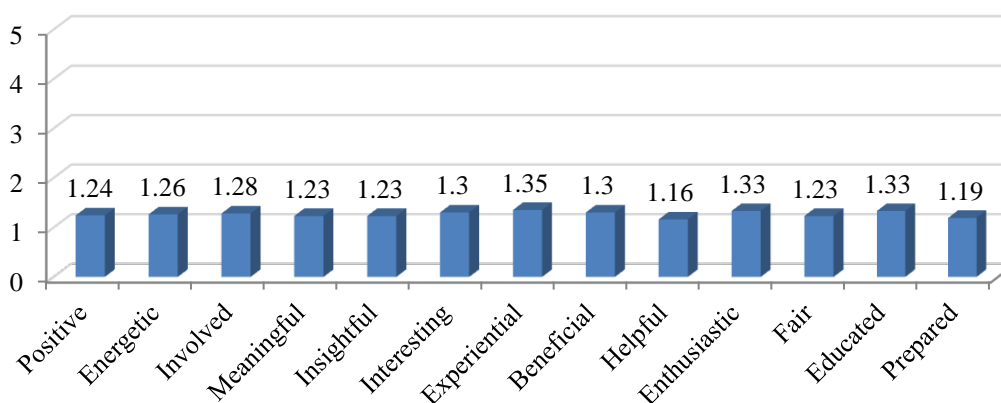


Figure 7.28: Graphical representation of the mean scores per item for Session 1

The results presented in Figure 7.28 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 1 had been completed.

Session 2 – Problem solving and creativity

The mean scores of the items on the semantic differential scale for Session 2 can be viewed in Figure 7.29.

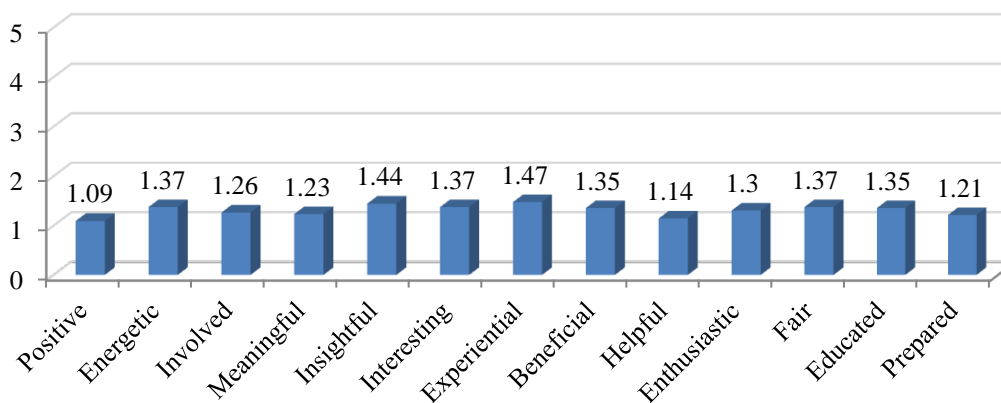


Figure 7.29: Graphical representation of the mean scores per item for Session 2

The results presented in Figure 7.29 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 2 had been completed.

Module 2.4 – Anger management

Session 1 – Anger management

The mean scores of the items on the semantic differential scale for Session 1 can be viewed in Figure 7.30.

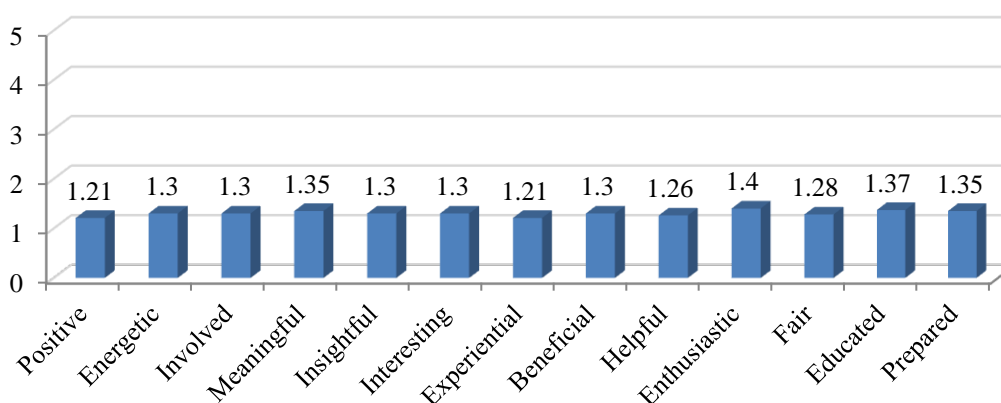


Figure 7.30: Graphical representation of the mean scores per item for Session 1

The results presented in Figure 7.30 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 1 had been completed.

Session 2 – Anger management

The mean scores of the items on the semantic differential scale for Session 2 can be viewed in Figure 7.31.

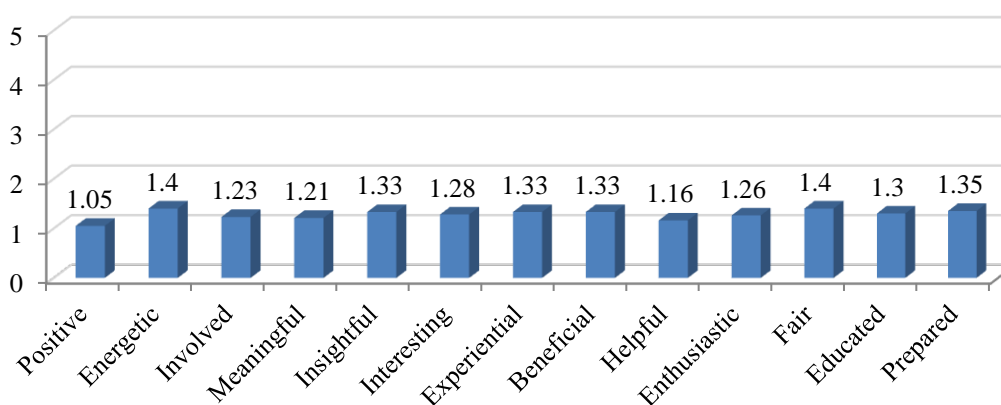


Figure 7.31: Graphical representation of the mean scores per item for Session 2

The results presented in Figure 7.31 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 2 had been completed.

Session 3 – Relationship skills

The mean scores of the items on the semantic differential scale for Session 3 can be viewed in Figure 7.32.

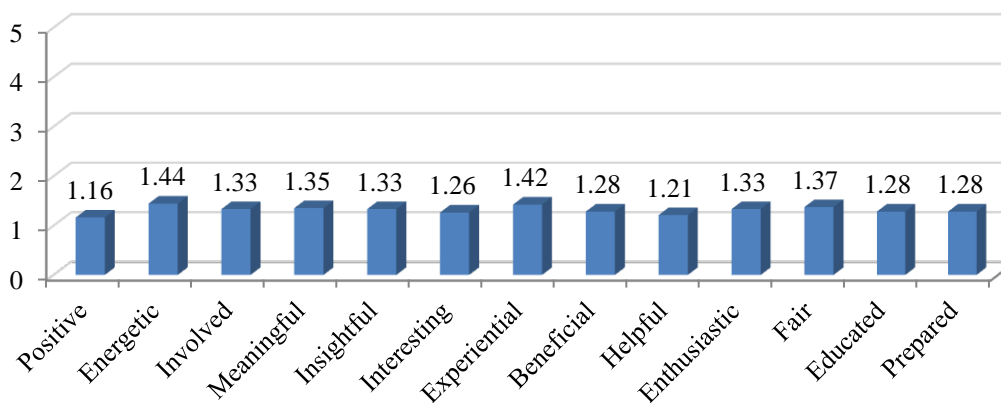


Figure 7.32: Graphical representation of the mean scores per item for Session 3

The results presented in Figure 7.32 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 3 had been completed.

Session 4 – Relationship skills

The mean scores of the items on the semantic differential scale for Session 4 can be viewed in Figure 7.33.

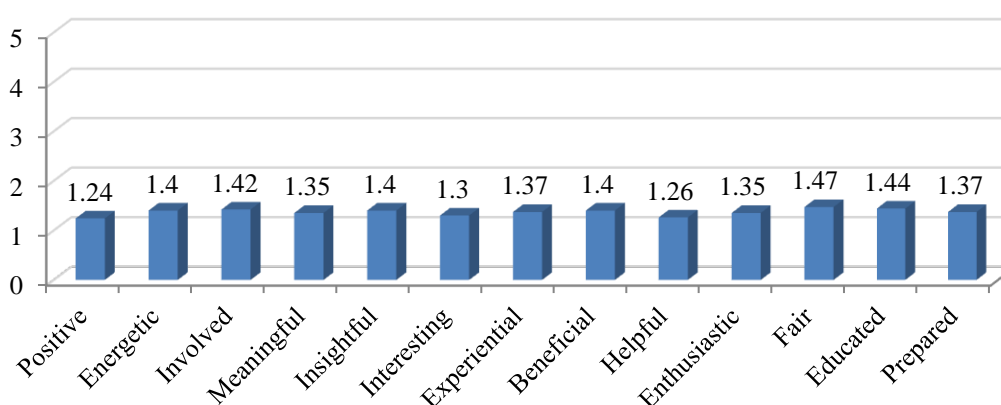


Figure 7.33: Graphical representation of the mean scores per item for Session 4

The results presented in Figure 7.33 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 4 had been completed.

Module 3.1 – Taking responsibility

Session 1 – Taking responsibility

The mean scores of the items on the semantic differential scale for Session 1 can be viewed in Figure 7.34.

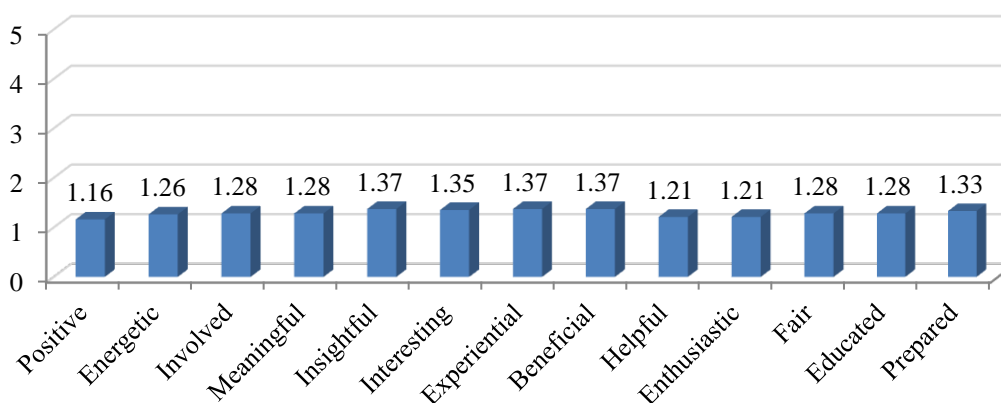


Figure 7.34: Graphical representation of the mean scores per item for Session 1

The results presented in Figure 7.34 reflect that no concerns were identified for the 13 items of the measure. The participants rated all three sections positively after Session 1 had been completed.

Module 3.2 – Review

Session 1 – What have I learned?

The mean scores of the items on the semantic differential scale for Session 1 can be viewed in Figure 7.35.

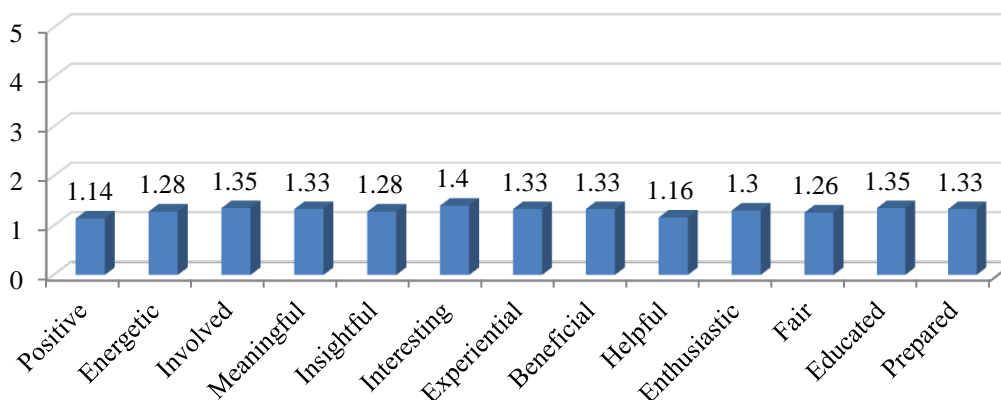


Figure 7.35: Graphical representation of the mean scores per item for Session 1

The results presented in Figure 7.35 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 1 had been completed.

Module 3.3 – Termination

Session 1 – Termination

The mean scores of the items on the semantic differential scale for Session 1 can be viewed in Figure 7.36.

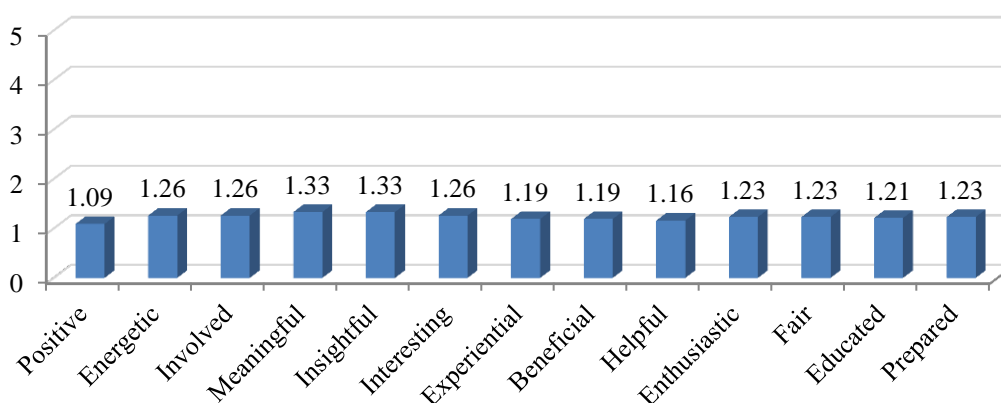


Figure 7.36: Graphical representation of the mean scores per item for Session 1

The results presented in Figure 7.36 reflect highly positive responses to the 13 items of the measure. The participants rated all three sections positively after Session 1 had been completed.

Overall evaluation

The mean scores of the items on the semantic differential scale for the entire programme can be viewed in Figure 7.37.

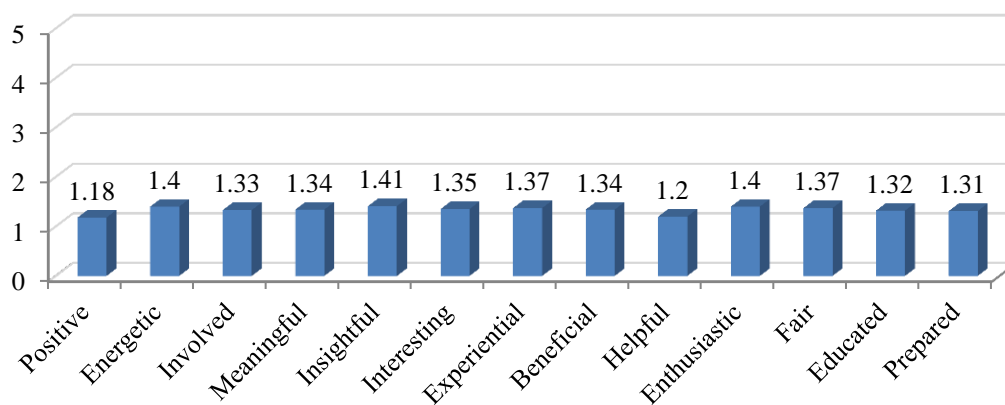


Figure 7.37: Graphical representation of the mean scores per item for the entire programme

The results presented in Figure 7.37 reflect highly positive responses to the 13 items of the measure, with mean averages ranging from $\bar{X} = 1.18$ to $\bar{X} = 1.41$. The results obtained from the participants' evaluation of (i) their own participation in the sessions and programme (items 1, 2 and 3), (ii) the content and practical application value of the programme (items 4 to 8), and (iii) the effectiveness of the facilitator (items 9 to 13), produced a mean average of $\bar{X} = 1.33$. A mean average of $\bar{X} = 1.30$ was calculated for the items regarding the participants' own participation in the sessions and programme, while a mean average of $\bar{X} = 1.32$ was calculated for the

participants' evaluation of items concerning the effectiveness of the facilitator. It seems as if the participants had a positive view regarding the content and practical application value of the programme, as a mean average of $\bar{X} = 1.36$ was calculated for the items in Section 2. This indicates that the participants experienced the programme as very *Meaningful* ($\bar{X} = 1.34$), *Insightful* ($\bar{X} = 1.41$), *Interesting* ($\bar{X} = 1.35$), *Experiential* ($\bar{X} = 1.37$), and *Beneficial* ($\bar{X} = 1.34$). According to these results, it seems as if the programme was successful with the participants being involved in their own development ($\bar{X} = 1.30$), the sessions and programme being regarded as valuable ($\bar{X} = 1.36$), and the facilitator being evaluated as effective ($\bar{X} = 1.32$).

7.10 Summary

In this chapter, the results of the investigation of the research hypotheses were reported statistically. The implications of the implementation of the programme will be discussed in the following chapter, where the results obtained from the Coping Strategy Indicator (CSI), the Melbourne Decision Making Questionnaire (MDMQ), the Aggression Questionnaire (AQ), the Trait Emotional Intelligence Questionnaire (TEIQue), and the Semantic Differential Scale will be discussed critically. Recommendations will also be discussed in the next chapter.

Chapter 8

Discussion, Conclusions, Limitations and Recommendations

8.1 Introduction

The purpose of this chapter is to draw conclusions from the results obtained by the research study and to discuss their implications. The results are discussed, considering the literature that was presented in the previous chapters, by focusing on the success of the *Life Skills* programme in its attempt to improve the *life skills* of the young adult male offenders. Attention is given to the measuring instruments the researcher used to measure the various dimensions of the domains in the short, medium and long term. These discussions will be followed by an integrated conclusion, after which limitations of the study will be discussed and recommendations will be made for future research.

8.2 Reflecting on the Purpose of the Study

The purpose of this research project was to develop, implement and evaluate a *Life Skills* programme for young adult male offenders with the aim of improving their *life skills* that, in turn, could enable them to adjust more effectively in the correctional environment. Offenders need to adjust to their prison life and programmes in correctional environments are therefore essential to teach offenders how to adjust successfully and to learn prosocial skills that will enable them to face and address challenges (Blevins et al., 2010; Wooldredge, 1999), increase their locus of control, think differently about situations (Reitzel & Harju, 2000), solve problems better, cope more effectively, not become involved in non-conforming activities (Rocheleau,

2011), and prepare themselves for their reintegration with society (Cropsey et al., 2007). Offenders specifically lack important life skills, as they possibly never had positive home or school environments in which they could obtain these skills, and imprisonment allows offenders the opportunity to be trained and educated by means of life skills to have a more positive outlook on life and to manage their lives more effectively (Smith, 2007).

Life skills education enables offenders to adjust better in correctional centres (Finn, 1998; Jiang & Winfree, 2006), to not become involved in gangs (WHO, 2009b), and to be prepared for their prospective release and re-entry into society (Bouffard & Bergseth, 2008; Bourke & Van Hasselt, 2001; Colvin, 2007; Jiang & Winfree, 2006; Listwan, 2009; Pettus & Severson, 2006; Reker & Meissner, 1977). The programme in this study was developed based on the principles of psycho-education, the cybernetic cycle and cognitive behavioural therapy. CBT was chosen, as studies have shown that it successfully improves the life skills, psychological well-being, and institutional behaviour of offenders. CBT improves various life skills such as problem solving, decision-making (Chen et al., 2006; Talashek et al., 2003), stress management (Echeburua et al., 2006; Khodayarifard et al., 2010), mature coping (Rocheleau, 2011), and relationship skills (Silliman & Schumm, 2000). The game of chess was used as a vehicle of change to enable the offenders to learn new life skills or improve their life skills. Chess, like CBT, trains individuals to think before making a move (acting), generate alternative moves (solutions), evaluate possible risks (consequences) and to make decisions about appropriate moves (behaviour).

8.3 Discussion of the Results and their Implications

The effects of the programme on the various dimensions of the domains in the short, medium and long term were measured by using several measuring instruments, namely the Coping Strategy Indicator (CSI), the Aggression Questionnaire (AQ), the Melbourne Decision Making Questionnaire (MDMQ), and the Trait Emotional Intelligence Questionnaire (TEIQue). A semantic differential scale was also used to obtain data pertaining to the perceptions of the participants regarding the programme. Cronbach's alpha coefficient was calculated for all the scales used in this study, and the findings indicate adequate internal consistencies for the majority of the measuring instruments.

Regarding the CSI, the Cronbach's alpha coefficients indicate adequate internal consistency for each of the subscales ranging from 0.68 – 0.90 for problem solving; 0.72 – 0.86 for seeking social support; and 0.62 – 0.72 for avoidance. These findings correspond with the findings of other researchers (Desmond et al., 2006; Soderstrom et al., 2001; Sullivan et al., 2010), who obtained alpha coefficients of 0.82 – 0.98 for problem solving; 0.88 – 0.98 for seeking social support; and 0.75 – 0.96 for avoidance in their studies.

The internal consistency reliability of each factor on the AQ has been calculated in this study as 0.62 – 0.80 for physical aggression; 0.40 – 0.67 for verbal aggression; 0.72 – 0.77 for anger; and 0.74 – 0.87 for hostility. These findings correspond with findings of other research projects (Buss & Perry, 1992; Falkenbach et al., 2007; Gerevich et al., 2007; Loots, 2010; Moller & Deci, 2010; Ongen, 2010; Palmer & Thakordas, 2005; Scarpa, 2001; Scarpa et al., 2006) that delivered similar alpha coefficients.

Adequate internal consistencies was also obtained for the subscales of the MDMQ ranging from 0.67 – 0.83 for vigilance; 0.73 – 0.83 for buckpassing; 0.67 – 0.79 for procrastination; and 0.16 – 0.71 for hyper-vigilance. Similar findings were reported in other studies (Bouckenooghe et al., 2007; Mann et al., 1997; Mann et al., 1998), in which the alpha coefficients for the subscales ranged between 0.73 – 0.80 for vigilance; 0.67 – 0.74 for hyper-vigilance; 0.77 – 0.87 for buckpassing; and 0.70 – 0.81 for procrastination.

Owing to their adequate internal consistencies, only five of the subscales of the TEIQue were used to determine the effect of the programme, namely social awareness, emotion perception, emotion regulation, emotion expression and stress management. The internal consistency reliability of each of these subscales ranged between 0.20 – 0.62 for social awareness; 0.47 – 0.59 for emotion perception; 0.49 – 0.64 for emotion regulation; 0.24 – 0.67 for emotion expression; and 0.48 – 0.72 for stress management. These findings do not correspond with the findings of other researchers (Mikolajczak et al., 2007; Petrides, 2006), where internal consistencies for the subscales ranged between 0.88 – 0.89 for emotion expression; 0.79 – 0.80 for emotion regulation; 0.75 – 0.81 for social awareness; 0.73 – 0.80 for emotion perception; and 0.80 – 0.81 for stress management.

The short-, medium- and long-term findings will be discussed for each of the four domains by focusing on the above-mentioned measures that formed part of the assessment protocol.

8.3.1 Problem Solving domain

The Coping Strategy Indicator (CSI) was conducted to measure the dimensions of the problem solving domain, namely *Problem Solving*, *Avoidance* and *Social Support*.

In the short term, it is clear that the programme did improve the *Problem Solving* and *Social Support* of the offenders, but improvement of the *Social Support* of the offenders only occurred because pretesting occurred. Therefore, no consideration will be given to the improvement of the *Social Support* of the offenders, as this finding was influenced by pretest sensitization. Therefore, the programme only had a significant effect on the *Problem Solving* of the offenders in the short term, regardless of whether pretesting occurred or not. This implies that the participants in the experimental groups who attended the programme were significantly better equipped with *Problem Solving* skills in the short term than the participants in the control groups were. Thus, they were better equipped to manipulate their surroundings and to solve problems than those in the control groups were. The programme had no significant effect on the *Avoidance* variable for the young adult offenders in the short term.

The programme had a significant effect with regard to the *Social Support* of the offenders in the medium term, regardless of whether pretesting occurred or not. This finding implies that the participants of the experimental group were better equipped than the participants of the control group to seek help from others when faced with problems. The programme had no significant effect on the *Problem Solving* and *Avoidance* of the offenders in the medium term. In the long term, the programme had no significant effect on any of the three dimensions of the problem solving domain.

Overall, these findings imply that the programme had limited success in improving the problem solving skills of the offenders in the short and medium term. The programme thus did not fully equip the offenders with the necessary skills to (i) manipulate their surroundings and solve problems effectively; (ii) seek help from others when they are unable to solve problems themselves; and (iii) refrain from

avoiding situations in the long term. These skills would have enabled the offenders to solve their problems more effectively and honestly, and to seek help from the management of the correctional centre when they needed assistance with particular problems.

8.3.2 Anger management domain

The dimensions (*Verbal Aggression*, *Physical Aggression*, *Anger* and *Hostility*) of the anger management domain were measured by using the Aggression Questionnaire (AQ).

In the short term, the programme had a significant effect on the *Physical Aggression* and *Verbal Aggression* of the offenders, which implies that the programme improved their *Physical Aggression* and *Verbal Aggression* in the short term, regardless of whether pretesting occurred or not. However, the programme had no significant effect on the *Anger* and *Hostility* of the offenders in the short term. No significant effects were obtained by the programme on all four dimensions of the anger management domain in the medium term and long term.

Overall, the programme had a significant impact on the *Physical Aggression* and *Verbal Aggression* (significant decrease) of the offenders in the short term. However, the programme did not fully equip the offenders to control their verbal aggression, physical aggression, anger, and hostility better in the medium and long term. These abilities would have enabled the offenders to not become part of non-conforming, violent behaviour in correctional environments.

8.3.3 Decision-making domain

The Melbourne Decision Making Questionnaire (MDMQ) was conducted to measure the dimensions (*Vigilance*, *Buckpassing*, *Procrastination* and *Hyper-vigilance*) of the decision-making domain.

In the short term, the programme improved the *Vigilance* and *Buckpassing* of the offenders, regardless of whether pretesting occurred or not. This implies that the offenders who attended the programme (experimental groups) were better equipped to make proper decisions and to refrain from avoiding making decisions in the short term than those in the control groups were. The programme had no significant effect on the *Procrastination* and *Hyper-vigilance* of the offenders in the short term. The programme had a significant effect only on *Buckpassing* in the medium term, regardless of whether pretesting occurred or not. In the long term, the programme had no significant effect on any of the four dimensions of the decision-making domain.

Overall, the programme had a significant impact on their decision-making (especially *Buckpassing*) in the short and medium term. In the short term it also improved their *Vigilance* significantly. However, the programme did not fully equip the offenders with the necessary skills to (i) evaluate alternatives and make proper decisions; (ii) refrain from avoiding making decisions by projecting the responsibility of making decisions onto others; (iii) be careful of making impulsive decisions; and (iv) abstain the tendency to put off making decisions in the long term. These decision-making skills are important in correctional environments, as they would have enabled the offenders to make effective and proper decisions that could have ensured that they steered clear from non-conforming behaviour.

8.3.4 Coping with emotions domain

The dimensions (*Social Awareness, Emotion Perception, Emotion Regulation, Emotion Expression* and *Stress Management*) of the coping with emotions domain were measured by using the Trait Emotional Intelligence Questionnaire (TEIQue). The results from the TEIQue indicate that the programme only had a significant effect on *Stress Management* (in the short term and long term) and *Emotion Regulation* (long term). However, the improvement on the *Stress Management* of the offenders in the long term occurred only because pretesting was present. Thus, no consideration will be given to the improvement of the *Stress Management* of the offenders in the long term, as this finding was influenced by pretest sensitization. The programme had no significant effect on the other four dimensions (*Social Awareness, Emotion Perception, Emotion Regulation* and *Emotion Expression*) in the short term. All five dimensions were not significantly improved by the programme in the medium term, and the programme also had no significant effect on the remaining three dimensions (*Social Awareness, Emotion Perception* and *Emotion Expression*) in the long term.

Overall, these findings indicate that the programme was not able to fully equip the offenders in the long term with the necessary skills to (i) express their emotions accurately and unambiguously; (ii) control their own feelings and emotional states; (iii) be socially sensitive, perceptive and adaptable, (iv) understand what they feel and to decipher what others are feeling; and (v) handle stress calmly and effectively. These skills are crucial to the survival of offenders in correctional environments, however, and it would have been advantageous if the programme could have improved these skills.

8.3.5 Evaluation of sessions and programme

A semantic differential scale was used to obtain data from the offenders that could be explored to see what their perceptions were regarding (i) their own contribution towards the programme; (ii) the content and practical application value of the sessions and the programme; and (iii) the effectiveness of the facilitator.

The findings from the semantic differential scale indicate that the offenders were always involved in their own development during the programme and that they viewed the facilitator as effective, helpful, energetic, fair, educated and prepared. The findings further indicate that the structure, contents, and practical application value of the programme are of a high standard. The participants viewed the programme as meaningful, insightful, interesting, experiential, and beneficial. These findings indicate that the participants benefited from their involvement in the programme.

8.4 Limitations

The researcher became aware of the limitations below when the study was concluded.

It should be kept in mind that it is a difficult task to change the behaviour of normal individuals, so much more to change the behaviour of offenders who acquired antisocial ways of dealing with situations and circumstances. Certain behavioural characteristics are learnt with ease, while others are more difficult to acquire. The personalities of the offenders were formed over years, and it should not be expected that it will be easy to change certain characteristics. Especially the characteristics of hardened maximum-security offenders with long sentences.

Another limitation is the limited generalizability of the results, as the participants were only from one maximum-security correctional centre in South Africa.

Therefore, the results can be generalized only to the young adult offender population of the private maximum-security correctional centre and not to young adult offender populations in other correctional centres in South Africa.

There is a lack of research in the South African context on the need to improve and develop the life skills of offenders to enable them to adjust more effectively in correctional environments.

It is impossible to control for all possible factors and variables that the offenders could have been exposed to outside of the programme due to the unforgiving environment in which they are housed. Factors, circumstances, and variables from the correctional environment could have contributed to the results of the study.

The participants' ability to adjust to changing environments was not measured, and no conclusions can be drawn about whether they were or were not capable of adjusting effectively to the correctional environment.

The fact that the programme facilitator is probably known to the offenders could have contributed to the limited success of the programme as the offenders might have responded in such a way as to please the programme facilitator.

The measuring instruments used in this study were self-reporting measures that the offenders could have completed in such a fashion as to appear better than they really were. The transparency of self-report assessment methods is viewed as a concern as participants can easily ascertain the intent of these instruments and for these measures to be of any value, participants must accurately and honestly report their experiences. This can be problematic in a correctional environment where offenders are motivated to distort their responses as they are seen as deceptive individuals who will portray themselves better than they really are (Foley, Hartman, Dunn, Smith, & Goldberg,

2002; Hare 1991, 2011; Seager, 2005). In this study, the assessment data were directly used to determine behaviour change regarding the four domains of anger management, problem solving, decision-making and coping with emotions. The possibility therefore exists that the participants completed the self-report measures with the objective of portraying themselves in a better light than what may have been the truth and to respond in socially desirable ways.

Objective evaluations from the programme facilitator were not included in this study which could have been used to counter the problematic concerns of self-reporting measures.

8.5 Recommendations

The recommendations discussed below are made due to the limitations that were identified after the completion of this study.

Because it is difficult to change certain behavioural characteristics, it is recommended that future research focus on more functional behavioural characteristics that can be changed or developed more easily by means of programmes aimed at changing these characteristics.

It will also be an advantage when this programme is repeated annually, even if it has a new perspective, to ensure that the changed behaviour becomes a way of living.

It is recommended that the programme should be adjusted and refined, and then implemented and evaluated in a more diverse population to ensure that the results can be generalized to the larger young adult offender population in South Africa. It could be considered to only focus in detail on one or two of the most important domains and

as such reduce the length of the programme. By focusing on only one or two domains could ensure that the offenders truly become well equipped with those life skills.

Many programmes are implemented in correctional environments without evaluating the programmes scientifically. Thus, no information is available about the advantages and disadvantages of these programmes. There is a need to develop programmes that are evaluated scientifically.

The long-term effect of the programme (six months after the completion of the programme) was measured, but it can also be considered to follow longitudinal studies whereby offenders are followed up later on and assessed to see whether changes have occurred or remained.

Objective measures, together with self-reporting measures, should be used to measure the effectiveness of programmes.

It is still recommended that the life skills of young adult offenders, or offenders in general, should be developed and improved to enable them to deal effectively with the challenges of a correctional environment and to adjust more effectively.

8.6 Summary

Although the offenders indicated that the programme and its contents were meaningful and beneficial, the findings indicate that the programme had limited success in equipping them with the necessary skills in the long-term that are crucial to their survival in a correctional centre. The programme had significant effects on especially problem solving and anger management in the short- and medium-term. These improvements were however not long lived.

The results of this study thus show that the programme had limited success and it did not positively influence their life skills in the long-term that would have enabled them to deal with the challenges of a correctional environment. It is necessary to refine and adjust or even redevelop this programme. The fact remains that programmes must be developed for offenders to improve their adjustment in correctional centres as well as for their release into communities.

References

- Abma, T. A., Greene, J. C., Karlsson, O., Ryan, K., Schwandt, T. A., & Widdershoven, G. A. M. (2001). Dialogue on dialogue. *Evaluation*, 7(2), 164-180. doi: 10.1177/135638900100700202
- Aciego, R., Garcia, L., & Betancort, M. (2012). The benefits of chess for the intellectual and social-emotional enrichment in schoolchildren. *The Spanish Journal of Psychology*, 15(2), 551-559. doi: 10.5209/rev_SJOP.2012.v15.n2.38866
- Ajani, T., & Stork, E. (2013). *Creating a semantic differential scale for measuring users' perceptions and attitudes toward emerging technologies*. Paper presented at the Conference for Information Systems Applied Research, San Antonio, Texas: USA.
- Alston, J. (2013). *Chess piece: The joy of chess*. Retrieved from <https://www.rcpsych.ac.uk/pdf/The%20Joy%20of%20Chess.pdf>
- Altbeker, A. (2005). Is South Africa really the world's crime capital? *SA Crime Quarterly*, 11, 1-8.
- Al-Hindawe, J. (1996). Considerations when constructing a semantic differential scale. *La Trobe Working Papers in Linguistics*, 9, 1-9. Retrieved from file:///C:/Users/uvp/Downloads/Adobe%20Acrobat%20PDF%20(2).pdf
- Amirkhan, J. H. (1990). A factor analytically derived measure of coping: The Coping Strategy Indicator. *Journal of Personality and Social Psychology*, 59(5), 1066-1074.

- Amirkhan, J. H. (1994). Criterion validity of a coping measure. *Journal of Personality Assessment*, 62(2), 242-261.
- Animasahun, R. A. (2010). Intelligent quotient, emotional intelligence and spiritual intelligence as correlates of prison adjustment among inmates in Nigeria prisons. *Journal of Social Sciences*, 22(2), 121-128.
- Arbaugh, J. B. (2000). Virtual classroom versus physical classroom: An exploratory study of class discussion patterns and student learning in an asynchronous internet-based MBA course. *Journal of Management Education*, 24(2), 213-233. doi: 10.1177/105256290002400206
- Archer, J., & Coyne, S. M. (2005). An integrated review of indirect, relational and social aggression. *Personality and Social Psychology Review*, 9(3), 212-230. doi: 10.1207/s15327957pspr0903_2
- Archer, J., & Webb, I. A. (2006). The relation between scores on the Buss-Perry Aggression Questionnaire and aggressive acts, impulsiveness, competitiveness, dominance, and sexual jealousy. *Aggressive Behaviour*, 32, 464-473. doi: 10.1002/ab.20146
- Ariely, D., & Wertenbroch, K. (2002). Procrastination, deadlines, and performance: Self-control by precommitment. *Psychological Science*, 13(3), 219-224. doi: 10.1111/1467-9280.00441
- Baier, K. (1973). Individual moral development and social moral advance. *The Journal of Philosophy*, 70(18), 646-648.

- Baldo, M., & Uzamugunda, J. (2000). Evaluating adolescents' Aids education: The experience of Uganda. *Journal of Health Management*, 2(1), 81-97. doi: 10.1177/097206340000200104
- Barbarino, A., & Mastrobuoni, G. (2007). *The incapacitation effect of incarceration: Evidence from several Italian collective pardons*. Retrieved from <http://www.carloalberto.org/assets/working-papers/no.55.pdf>
- Barkauskas, V. H., Lusk, S. L., & Eakin, B. L. (2005). Selecting control interventions for clinical outcome studies. *Western Journal of Nursing Research*, 27(3), 346-363. doi: 10.1177/0193945904271446
- Barker, A. (2011). *Improve your communication skills*. London: Kogan Page.
- Barrowclough, C., Haddock, G., Lobban, F., Jones, S., Siddle, R., Roberts, C., & Gregg, L. (2006). Group cognitive-behavioural therapy for schizophrenia. *British Journal of Psychiatry*, 189, 527-532. doi: 10.1192/bjp.bp.106.021386
- Bastian, V. A., Burns, N. R., & Nettelbeck, T. (2005). Emotional intelligence predicts life skills, but not as well as personality and cognitive abilities. *Personality and Individual Differences*, 39, 1135-1145.
- Baughman, H. M., Schwartz, S., Schermer, J. A., Veselka, L., Petrides, K. V., & Vernon, P. A. (2011). A behavioural-genetic study of alexithymia and its relationships with trait emotional intelligence. *Twin Research and Human Genetics*, 14(6), 539-543. doi: 10.1375/twin.14.6.539
- Baumer, E. P., O'Donnell, I., & Hughes, N. (2009). The porous prison: A note on the rehabilitative potential of visits home. *The Prison Journal*, 89(1), 119-126. doi: 10.1177/0032885508330430

- Bender, C. J. G. (2002). *A life skills programme for learners in the senior phase: A social work perspective* (Unpublished doctoral dissertation). Faculty of Social Work, University of Pretoria, Pretoria.
- Bhattacharjee, D., Rai, A. K., Singh, N. K., Kumar, P., Munda, S. K., & Das, B. (2011). Psychoeducation: A measure to strengthen psychiatric treatment. *Delhi Psychiatry Journal, 14*(1), 33-39.
- Biggam, F. H., & Power, K. G. (1999). A comparison of the problem-solving abilities and psychological distress of suicidal, bullied and protected prisoners. *Criminal Justice and Behavior, 26*(2), 196-216. doi: 10.1177/0093854899026002003
- Blatier, C. (2000). Locus of control, causal attributions and self-esteem: A comparison between prisoners. *International Journal of Offender Therapy and Comparative Criminology, 44*(1), 97-110.
- Blevins, K. R., Listwan, S. J., Cullen, F. T., & Johnson, C. L. (2010). A general strain theory of prison violence and misconduct: An integrated model of inmate behaviour. *Journal of Contemporary Criminal Justice, 26*(2), 148-166. doi: 10.1177/1043986209359369
- Bogestad, A. J., Kettler, R. J., & Hagan, M. P. (2010). Evaluation of a cognitive intervention program for juvenile offenders. *International Journal of Offender Therapy and Comparative Criminology, 54*(4), 552-565. doi: 10.1177/0306624X09337211
- Bonta, J., & Gendreau, P. (1990). Re-examining the cruel and unusual punishment of prison life. *Law and Human Behaviour, 14*(4), 347-372.
- Bott, R., & Morrison, S. (1960). *The chess apprentice*. London: Collins.

- Botvin, G. J., Griffin, K. W., & Nichols, T. R. (2006). Preventing youth violence and delinquency through a universal school-based prevention approach. *Prevention Science, 7*, 403-408.
- Botvin, G. J., Griffin, K. W., Paul, E., & Macaulay, A. P. (2003). Preventing tobacco and alcohol use among elementary school students through life skills training. *Journal of Child and Adolescent Substance Abuse, 12*, 1-18.
- Bouckennooghe, D., Vanderheyden, K., Mestdagh, S., & Van Laethem, S. (2007). Cognitive motivation correlates of coping style in decisional conflict. *The Journal of Psychology, 141*(6), 605-625.
- Bouffard, J. A., & Bergseth, K. J. (2008). The impact of re-entry services on juvenile offenders' recidivism. *Youth Violence and Juvenile Justice, 6*(3), 295-318. doi: 10.1177/1541204007313384
- Bourke, M. L., & Van Hasselt, V. B. (2001). Social problem-solving skills training for incarcerated offenders: A treatment manual. *Behaviour Modification, 25*(2), 163-188. doi: 10.1177/0145445501252001
- Bowen, E., & Gilchrist, E. (2004). Comprehensive evaluation: A holistic approach to evaluating domestic violence offender programmes. *International Journal of Offender Therapy and Comparative Criminology, 48*(2), 215-234. doi: 10.1177/0306624X03259471
- Braver, M. C. W., & Braver, S. L. (1988). Statistical treatment of the Solomon Four-Group design: A meta-analytic approach. *Psychological Bulletin, 104*(1), 150-154.
- Brown, G. T., Brown, A., & Roever, C. (2006). A review of paediatric occupational therapy university curricula in South Africa: Part two. *International Journal of Therapy and Rehabilitation, 13*(4), 151-158.

- Buck, A. J. (1996). A transitional gains trap: Prison sentences and prison capacity. *Social Science Quarterly*, 77(2), 260-264.
- Buntman, F. (2005). Imprisonment in apartheid South Africa I: Personal histories. *Journal of Southern African Studies*, 31(3), 663-666.
- Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology*, 63(3), 452-459.
- Byrom, T. (2009). 'I don't want to go to a crummy little university': Social class, higher education choice and the paradox of widening participation. *Improving Schools*, 12(3), 209-224. doi: 10.1177/1365480209348819
- Camiré, M., Trudel, P., & Bernard, D. (2013). A case study of a high school sport program designed to teach athletes life skills and values. *The Sport Psychologist*, 27, 188-200.
- Capwell, E. M., Butterfoss, F., & Francisco, V. T. (2000). Why evaluate? *Health Promotion Practice*, 1(1), 15-20. doi: 10.1177/152483990000100103
- Carcedo, R. J., Lopez, F., Orgaz, M. B., Toth, K., & Fernandez-Rouco, N. (2008). Men and women in the same prison: Interpersonal needs and psychological health of prison inmates. *International Journal of Offender Therapy and Comparative Criminology*, 52(6), 641-657. doi: 10.1177/0306624X07311596
- Cecil, D. K., Drapkin, D. A., MacKenzie, D. L., & Hickman, L. J. (2000). The effectiveness of adult basic education and life-skills programs in reducing recidivism: A review and assessment of the research. *Journal of Correctional Education*, 51(2), 207-226.
- Celone, J. (2001). *Why chess?* Retrieved from <http://www.edutechchess.com/whychess.html>

- Cerqueira, M. T. (2002). Strengthening health promotion planning for action in the Americas. In I. Josefa (Ed.), *First meeting and creation of the Caribbean Network of Health-promoting schools*. Washington, DC: Pan American Health Organization.
- Certel, Z., Bahadir, Z., & Sönmez, G. T. (2013). Investigation of empathy and self-esteem in decision making and decision-making styles among those who played team sports. *Nigde University Journal of Physical Education and Sport Sciences*, 7(1), 16-27.
- Cesario, S. K., Nelson, L. S., Broxson, A., & Cesario, A. L. (2010). Sword of Damocles cutting through the life stages of women with ovarian cancer. *Oncology Nursing Forum*, 37(5), 609-617.
- Cesaroni, C., & Peterson-Badali, M. (2010). Understanding the adjustment of incarcerated young offenders: A Canadian example. *Youth Justice*, 10(2), 107-125. doi: 10.1177/1473225410369290
- Chan, D. W. (2008). Giftedness of Chinese students in Hong Kong: Perspectives from different conceptions of intelligences. *Gifted Child Quarterly*, 52(1), 40-54. doi: 10.1177/0016986207311058
- Chen, P. (2007). Measures needed to strengthen strategic HIV/Aids prevention programmes in China. *Asia-Pacific Journal of Public Health*, 19(1), 3-7. doi: 10.1177/10105395070190010201
- Chen, S., Jordan, C., & Thompson, S. (2006). The effect of cognitive behavioural therapy (CBT) on depression: The role of problem-solving appraisal. *Research on Social Work Practice*, 16(5), 500-510. doi: 10.1177/1049731506287302

- Cilliers, C., & Smit, J. (2007). Offender rehabilitation in the South African correctional system: Myth or reality? *Acta Criminologica*, 20(2), 83-101.
- Clark, P. (2010). Preventing future crime with cognitive behavioural therapy. *National Institute of Justice Journal*, 265, 22-25. Retrieved from <https://www.ncjrs.gov/pdffiles1/nij/229882.pdf>
- Cloete, F. (2006). Fundamentals of evaluation research. *Journal of Public Administration*, 41(3), 682-693.
- Cloete, F. (2009). Evidence-based policy analysis in South Africa: Critical assessment of the emerging government-wide monitoring and evaluation system. *Journal of Public Administration*, 44(2), 293-311.
- Cocker, S. (2005). Re-integrating the Bradford rioters: Lessons for NOMS and the future of resettlement. *Probation Journal*, 52(3), 259-276. doi: 10.1177/0264550505055436
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Colvin, M. (2007). Applying differential coercion and social support theory to prison organizations: The case of the penitentiary of New Mexico. *The Prison Journal*, 87(3), 367-387. doi: 10.1177/0032885507304774
- Combs, D. R., Penn, D. L., Cassisi, J., Michael, C., Wood, T., Wanner, J., & Adams, S. (2006). Perceived racism as a predictor of paranoia among African Americans. *Journal of Black Psychology*, 32(1), 87-104. doi: 10.1177/0095798405283137
- Condon, L., Hek, G., & Harris, F. (2008). Choosing health in prison: Prisoners' views on making healthy choices in English prisons. *Health Education Journal*, 67(3), 155-166. doi: 10.1177/0017896908094633

- Conklin, J. E. (1995). *Criminology* (5th ed.). London: Allyn & Bacon.
- Conradi, H. J., De Jonge, P., & Ormel, J. (2008). Cognitive-behavioural therapy v. usual care in recurrent depression. *The British Journal of Psychiatry*, *193*, 505-506. doi: 10.1192/bjp.bp.107.042937
- Craig, L. A., Stringer, I., & Moss, T. (2006). Treating sexual offenders with learning disabilities in the community: A critical review. *International Journal of Offender Therapy and Comparative Criminology*, *50*(4), 369-390. doi: 10.1177/0306624X05283529
- Crawley, E., & Sparks, R. (2006). Is there life after imprisonment? How elderly men talk about imprisonment and release. *Criminology and Criminal Justice*, *6*(1), 63-82. doi: 10.1177/1748895806060667
- Crighton, D. A., & Towl, G. J. (2008). *Psychology in prisons* (2nd ed.). Malden, MA, USA: Blackwell Publishing.
- Crime Information Management – South African Police Service (2009). Retrieved from www.iss.co.za/uploads/0909CRIMETOTALS.PDF
- Cropsey, K. L., Wexler, H. K., Melnick, G., Taxman, F. S., & Young, D. W. (2007). Specialized prisons and services: Results from a national survey. *The Prison Journal*, *87*(1), 58-85. doi: 10.1177/0032885506299043
- Cunningham, M. D., Sorensen, J. R., & Reidy, T. J. (2005). An actuarial model for assessment of prison violence risk among maximum security inmates. *Assessment*, *12*(1), 40-49. doi: 10.1177/1073191104272815
- Czuchry, M., Sia, T. L., & Dansereau, D. F. (2006). Improving early engagement and treatment readiness of probationers: Gender differences. *The Prison Journal*, *86*(1), 56-74. doi: 10.1177/0032885505283877

- Daggett, D. M., & Camp, S. D. (2009). Do official misconduct data tell the same story as the individuals who live in prison? *Criminal Justice Review*, 34(3), 428-449. doi: 10.1177/0734016808329291
- Daoust, S. W., Loper, A. B., Magaletta, P. R., & Diamond, P. M. (2006). Neuropsychological dysfunction and aggression among female federal inmates. *Psychological Services*, 3(2), 88-96. doi: 10.1037/1541-1559.3.2.88
- Darden, C. A., Gazda, G. M., & Ginter, E. J. (1996). Life skills and mental health counselling. *Journal of Mental Health Counselling*, 18, 134-141.
- Dass-Brailsford, P., & Myrick, A. C. (2010). Psychological trauma and substance abuse: The need for an integrated approach. *Trauma, Violence and Abuse*, 11(4), 202-213. doi: 10.1177/1524838010381252
- Dauvergne, P. (2000). *The case for chess as a tool to develop our children's minds*. Retrieved from <http://www.auschess.org.au/articles/chessmind.htm>
- Davies, W. M. (2009). Groupwork as a form of assessment: Common problems and recommended solutions. *Higher Education*, 58, 563-584.
- Day, A., Davey, L., Wanganeen, R., Howells, K., DeSantolo, J., & Nakata, M. (2006). The meaning of anger for Australian indigenous offenders: The significance of context. *International Journal of Offender Therapy and Comparative Criminology*, 50(5), 520-539. doi: 10.1177/0306624X06286971
- Deemer, E. D., Carter, A. P., & Lobrano, M. T. (2010). Extending the 2 x 2 achievement goal framework: Development of a measure of scientific achievement goals. *Journal of Career Assessment*, 18(4), 376-392. doi: 10.1177/1069072710374575

- Deemer, E. D., Martens, M. P., & Buboltz, W. C. (2010). Toward a tripartite model of research motivation: Development and initial validation of the research motivation scale. *Journal of Career Assessment, 18*(3), 292-309. doi: 10.1177/1069072710364794
- Deffenbacher, J. L., Lynch, R. S., Oetting, E. R., & Kemper, C. C. (1996). Anger reduction in early adolescence. *Journal of Counselling Psychology, 41*(2), 149-157.
- Deffenbacher, J. L., Oetting, E. R., Huff, M. E., & Thwaites, G. A. (1995). A fifteen-month follow-up of social skills and cognitive-relaxation approaches to general anger reduction. *Journal of Counseling Psychology, 42*(3), 400-405.
- Deffenbacher, J. L., Oetting, E. R., & DiGiuseppe, R. A. (2002). Principles of empirically supported interventions applied to anger management. *The Counseling Psychologist, 30*(2), 262-280. doi: 10.1177/0011000002302004
- DeLisi, M. (2003). Special report: Criminal careers behind bars. *Behavioural Sciences and the Law, 21*, 653-669. doi: 10.1002/bsl.531
- Del Mastro, M. P. (2006). Psychosocial development and female identity in Laforet's La mujer nueva. *Bulletin of Hispanic Studies, 83*(6), 509-521.
- Demarteau, M. (2002). A theoretical framework and grid for analysis of programme-evaluation practices. *Evaluation, 8*(4), 454-473. doi: 10.1177/13563890260620649
- Desmond, D. M., Shevlin, M., & MacLachlan, M. (2006). Dimensional analysis of the Coping Strategy Indicator in a sample of elderly veterans with acquired limb amputations. *Personality and Individual Differences, 40*, 249-259.

- De Viggiani, N. (2007). Unhealthy prisons: Exploring structural determinants of prison health. *Sociology of Health and Illness*, 29(1), 115-135.
- De Vos, A., Strydom, H., Fouché, C., & Delpont, C. (2005). *Research at grass roots* (3rd ed.). Pretoria: Van Schaik Publishers.
- Dhami, M. K., Ayton, P., & Loewenstein, G. (2007). Adaptation to imprisonment: Indigenous or imported? *Criminal Justice and Behaviour*, 34(8), 1085-1100.
doi: 10.1177/0093854807302002
- Diamond, P. M., & Magaletta, P. R. (2006). The short-form Buss-Perry Aggression Questionnaire (BPAQ-SF): A validation study with federal offenders. *Assessment*, 13(3), 227-240. doi: 10.1177/1073191106287666
- Diamond, P. M., Wang, E. W., & Buffington-Vollum, J. (2005). Factor structure of the Buss-Perry Aggression Questionnaire (BPAQ) with mentally ill male prisoners. *Criminal Justice and Behaviour*, 32(5), 546-564. doi: 10.1177/0093854805278416
- Di Fabio, A., & Blustein, D. L. (2009). Emotional intelligence and decisional conflict styles: Some empirical evidence among Italian high school students. *Journal of Career Assessment*, 18(1), 71-81. doi: 10.1177/1069072709350904
- DiIulio, J. J. (1993). Rethinking the criminal justice system: Toward a new paradigm. In J. J. DiIulio, Jr, G. P. Alpert, M. H. Moore, G. F. Cole, J. Petersilia, C. H. Logan, & J. Q. Wilson (Eds.), *Performance measures for the criminal justice system* (p. 1-18). Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Dixon, L. (2000). Punishment and the question of ownership: Groupwork in the criminal justice system. *Groupwork*, 12(1), 6-25.

- Dobson, G. (2004). Get Carter. *Probation Journal*, 51(2), 144-154. doi: 10.1177/0264550504045009
- Donley, J. E. (1911). Psychotherapy and re-education. *The Journal of Abnormal Psychology*, 6(1), 1-10. doi: 10.1037/h0071950
- Drummond, T. (2000). Harlem's Chess Kings. *Time*, 155(8).
- Duan, Y. (2006). Selecting and applying taxonomies for learning outcomes: A nursing example. *International Journal of Nursing Education Scholarship*, 3(1), 1-12.
- Dunbar, B. (2004). Anger management: A holistic approach. *Journal of the American Psychiatric Nurses Association*, 10(1), 16-23. doi: 10.1177/1078390303261168
- Dunn, E. W., Brackett, M. A., Ashton-James, C., Schneiderman, E., & Salovey, P. (2007). On emotionally intelligent time travel: Individual differences in affective forecasting ability. *Personality and Social Psychology Bulletin*, 33(1), 85-93. doi: 10.1177/0146167206294201
- Du Preez, N. (2003). *Integrated offender administration through correctional case management* (Unpublished doctoral dissertation). University of South Africa, Pretoria, South Africa.
- Du Preez, N., & Luyt, W. (2006). The application of case management in a private prison: A South African case study. *Acta Criminologica*, 19(3), 195-213.
- Echeburua, E., Fernandez-Montalvo, J., & Amor, P. J. (2006). Psychological treatment of men convicted of gender violence: A pilot study in Spanish prisons. *International Journal of Offender Therapy and Comparative Criminology*, 50(1), 57-70. doi: 10.1177/0306624X05277662

- Elias, M., Gara, M., Schulyer, T., Brandon-Muller, L., & Sayette, M. (1991). The promotion of social competence. *American Journal of Orthopsychiatry*, *13*, 409-417.
- Englander-Goldern, P., Jackson, J., Crane, K., Schwarkopf, A., & Lyle, P. (1989). Communication skills and self-esteem in prevention of destructive behaviours. *Adolescence*, *14*, 481-501.
- Erwin, B. A., Heimberg, R. G., Schneider, F. R., & Liebowitz, M. R. (2003). Anger experience and expression in social anxiety disorder: Pretreatment profile and predictors of attrition and response to cognitive-behavioral treatment. *Behavior Therapy*, *34*(3), 331-350.
- Fadul, J. A., & Canlas, R. N. Q. (2009). *Chess therapy*. Morrisville, North Carolina: Lulu Press Inc.
- Falkenbach, D., Poythress, N., Falki, M., & Manchak, S. (2007). Reliability and validity of two self-report measures of psychopathy. *Assessment*, *14*(4), 341-350. doi: 10.1177/1073191107305612
- Farrington, D. P., & Welsh, B. C. (2005). Randomized experiments in criminology: What have we learned in the last two decades? *Journal of Experimental Criminology*, *1*, 9-38.
- Feilzer, M. Y. (2007). Criminologists making news? Providing factual information on crime and criminal justice through a weekly newspaper column. *Crime, Media, Culture*, *3*(3), 285-304. doi: 10.1177/1741659007082467
- Ferguson, R. (2007). *Relationship between chess, memory and self-esteem*. London: BMarinello.

- Finn, P. (1998). *The Delaware Department of Correction Life Skills program*. US Department of Justice: Office of Justice Programs. Retrieved from <https://www.ncjrs.gov/pdffiles/169589.pdf>
- Fleming, J. S. (2004). *Psychological perspectives on human development*. Retrieved from <http://swppr.org/Textbook/Contents.html>
- Foley, P. F., Hartman, B. W., Dunn, A. B., Smith, J. E., & Goldberg, D. M. (2002). The utility of the State-Trait Anger Expression Inventory with offenders. *International Journal of Offender Therapy and Comparative Criminology*, 46(3), 364-378.
- Franklin, B. (1786). *The morals of chess*. Retrieved from http://meritbadge.org/wiki/images/6/65/Ben_Franklin_-_Morals_of_Chess.pdf
- French, S. A., & Gendreau, P. (2006). Reducing prison misconducts: What works! *Criminal Justice and Behaviour*, 33(2), 185-218. doi: 10.1177/0093854805284406
- Frick, D. (2006). *Chess as a therapeutic medium in a substance abuse rehabilitation centre: A narrative study* (Unpublished master's thesis). Faculty of Humanities, University of Pretoria, Pretoria, South Africa.
- Gathright, G. (1999). Conflict management in prisons: An educator's perspective. *Journal of Correctional Education*, 50(4), 142-147.
- Gear, S. (2007a). Behind the bars of masculinity: Male rape and homophobia in and about South African men's prisons. *Sexualities*, 10(2), 209-227.
- Gear, S. (2007b). Fear, violence and sexual violence in a Gauteng juvenile correctional centre for males. *CSVR Criminal Justice programme, Briefing Report no. 2*. Retrieved from <http://www.csvr.org.za/docs/gender/fearviolence.pdf>

- Gear, S. (2008). *Sexual violence in South African men's prisons: Dynamics of "manhood" and coercive sexualities*. Paper presented at the 10th Conference of the International Association for the Treatment of Sexual Offenders, Cape Town, South Africa.
- Gear, S., & Ngubeni, K. (2002). *Daai ding: Sex, sexual violence and coercion in men's prisons*. Cape Town, South Africa: Centre for the Study of Violence and Reconciliation.
- Gerevich, J., Bacskai, E., & Czobor, P. (2007). The generalizability of the Buss-Perry Aggression Questionnaire. *International Journal of Methods in Psychiatric Research* 16(3), 124-136. doi: 10.1002/mpr.221
- Geva-May, I., & Thorngate, W. (2003). Reducing anxiety and resistance in policy and programme evaluations: A socio-psychological analysis. *Evaluation*, 9(2), 205-227. doi: 10.1177/1356389003009002006
- Ghosh, N., Mohit, A., & Murthy, R. S. (2004). Mental health promotion in post-conflict countries. *The Journal of the Royal Society for the Promotion of Health*, 124(6), 268-270. doi: 10.1177/146642400412400614
- Giffard, C., & Muntingh, L. (2006). *The effect of sentencing on the size of the South African prison population*. Cape Town, South Africa: Open Society Foundation for South Africa.
- Goldman, J. D. G. (2005). Student teachers' learning about child sexual abuse strategies for primary school: An exploratory study of surface and deep learning. *Sex Education*, 5(1), 79-92. doi: 10.1080/1468181042000301902
- Gollon, J. (1968). *Chess variations: Ancient, regional and modern*. Japan: Tuttle Co.

- Gonzalez-Prendes, A. A. (2008). Anger-control group counseling for women recovering from alcohol or drug addiction. *Research on Social Work Practice, 18*(6), 616-625. doi: 10.1177/1049731507308356
- Gover, A. R., MacKenzie, D. L., & Armstrong, G. S. (2000). Importation and deprivation explanations of juveniles' adjustment to correctional facilities. *International Journal of Offender Therapy and Comparative Criminology, 44*(4), 450-467. doi: 10.1177/0306624X00444004
- Goyer, K. C. (2001). *Prison privatisation in South Africa: Issues, challenges and opportunities*. Pretoria: Institute for Security Studies.
- Granello, D. H., & Underfer-Babalis, J. (2004). Supervision of group work: A model to increase supervisee cognitive complexity. *The Journal for Specialists in Group Work, 29*(2), 159-173. doi: 10.1080/01933920490439310
- Green, R. F. (1971). *Chess* (revised ed.). London: Bell & Sons.
- Gregor, A. (2005). Examination anxiety: Live with it, control it or make it work for you? *School Psychology International, 26*(5), 617-635. doi: 10.1177/0143034305060802
- Griffin, K. W., Botvin, G. J., & Nichols, T. R. (2006). Effects of a school-based drug abuse prevention program for adolescents on HIV risk behaviours in young adulthood. *Prevention Science, 7*, 103-112.
- Griffin, M. L., & Hepburn, J. R. (2006). The effect of gang affiliation on violent misconduct among inmates during the early years of confinement. *Criminal Justice and Behavior, 33*(4), 419-448. doi: 10.1177/0093854806288038
- Guerra, P. (1998). *Counseling program uses chess as an analogy for life situations*. Retrieved from http://members.tripod.com/tcp_2/TCP_2/chess_as.htm

- Haber, D. (2006). Life review: Implementation, theory, research, and therapy. *International Journal of Aging and Human Development*, 63(2), 153-171.
- Halawi, L. A., Pires, S., & McCarthy, R. V. (2009). An Evaluation of E-Learning on the basis of Bloom's Taxonomy: An Exploratory Study. *Journal of Education for Business*, 84(6), 374-380.
- Hampton, E. (2012). *Coping with imprisonment: Exploring bullying, safety and social support within prison settings* (Unpublished doctoral dissertation). Forensic Psychology in Practice, University of Birmingham, West Midlands, UK.
- Hare, R. D. (1991). *Manual for the revised PCL/PCL-R Checklist*. Toronto, Canada: Multi-Health Systems.
- Hare, R. D. (2011). *Hare Psychopathy Checklist – Revised (PCL-R)* (2nd ed.): *Technical Manual*. Toronto, Canada: Multi-Health Systems.
- Heide, K. M., & Solomon, E. P. (2003). Treating today's juvenile homicide offenders. *Youth Violence and Juvenile Justice*, 1(1), 5-31. doi: 10.1177/1541204002238361
- Helmstadter, G. C. (1970). *Research concepts in human behaviour: Education, psychology, & sociology*. New York, NY: Appleton-Century-Crofts.
- Herzog, T. K., Hughes, F. M., & Jordan, M. (2010). What is conscious in perceived attachment? Evidence from global and specific relationship representations. *Journal of Social and Personal Relationships*, 27(3), 283-303. doi: 10.1177/0265407509347303
- Hesselink-Louw, A. M. E. (2004). *Criminological assessment of prison inmates: A constructive mechanism towards offender rehabilitation* (Unpublished doctoral dissertation). University of South Africa, Pretoria, South Africa.

- Hobfoll, S. E., & Schröder, K. E. E. (2001). Distinguishing between passive and active prosocial coping: Bridging inner-city women's mental health and Aids risk behaviour. *Journal of Social and Personal Relationships, 18*(2), 201-217. doi: 10.1177/0265407501182003
- Hochstetler, A., DeLisi, M., & Pratt, T. C. (2010). Social support and feelings of hostility among released inmates. *Crime and Delinquency, 56*(4), 588-607. doi: 10.1177/0011128708319926
- Hochstetler, A., Murphy, D. S., & Simons, R. L. (2004). Damaged goods: Exploring predictors of distress in prison inmates. *Crime and Delinquency, 50*(4), 436-457. doi: 10.1177/0011128703257198
- Holden, D. J., Evans, W. D., Hinnant, L. W., & Messeri, P. (2005). Modelling psychological empowerment among youth involved in local tobacco control efforts. *Health Education and Behavior, 32*(2), 264-278. doi: 10.1177/1090198104272336
- Holdnak, B. J., Clemons, T., & Bushardt, S. C. (1990). Evaluating organization training with the Solomon four-group design: A field study in self-esteem training. *Journal of Managerial Psychology, 5*(5), 25-31. doi: 10.1108/02683949010136251
- Horgan, D. (1988). *Where experts come from*. Paper presented at the annual meeting of the Decision Sciences Institute, Lincoln, NE.
- Hornsveld, R. H. J., Muris, P., Kraaimaat, F. W., & Meesters, C. (2009). Psychometric properties of the Aggression Questionnaire in Dutch violent forensic psychiatric patients and secondary vocational students. *Assessment, 16*(2), 181-192. doi: 10.1177/1073191108325894

- Houser-Marko, L., Sporer, A., Emery, S. L., Hund, L., Lee, J., & Curry, S. J. (2010). Use of program evaluation in community youth tobacco cessation programs. *American Journal of Health Behavior, 34*(2), 177-185.
- Hsu, J. (1989). *Three decision models for evaluating chess positions*. Michigan: UMI.
- Huey, M., & McNulty, T. L. (2005). Institutional conditions and prison suicide: Conditional effects of deprivation and overcrowding. *The Prison Journal, 85*(4), 490-514. doi: 10.1177/0032885505282258
- Humphrey, N., Kalambouka, A., Wigelsworth, M., & Lendrum, A. (2010). Going for goals: An evaluation of a short, social-emotional intervention for primary school children. *School Psychology International, 31*(3), 250-270. doi: 10.1177/0143034309352578
- Huysamen, G. K. (1985). *Navorsingsontwerp en variansieontleding*. Pretoria, South Africa: Nasionale boekdrukkery.
- Huysamen, G. K. (1998). *Metodologie vir die sosiale en gedragwetenskappe*. Johannesburg, South Africa: Thomson.
- IBM Incorporated. (2014). *IBM SPSS Statistics for Windows, Version 22.0*. Armonk, NY: IBM Corp.
- Isaksson, U., Hajdarević, S., Jutterström, L., & Hörnsten, Å. (2013). Validity and reliability testing of the Swedish version of Melbourne Decision Making Questionnaire. *Scandinavian Journal of Caring Sciences, 1*-8.
- Islam-Zwart, K. A., & Vik, P. W. (2004). Female adjustment to incarceration as influenced by sexual assault history. *Criminal Justice and Behaviour, 31*(5), 521-541. doi: 10.1177/0093854804267091

- Jalazo, M. D. (2005). Life skills project: Project New Attitudes. *The Journal of Correctional Education, 56*(2), 108-114.
- Jenkins, S. M., Buboltz, W. C., Schwartz, J. P., & Johnson, P. (2005). Differentiation of self and psychosocial development. *Contemporary Family Therapy, 27*(2), 251-261. doi: 10.1007/s10591-005-4042-6
- Jewkes, Y. (2005). Men behind bars: "Doing" masculinity as an adaptation to imprisonment. *Men and Masculinities, 8*(1), 44-63. doi: 10.1177/1097184X03257452
- Jiang, S., & Fisher-Giorlando, M. (2002). Inmate misconduct: A test of the deprivation, importation and situational models. *The Prison Journal, 82*(3), 335-358. doi: 10.1177/003288550208200303
- Jiang, S., & Winfree, L. T. (2006). Social support, gender and inmate adjustment to prison life: Insights from a national sample. *The Prison Journal, 86*(1), 32-55. doi: 10.1177/0032885505283876
- Johnson, S. K., Garrison, L. L., Hernez-Broome, G., Fleenor, J. W., & Steed, J. L. (2012). Go for the goal(s): Relationship between goal setting and transfer of training following leadership development. *Academy of Management Learning and Education, 11*(4), 555-569. doi: 10.5465/amle.2010.0149
- Jones, M. I., Lavalley, D., & Tod, D. (2011). Developing communication and organization skills: The ELITE life skills reflective practice intervention. *The Sport Psychologist, 25*, 35-52.
- Joseph, J., & Kuo, B. C. H. (2009). Black Canadians' coping responses to racial discrimination. *Journal of Black Psychology, 35*(1), 78-101. doi: 10.1177/0095798408323384

- Jurišová, E., & Sarmány-Schuller, I. (2013). Structure of basal psychological self-regulation and personality integration in relation to coping strategies in decision-making in paramedics. *Studia Psychologica*, 55(1), 3-17.
- Kamhalová, I., Halama, P., & Gurňáková, J. (2013). Affect regulation and decision making in health-care professionals: Typology approach. *Studia Psychologica*, 55(1), 19-31.
- Kanner, M. D. (2005). A prospect dynamic model of decision-making. *Journal of Theoretical Politics*, 17(3), 311-338. doi: 10.1177/0951629805052882
- Kaplan, H. I., & Sadock, B. J. (1998). *Synopsis of psychiatry: Behavioural sciences/clinical psychiatry* (8th ed.). London: Lippincott Williams & Wilkens.
- Kar, A. K. (2011). Importance of life skills for the professionals of 21st century. *The IUP Journal of Soft Skills*, 5(3), 35-45.
- Kasparov, G. (2007). *How life imitates chess; making the right moves – from the board to the boardroom*. New York, USA: Bloomsbury Publishing.
- Kennedy, M. (2004). More than a game: Eight transition lessons chess teaches. *Cyc-online*, 67, 1-5. Retrieved from <http://www.cyc-net.org/cyc-online/cyconline0408.html>
- Kerbs, J. J., & Jolley, J. M. (2009). A commentary on age segregation for older prisoners: Philosophical and pragmatic considerations for correctional systems. *Criminal Justice Review*, 34(1), 119-139. doi: 10.1177/0734016808324245

- Kerley, K. R., & Copes, H. (2009). "Keppin' my mind right": Identity maintenance and religious social support in the prison context. *International Journal of Offender Therapy and Comparative Criminology*, 53(2), 228-244.
doi: 10.1177/0306624X08315019
- Kethineni, S., & Falcone, D. N. (2007). Employment and ex-offenders in the United States: Effects of legal and extra legal factors. *Probation Journal*, 54(1), 36-51.
doi: 10.1177/0264550507073325
- Khodayarifard, M., Shokoohi-Yekta, M., & Hamot, G. E. (2010). Effects of individual and group cognitive-behavioural therapy for male prisoners in Iran. *International Journal of Offender Therapy and Comparative Criminology*, 54(5), 743-755. doi: 10.1177/0306624X09344840
- Kiely, R. (2009). Small answers to the big question: Learning from language programme evaluation. *Language Teaching Research*, 13(1), 99-116. doi: 10.1177/1362168808095525
- Killian, K. D. (2008). Helping till it hurts? A multimethod study of compassion fatigue, burnout, and self-care in clinicians working with trauma survivors. *Traumatology*, 14(2), 32-44. doi: 10.1177/1534765608319083
- Kirchner, T., Forns, M., Munoz, D., & Pereda, N. (2008). Psychometric properties and dimensional structure of the Spanish version of the Coping Responses Inventory – Adult Form. *Psicothema*, 20(4), 902-909.
- Kirsh, S. J., Mounts, J. R. W., & Olczak, P. V. (2006). Violent media consumption and the recognition of dynamic facial expressions. *Journal of Interpersonal Violence*, 21(5), 571-584. doi: 10.1177/0886260506286840

- Kirmayer, L., Boothroyd, L. J., Laliberte, A., & Simpson, B. L. (1999). *Suicide prevention and mental health promotion in first nations and inuit communities*. Unpublished report no 9 of the Culture and Mental Health Research Unit, Montreal, Canada.
- Kohlberg, L. (1973). The claim to moral adequacy of a highest stage of moral judgment. *The Journal of Philosophy*, 70(18), 630-646.
- Kohlberg, L., & Hersh, R. H. (1977). Moral development: A review of the theory. *Theory into Practice*, 16(2), 53-59.
- Konantambigi, R. M., Meghani, S., & Modi, A. (2008). Non-formal education in a tribal setting: Strategies for qualitative changes in children. *Psychology and Developing Societies*, 20(1), 65-98. doi: 10.1177/097133360702000104
- Kowalenko, N., Rapee, R. M., Simmons, J., Wignall, A., Hoge, R., Whitefield, K., ... Baillie, A. (2005). Short-term effectiveness of a school-based early intervention program for adolescent depression. *Clinical Child Psychology and Psychiatry*, 10(4), 493-507. doi: 10.1177/1359104505056311
- Krathwohl, D. R. (2002). A revision of Bloom's Taxonomy: An overview. *Theory Into Practice*, 41(4), 212-217.
- Kulkarni, S. (2006). Interpersonal violence at the crossroads between adolescence and adulthood: Learning about partner violence from young mothers. *Violence Against Women*, 12(2), 187-207. doi: 10.1177/1077801205280933
- Lahm, K. F. (2008). Inmate-on-inmate assault: A multilevel examination of prison violence. *Criminal Justice and Behaviour*, 35(1), 120-137. doi: 10.1177/0093854807308730

- Lahm, K. F. (2009). Inmate assaults on prison staff: A multilevel examination of an overlooked form of prison violence. *The Prison Journal*, 89(2), 131-150. doi: 10.1177/0032885509334743
- Landenberger, N. A., & Lipsey, M. W. (2005). The positive effects of cognitive-behavioral programs for offenders: A meta-analysis of factors associated with effective treatment. *Journal of Experimental Psychology*, 1(4), 451-476. doi: 10.1007/s11292-005-3541-7
- Larsen, C. H., & Engell, C. (2013). The art of goal setting: A tale of doing sport psychology in professional football. *Sport Science Review*, 22(2), 49-76. doi: 10.2478/ssr-2013-0004
- Leenen, I., Givaudan, M., Pick, S., Venguer, T., Vera, J., & Poortinga, Y. H. (2008). Effectiveness of a Mexican health education program in a poverty-stricken rural area of Guatemala. *Journal of Cross-Cultural Psychology*, 39(2), 198-214. doi: 10.1177/0022022107312588
- Lewis, J. A., & Lewis, M. D. (1989). *Community counselling*. California, CA: Brooks & Cole Publishing.
- Li, M., & Yang, Y. (2009). Determinants of problem solving, social support seeking, and avoidance: A path analytic model. *International Journal of Stress Management*, 16(3), 155-176. doi: 10.1037/a0016844
- Liebling, A. (2008). Incentives and earned privileges revisited: Fairness, discretion and the quality of prison life. *Journal of Scandinavian Studies in Criminology and Crime Prevention*, 9, 25-41.

- Lin, D. T., Kannappan, A., & Lau, J. N. (2013). The assessment of emotional intelligence among candidates interviewing for general surgery residency. *Journal of Surgical Education, 70*(4), 514-521. doi: 10.1016/j.jsurg.2013.03.010
- Lipsey, M. W., Chapman, G. L., & Landenberger, N. A. (2001). Cognitive-behavioral programs for offenders. *The ANNALS of the American Academy of Political and Social Science, 578*, 144-157. doi: 10.1177/000271620157800109
- Lipsey, M. W., & Cullen, F. T. (2007). The effectiveness of correctional rehabilitation: A review of systematic reviews. *Annual Review of Law and Social Science, 3*, 297-320. doi: 10.1146/annurev.lawsocsci.3.081806.112833
- Lipsey, M. W., Landenberger, N. A., & Wilson, S. J. (2007). Effects of cognitive-behavioral programs for criminal offenders. *Campbell Systematic Reviews, 6*, 1-27. doi: 10.4073/csr.2007.6
- Listwan, S. J. (2009). Re-entry for serious and violent offenders: An analysis of program attrition. *Criminal Justice Policy Review, 20*(2), 154-169. doi: 10.1177/0887403408325700
- Listwan, S. J., Colvin, M., Hanley, D., & Flannery, D. (2010). Victimization, social support, and psychological well-being: A study of recently released prisoners. *Criminal Justice and Behaviour, 37*(10), 1140-1159. doi: 10.1177/0093854810376338
- Logan, C. (1993). Criminal justice performance measures for prisons. In J. DiIulio, Jr, G. P. Alpert, M. H. Moore, G. F. Cole, J. Petersilia, C. H. Logan, & J. Q. Wilson, (Eds.), *Performance measures for the criminal justice system* (p. 19-60). Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.

- London, M. (2003). Antecedents and consequences of self-verification: Implications for individual and group development. *Human Resource Development Review*, 2(3), 273-293. doi: 10.1177/1534484303256114
- Loots, S. (2010). *Antisocial personalities among maximum security prisoners* (Unpublished doctoral dissertation). Department of Psychology, University of the Free State, Bloemfontein, South Africa.
- Louw, A. (2003). Understanding the root causes of crime and violence in South Africa: Links between poverty and crime. Retrieved from http://66.102.9.132/search?q=cache:bj7KkSbz4RAJ:www.sahrc.org.za/sahrc_cms/downloads/Antoinett%20Louw_%20ISSppt
- Lowenkamp, C. T., Hubbard, D., Makarios, M. D., & Latessa, E. J. (2009). A quasi-experimental evaluation of thinking for a change: A “real-world” application. *Criminal Justice and Behaviour*, 36(2), 137-146. doi: 10.1177/0093854808328230
- Lowenkamp, C. T., Latessa, E. J., & Holsinger, A. M. (2006). The risk principle in action: What have we learned from 13,676 offenders and 97 correctional programs? *Crime and Delinquency*, 52(1), 77-93. doi: 10.1177/0011128705281747
- Loza, W., & Loza-Fanous, A. (1999a). Anger and prediction of violent and nonviolent offenders' recidivism. *Journal of Interpersonal Violence*, 14(10), 1014-1029. doi: 10.1177/088626099014010002
- Loza, W., & Loza-Fanous, A. (1999b). The fallacy of reducing rape and violent recidivism by treating anger. *International Journal of Offender Therapy and Comparative Criminology*, 43(4), 492-502. doi: 10.1177/0306624X99434007

- Lusk, S. L., Hong, O. S., Ronis, D. L., Eakin, B. L., Kerr, M. J., & Early, M. R. (1999). Effectiveness of an intervention to increase construction workers' use of hearing protection. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 41(3), 487-494. doi: 10.1518/001872099779610969
- Mabala, R. (2006). From HIV prevention to HIV protection: Addressing the vulnerability of girls and young women in urban areas. *Environment and Urbanization*, 18(2), 407-432. doi: 10.1177/0956247806069624
- MacDonald, J. (1999). Violence and drug use in juvenile institutions. *Journal of Criminal Justice*, 27, 33-44.
- MacKenzie, D. L. (2005). What works in corrections: Reducing the criminal activities of offenders and delinquents. London: Cambridge.
- Magaletta, P. R., Patry, M. W., Wheat, B., & Bates, J. (2008). Prison inmate characteristics and suicide attempt lethality: An exploratory study. *Psychological Services*, 5(4), 351-361. doi: 10.1037/1541-1559.5.4.351
- Makkai, T., & Payne, J. (2005). Illicit drug use and offending histories: A study of male incarcerated offenders in Australia. *Probation Journal*, 52(2), 153-168. doi: 10.1177/0264550505048240
- Mandell, W. (2006). *Predicting institutional adjustment with the Psychological Inventory of Criminal Thinking Styles and the Psychopathology Checklist: Screening Version* (Unpublished doctoral dissertation). Department of Psychology, Philadelphia College of Osteopathic Medicine, Philadelphia, US.
- Mangrulkar, L., Whitman, C. V., & Posner, M. (2001). *Life skills approach to child and adolescent healthy human development*. Washington, DC: World Health Organization.

- Mann, L., Burnett, P., Radford, M., & Ford, S. (1997). The Melbourne Decision Making Questionnaire: An instrument for measuring patterns for coping with decisional conflict. *Journal of Behavioural Decision Making*, *10*, 1-19.
- Mann, L., Radford, M., Burnett, P., Ford, S., Bond, M., Leung, K., ... Yang, K. (1998). Cross-cultural differences in self-reported decision-making style and confidence. *International Journal of Psychology*, *33*(5), 325-335.
- Marsden, J., Stewart, D., Gossop, M., Rolfe, A., Bacchus, L., Griffiths, P., ... Strang, J. (2000). Assessing client satisfaction with treatment for substance use problems and the development of the Treatment Perceptions Questionnaire (TPQ). *Addiction Research*, *8*(5), 455-470.
- Marsh, K. A., Reynolds, G. L., Rogala, B. E., Fisher, D. G., & Napper, L. E. (2010). Who chooses a rapid test for HIV in Los Angeles County, California? *Evaluation and the Health Professions*, *33*(2), 177-196. doi: 10.1177/0163278710361929
- Marshall, W. L., Turner, B. A., & Barbaree, H. E. (2008). An evaluation of life skills training for penitentiary inmates. *Journal of Offender Counseling Services Rehabilitation*, *14*(2), 41-59. doi: 10.1300/J264v14n02_04
- Martskvishvili, K., Arutinov, L., & Mestvirishvili, M. (2013). A psychometric investigation of the Georgian version of the Trait Emotional Intelligence Questionnaire. *European Journal of Psychological Assessment*, *29*(2), 84-88. doi: 10.1027/1015-5759/a000135
- Maryam, M., Kiyanoosh, Z., & Hassan, S. (2013). The effectiveness of life skills training on the improvement of students' life quality. *Journal of Iranian Psychologists*, *10*(37), 71-79.

- Massoglia, M. (2008). Incarceration as exposure: The prison, infectious disease, and other stress-related illnesses. *Journal of Health and Social Behavior*, *49*, 56-71. doi: 10.1177/002214650804900105
- Matshaba, T. D. (2007). *Imprisonment in South Africa under maximum security conditions in the new millennium* (Unpublished master's thesis). University of South Africa, Pretoria, South Africa.
- Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. J. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (pp. 3- 31). New York, NY: Basic Books.
- McBurney, D. H. P., & White, T. L. (2010). *Research methods* (8th ed.). Johannesburg: Cengage.
- McGuire, J., & Hatcher, R. (2001). Offense-focused problem solving: Preliminary evaluation of a cognitive skills program. *Criminal Justice and Behavior*, *28*(5), 564-587. doi: 10.1177/009385480102800502
- McReynolds, L. S., & Wasserman, G. A. (2008). Risk for disciplinary infractions among incarcerated male youths: Influence of psychiatric disorder. *Criminal Justice and Behaviour*, *35*(9), 1174-1185. doi: 10.1177/0093854808319936
- Melnick, G., Hawke, J., & Wexler, H. K. (2004). Client perceptions of prison-based therapeutic community drug treatment programs. *The Prison Journal*, *84*(1), 121-138. doi: 10.1177/0032885503262459
- Merlo, A. V., & Benekos, P. J. (2010). Is punitive juvenile justice policy declining in the United States? A critique of emergent initiatives. *Youth Justice*, *10*(1), 3-24. doi: 10.1177/1473225409356740

- Mikolajczak, M., Luminet, O., Leroy, C., & Roy, E. (2007). Psychometric properties of the Trait Emotional Intelligence Questionnaire: Factor structure, reliability, construct and incremental validity in a French-speaking population. *Journal of Personality Assessment, 88*(3), 338-353.
- Miles, J. R. (2009). Editor's letter. *Journal of Correctional Health Care, 15*(1), 3-4. doi: 10.1177/1078345808327292
- Milkman, H., & Wanberg, K. (2007). *Cognitive behavioral treatment: A review and discussion for corrections professionals*. US Department of Justice, Washington DC: National Institute of Corrections.
- Miller, M. L., & Hobler, B. (1996). Delaware's life skills program reduces inmate recidivism. *Corrections Today, 58*(5), 114-117.
- Mills, J. F., & Kroner, D. G. (2003). Anger as a predictor of institutional misconduct and recidivism in a sample of violent offenders. *Journal of Interpersonal Violence, 18*(3), 282-294. doi: 10.1177/0886260502250085
- Moller, A. C., & Deci, E. L. (2010). Interpersonal control, dehumanization, and violence: A self-determination theory perspective. *Group Processes & Intergroup Relations, 13*(1), 41-53. doi: 10.1177/1368430209350318
- Montgomery, E. C., Kunik, M. E., Wilson, N., Stanley, M. A., & Weiss, B. (2010). Can paraprofessionals deliver cognitive-behavioral therapy to treat anxiety and depressive symptoms? *Bulletin of the Menninger Clinic, 74*(1), 45-62.
- Moote, G. T., Smyth, N. J., & Wodarski, J. S. (1999). Social skills training with youth in school settings: A review. *Research on Social Work Practice, 9*(4), 427-465. doi: 10.1177/104973159900900403

- Morash, M., Jeong, S. J., & Zang, N. L. (2010). An exploratory study of the characteristics of men known to commit prisoner-on-prisoner sexual violence. *The Prison Journal*, 90(2), 161-178. doi: 10.1177/0032885510361826
- Moreno, F. (2002). *Teaching life skills through chess: A guide for educators and counselors*. Baltimore, Maryland: American Literary Press.
- Moreno, F. (2006, August). *Using chess in a counseling/mentoring approach for students*. Paper presented at the Chess in Education workshop, Oakbrook, Illinois.
- Moreno, F. (2007, August). *Using chess in a counseling/mentoring approach for students*. Paper presented at the Chess in the Schools and Communities International Conference, University of Aberdeen.
- Morgan, R. D., & Flora, D. B. (2002). Group psychotherapy with incarcerated offenders: A research synthesis. *Group Dynamics: Theory, Research and Practice*, 6(3), 203-218. doi: 10.1037//1089-2699.6.3.203
- Morley, S., Eccleston, C., & Williams, A. (1999). Systematic review and meta-analysis of randomized controlled trials of cognitive behaviour therapy and behaviour therapy for chronic pain in adults, excluding headache. *Pain*, 80, 1-13.
- Morran, D. (2008). Firing up and burning out: The personal and professional impact of working in domestic violence offender programmes. *Probation Journal*, 55(2), 139-152. doi: 10.1177/0264550508090272
- Morris, P. K. (2008). Imprisoned in Jamaica: An exploratory study of inmate experiences and differential responses to prison life in a developing country. *International Criminal Justice Review*, 18(4), 435-454. doi: 10.1177/1057567708325706

- Morris, R. G., Longmire, D. R., Buffington-Vollum, J., & Vollum, S. (2010). Institutional misconduct and differential parole eligibility among capital inmates. *Criminal Justice and Behavior, 37*(4), 417-438. doi: 10.1177/0093854810361672
- Moscoso, S. C., Chaves, S. S., Vidal, M. P., & Argilaga, T. A. (2013). Reporting a program evaluation: Needs, program plan, intervention, and decisions. *International Journal of Clinical and Health Psychology, 13*, 58-66.
- Moster, A., Wnuk, D. W., & Jeglic, E. L. (2008). Cognitive behavioural therapy interventions with sex offenders. *Journal of Correctional Health Care, 14*(2), 109-121. doi: 10.1177/1078345807313874
- Mouton, A., Hansenne, M., Delcour, R., & Cloes, M. (2013). Emotional intelligence and self-efficacy among physical education teachers. *Journal of Teaching in Physical Education, 32*, 342-354.
- Muntingh, L. (2005). *Offender rehabilitation and reintegration: Taking the White Paper on corrections forward*. Civil Society Prison Reform Initiative, Research Paper Nr. 10. Retrieved from [http://www.cspri.org.za/publications/research-reports/Offender%20rehabilitation%20and%20reintegration%20-%20taking%20the%20White%20Paper%20on%20Corrections%20forward%20\(Research%20Paper%20No.%2010\).pdf](http://www.cspri.org.za/publications/research-reports/Offender%20rehabilitation%20and%20reintegration%20-%20taking%20the%20White%20Paper%20on%20Corrections%20forward%20(Research%20Paper%20No.%2010).pdf)
- Murray, B. (2003). The succession transition process: A longitudinal perspective. *Family Business Review, 16*(1), 17-33. doi: 10.1111/j.1741-6248.2003.00017.x
- Muthaphuli, P. (2008). *Offenders' rights with regard to rehabilitation in South Africa* (Unpublished master's thesis). University of South Africa, Pretoria, South Africa.

- Muyia, H. M. (2009). Approaches to and instruments for measuring emotional intelligence: A review of selected literature. *Advances in Developing Human Resources, 11*(6), 690-702. doi: 10.1177/1523422309360843
- Naqvi, N., Shiv, B., & Bechara, A. (2006). The role of emotion in decision making: A cognitive neuroscience perspective. *Current Directions in Psychological Science, 15*(5), 260-264. doi: 10.1111/j.1467-8721.2006.00448.x
- Ndebele, S. (2013). *Correctional services budget vote speech* (Budget vote speech by the Minister of Correctional Services, 29). Retrieved from <http://www.dcs.gov.za/UploadedFiles/Address%20by%20%20Minister%20Sibusiso%20Ndebele%20at%20the%20Bugdet%20Vote%20Speech.pdf>
- Ndebele, S. (2014). *Official opening of Qalabusha Correctional Centre school* (Address by the Minister of Correctional Services, 25 March 2014). Retrieved from <http://www.dcs.gov.za/UploadedFiles/Address%20by%20the%20Minister%20Sibusiso%20Ndebele%20during%20the%20official%20opening%20official%20of%20Qalabusha%20Correctional%20Centre%20School.pdf>
- Neser, J. J. (1993). *Penitentiary penology* (2nd ed.). Johannesburg: Lexicon.
- Nistorescu, A. (2012). The importance of communication skills for business professionals. *Annals of Eftimie Murgu University Resita, Fascicle II, Economic Studies, 516-523.*
- Odhabi, H. (2007). Investigating the impact of laptops on students' learning using Bloom's learning taxonomy. *British Journal of Educational Technology, 38*(6), 1126-1131. doi: 10.1111/j.1467-8535.2007.00730.x
- Omar, J. (2011). A prisoner's right? *SA Crime Quaterly, 37*, 19-26.

- Ongen, D. E. (2010). The relationships between adaptive and maladaptive perfectionism and aggression among Turkish adolescents. *Australian Journal of Guidance & Counselling*, 20(1), 99-108.
- Orford, J. (1992). *Community psychology: Theory and practice*. Chichester: John Wiley.
- Orley, J. (1997). *Promoting mental health and teaching skills for life: The WHO approach*. Retrieved from www.healthchildrennetwork.lu/pdf/conference/1997/orleyenpdff
- Palm, C. (1990). *Chess improves academic performance*. (Article no. 2) United States Chess Federation Scholastic Department.
- Palmer, E. J., & Thakordas, V. (2005). Relationship between bullying and scores on the Buss-Perry Aggression Questionnaire among imprisoned male offenders. *Aggressive Behaviour*, 31, 56-66. doi: 10.1002/ab.20072
- Parks, J. M., Ma, L., & Gallagher, D. G. (2010). Elasticity in the 'rules' of the game: Exploring organizational expedience. *Human Relations*, 63(5), 701-730. doi: 10.1177/0018726709355331
- Patel, S. (2006). *Skills for life: Developing a sustainable life skills education program in Bhavnagar, Gujarat*. Retrieved from <http://blog.indicorps.org/wp-content/uploads/2009/11/Shreena..pdf>
- Patterson-Sumwalt, B. (2009). *Chess as an educational tool in classrooms and schools*. Retrieved from file:///C:/Users/uvp/Downloads/EducationalTool.pdf

- Pattman, R. (2005). Boys and girls should not be too close: Sexuality, the identities of African boys and girls and HIV/Aids education. *Sexualities*, 8(4), 497-516. doi: 10.1177/1363460705056623
- Payne, J. (2008). *The Queensland drug court: A recidivism study of the first 100 graduates*. Retrieved from <http://www.aic.gov.au>
- Pearson, F. S., Lipton, D. S., Cleland, C. M., & Yee, D. S. (2002). The effects of behavioral/cognitive-behavioral programs on recidivism. *Crime and Delinquency*, 48(3), 476-496.
- Percival, C. S. (2003). *Testing Brainwaite's theory of reintegrative shaming through Oata on the circle sentencing program in the Yukon* (Unpublished doctoral dissertation). Faculty of Social Welfare, University of Hawai'i.
- Perez, D. M. (2009). Applying evidence-based practices to community corrections supervision: An evaluation of residential substance abuse treatment for high-risk probationers. *Journal of Contemporary Criminal Justice*, 25(4), 442-458. doi: 10.1177/104398620344557
- Perez, D. M., Gover, A. R., Tennyson, K. M., & Santos, S. D. (2009). Individual and institutional characteristics related to inmate victimization. *International Journal of Offender Therapy and Comparative Criminology*, 54(3), 378-394. doi: 10.1177/0306624X09335244
- Petrides, K. V. (2006). *Internal consistency data for the TEIQue and TEIQue-SF (v. 1.50)*. Retrieved from http://www.psychometriclab.com/Webnote_1.pdf
- Petrides, K. V., Vernon, P. A., Schermer, J. A., & Veselka, L. (2010). Trait emotional intelligence and the dark triad traits of personality. *Twin Research and Human Genetics*, 14(1), 35-41. doi: 10.1375/twin.14.1.35

- Petrie, K. J., & Revenson, T. A. (2005). Editorial: New psychological interventions in chronic illness: Towards examining mechanisms of action and improved targeting. *Journal of Health Psychology, 10*(2), 179-184. doi: 10.1177/1359105305049761
- Pettus, C. A., & Severson, M. (2006). Paving the way for effective re-entry practice: The critical role and function of the boundary spanner. *The Prison Journal, 86*(2), 206-229. doi: 10.1177/0032885506287821
- Picklesimer, B. K., & Miller, T. K. (1998). Life-skills Development Inventory-College Form: An assessment measure. *Journal of College Student Development, 39*, 100-110.
- Pinkerton, S. D., Galletly, C. L., & Seal, D. W. (2007). Model-based estimates of HIV acquisition due to prison rape. *The Prison Journal, 87*(3), 295-310. doi: 10.1177/0032885507304525
- Pitschel-Walz, G., Bäumi, J., Froböse, T., Gsottschneider, A., & Jahn, T. (2009). Do individuals with schizophrenia and a borderline intellectual disability benefit from psychoeducational groups? *Journal of Intellectual Disabilities, 13*(4), 305-320. doi: 10.1177/1744629509353237
- Poulin, M. E., Harris, P. W., & Jones, P. R. (2000). The significance of definitions of success in program evaluation. *Evaluation Review, 24*(5), 516-536. doi: 10.1177/0193841X0002400504
- Probst, T. M. (2003). Exploring employee outcomes of organizational restructuring: A Solomon four-group study. *Group and Organizational Management, 28*(3), 416-439. doi: 10.1177/1059601102250825

- Proctor, J. L., & Pease, M. (2000). Parole as institutional control: A test of specific deterrence and offender misconduct. *The Prison Journal*, 80(1), 39-55. doi: 10.1177/0032885500080001003
- Quinsey, V. L., Book, A., & Lalumiere, M. L. (2001). A factor analysis of traits related to individual differences in antisocial behaviour. *Criminal Justice and Behaviour*, 28(4), 522-536. doi: 10.1177/009385480102800407
- Rauschenbach, R. (2012). Post-conventional political cultures via processes of direct democracy: Theoretical considerations based on Jürgen Habermas and Lawrence Kohlberg. *Swiss Political Science Review*, 18(4), 477-497. doi: 10.1111/spsr.12001
- Rawal, S. (2006). *The role of drama in enhancing life skills in children with specific learning difficulties in a Mumbai school: My reflective account* (Unpublished doctoral dissertation). Coventry University, England.
- Redmond, C., Larkin, M., & Harrop, C. (2010). The personal meaning of romantic relationships for young people with psychosis. *Clinical Child Psychology and Psychiatry*, 15(2), 151-170. doi: 10.1177/1359104509341447
- Reitzel, L. R., & Harju, B. L. (2000). Influence of locus of control and custody level in intake and prison-adjustment depression. *Criminal Justice and Behaviour*, 27(5), 625-644. doi: 10.1177/0093854800027005005
- Reker, G. T., & Meissner, J. A. (1977). Life skills in a Canadian Federal Penitentiary: An experimental evaluation. *Canadian Journal of Criminology and Corrections*, 19(3), 292-302.
- Republic of South Africa (1998). *The Correctional Services Act 111 of 1998*. Pretoria: Government Printers.

- Reupert, A., McHugh, C., Maybery, D., & Mitchell, D. (2012). Training mental health promotion workers in programme evaluation. *Journal of Psychiatric and Mental Health Nursing, 19*, 31-39.
- Rivera, B. D., Cowles, E. L., & Dorman, L. G. (2003). An exploratory study of institutional change: Personal control and environmental satisfaction in a gang-free prison. *The Prison Journal, 83*(2), 149-170. doi: 10.1177/0032885503083002003
- Rocheleau, A. M. K. (2011). *Prisoners' coping skills and involvement in serious prison misconduct and violence* (Unpublished doctoral dissertation). The College of Criminal Justice, Northeastern University, Boston, Massachusetts.
- Rogers, E. M. (1993). *Diffusion of Innovations*. New York, NY: Free Press.
- Ronen, T., & Rosenbaum, M. (2010). Developing learned resourcefulness in adolescents to help them reduce their aggressive behaviour: Preliminary findings. *Research on Social Work Practice, 20*(4), 410-426. doi: 10.1177/1049731509331875
- Roos, V., Taljaard, R., & Lombard, A. (2001). *Developmental interventions: Programme development*. Pretoria, South Africa: Roos, Taljaard and Lombard.
- Rooth, E. (1998). *Life skills: A resource book for facilitators* (2nd ed.). Braamfontein: Nolwazi Educational Publishers.
- Rooth, E. (2005). *An investigation of the status and practice of life orientation in South African schools in two provinces* (Unpublished doctoral dissertation). Faculty of Education, University of the Western Cape, South Africa.
- Rosenthal, R. (1978). Combining results of independent studies. *Psychological Bulletin, 85*, 185-193. doi:10.1037//0033-2909.85.1.185

- Rothman, J., & Thomas, E. (1994). *Intervention Research – Design and Development for Human Service*. Birmingham: Haworth Press, Inc.
- Saariluoma, P. (2001). Chess and content-orientated psychology of thinking. *Psicologica*, 22, 143-164.
- Sánchez-Ruiz, M. J., Hernández-Torrano, D., Pérez-González, J. C., Batey, M., & Petrides, K. V. (2011). The relationship between trait emotional intelligence and creativity across subject domains. *Motivation and Emotion*, 35(4), 461-473. doi: 10.1007/s11031-011-9227-8
- Santrock, J. W. (1984). *Life-span development*. Dubuque: Brown and Benchmark.
- Santrock, J. W. (1995). *Life-span development*. Madison, Wisconsin: Brown and Benchmark.
- Scarpa, A. (2001). Community violence exposure in a young adult sample: Lifetime prevalence and socioemotional effects. *Journal of Interpersonal Violence*, 16(1), 36-53. doi: 10.1177/088626001016001003
- Scarpa, A., Fikretoglu, D., Bowser, F., Hurley, J. D., Pappert, C. A., Romero, N., & Van Voorhees, E. (2002). Community violence exposure in university students: A replication and extension. *Journal of Interpersonal Violence*, 17(3), 253-272. doi: 10.1177/0886260502017003002
- Scarpa, A., Hurley, J. D., Shumate, H. W., & Haden, S. C. (2006). Lifetime prevalence and socioemotional effects of hearing about community violence. *Journal of Interpersonal Violence*, 21(5), 5-23. doi: 10.1177/0886260505281661
- Schiller, M. E. (2006). Providing knowledge for ethical practice in marketing communications: A Kohlbergian rationale and model. *International Journal of the Humanities*, 3(8), 7-17.

- Schippers, G. M., Marker, N., & De Fuentes-Merillas, L. (2001). Social skills training, prosocial behaviour, and aggressiveness in adult incarcerated offenders. *International Journal of Offender Therapy and Comparative Criminology*, 45(2), 244-251. doi: 10.1177/0306624X01452009
- Schoeman, W. J. (1985). *'n Teoretiese model vir psigo-opleiding* (Unpublished doctoral dissertation). Department of Psychology, University of the Free State, Bloemfontein, South Africa.
- Schwartz, S. (2005). Life skills project: The San Francisco Sheriff's Department (SFSD) life skills for prisoners program. *The Journal of Correctional Education*, 56(2), 115-123.
- Scruggs, J. (2005). Life skills project: Life skills for women at Shelby County Division of Corrections: A formula for success. *The Journal of Correctional Education*, 56(2), 124-130.
- Seager, J. A. (2005). Violent men: The importance of impulsivity and cognitive schema. *Criminal Justice and Behavior*, 32(1), 26-49. doi: 10.1177/0093854804270625
- Seiter, R. P. (2008). *Private Corrections: A review of the issues*. Corrections Corporation of America. Retrieved from http://cca.com/Media/Default/documents/CCA-Resource-Center/Private_Corr_Review.pdf
- Serin, R. C., Gobeil, R., & Preston, D. L. (2009). Evaluation of the persistently violent offender treatment program. *International Journal of Offender Therapy and Comparative Criminology*, 53(1), 57-73. doi: 10.1177/0306624X07313985

- Sheehan, B. J., McDonald, M. A., & Spence, K. K. (2009). Developing student's emotional competency using the classroom-as-organization approach. *Journal of Management Education, 33*(1), 77-98. doi: 10.1177/1052562908328920
- Shorter-Gooden, K. (2004). Multiple resistance strategies: How African American women cope with racism and sexism. *Journal of Black Psychology, 30*(3), 406-425. doi: 10.1177/0095798404266050
- Shuttleworth, M. (2009). Solomon four group design. Retrieved from:
<http://explorable.com/solomon-four-group-design>
- Sifunda, S., Reddy, P. S., Braithwaite, R., Stephens, T., Bhengu, S. Ruiters, R. A. C., & Van den Borne, B. (2008). The effectiveness of a peer-led HIV/AIDS and STI health education intervention for prison inmates in South Africa. *Health Education and Behaviour, 35*(4), 494-508. doi: 10.1177/1090198106294894
- Silliman, B., & Schumm, W. R. (2000). Marriage preparation programs: A literature review. *The Family Journal, 8*(2), 133-142. doi: 10.1177/1066480700082004
- Silverman, I. J. (2001). *Corrections: A comprehensive view* (2nd ed.). Wadsworth: Thomson Learning.
- Simpson, D. D., & Knight, K. (2007). Offender needs and functioning assessments from a national cooperative research program. *Criminal Justice and Behaviour, 34*(9), 1105-1112. doi: 10.1177/0093854807304344
- Singh, N. N., Lancioni, G. E., Winton, A. S. W., Adkins, A. D., Wahler, R. G., Sabaawi, M., & Singh, J. (2007). Individuals with mental illness can control their aggressive behavior through mindfulness training. *Behavior Modification, 31*(3), 313-328. doi: 10.1177/0145445506293585

- Slicker, E. K., Picklesimer, B. K., Guzak, A. K., & Fuller, D. K. (2005). The relationship of parenting style to older adolescent life-skills development in the United States. *Young, 13*(3), 227-245. doi: 10.1177/1103308805054211
- Smith, I. D. (2007). *Being tough on the causes of crime: Tackling family breakdown to prevent youth crime*. Retrieved from http://www.centreforsocialjustice.org.uk/UserStorage/pdf/Pdf%20reports/causes_of_crime.pdf
- Smith, S., Mullis, F., Kern, R. M., & Brack, G. (1999). An Adlerian model for the etiology of aggression in adjudicated adolescents. *The Family Journal, 7*(2), 135-147. doi: 10.1177/1066480799072006
- Social Exclusion Unit (2002). *Reducing re-offending by ex-prisoners*. Retrieved from <http://www.socialexclusionunit.gov.uk>
- Soderstrom, I. R., Castellano, T. C., & Figaro, H. R. (2001). Measuring “mature coping” skills among adult and juvenile offenders: A psychometric assessment of relevant instruments. *Criminal Justice and Behavior, 28*(3), 300-328. doi: 10.1177/0093854801028003003
- Soo, H., & Lam, S. (2009). Stress management training in diabetes mellitus. *Journal of Health Psychology, 14*(7), 933-943. doi: 10.1177/1359105309341146
- Sosik, J. J., & Megerian, L. E. (1999). Understanding leader emotional intelligence and performance: The role of self-other agreement on transformational leadership perceptions. *Group and Organization Management, 24*(3), 367-390. doi: 10.1177/1059601199243006

- Soydan, H. (2008). Applying randomized controlled trials and systematic reviews in social work research. *Research on Social Work Practice, 18*(4), 311-318. doi: 10.1177/1049731507307788
- Spalding, M., & Khalsa, P. (2010). Aging matters: Humanistic and transpersonal approaches to psychotherapy with elders with dementia. *Journal of Humanistic Psychology, 50*(2), 142-174. doi: 10.1177/0022167809341995
- Spoth, R. L., Randall, G., Trudeau, L., Shin, C., & Redmond, C. (2008). Substance use outcomes 5 ½ years past baseline for partnership-based, family school preventive interventions. *Drug and Alcohol Dependence, 96*, 57-68.
- Stame, N. (2004). Theory-based evaluation and types of complexity. *Evaluation, 10*(1), 58-76. doi: 10.1177/1356389004043135
- Stanford, M. S., Houston, R. J., Mathias, C. W., Villemarette-Pittman, N. R., Helfritz, L. E., & Conklin, S. M. (2003). Characterizing aggressive behaviour. *Assessment, 10*(2), 183-190. doi: 10.1177/1073191103010002009
- Stangor, C. (2011). *Research methods for the behavioural sciences* (4th ed.). Belmont, USA: Wadsworth, Cengage Learning.
- Stangor, C. (2015). *Research methods for the behavioural sciences* (5th ed.). Belmont, USA: Wadsworth, Cengage Learning.
- Steiner, B., & Wooldredge, J. (2008). Inmate versus environmental effects on prison rule violations. *Criminal Justice and Behaviour, 35*(4), 438-456. doi: 10.1177/0093854807312787
- Steiner, B., & Wooldredge, J. (2009a). Rethinking the link between institutional crowding and inmate misconduct. *The Prison Journal, 89*(2), 205-233.

- Steiner, B., & Wooldredge, J. (2009b). The relevance of inmate race/ethnicity versus population composition for understanding prison rule violations. *Punishment and Society, 11*(4), 459-489. doi: 10.1177/1462474509341143
- Stephenson, J., Lawson, R., Carrington, G., Barton, B., Thorsnes, P., & Miroso, M. (2010). The practice of interdisciplinarity. *The International Journal of Interdisciplinary Social Sciences, 5*(7), 271-282.
- Steyn, H. S. (1999). *Praktiese beduidendheid: Die gebruik van effekgroottes*. Potchefstroom: Publikasiebeheerkomitee, PU vir CHO.
- Sullivan, T. P., Schroeder, J. A., Dudley, D. N., & Dixon, J. M. (2010). Do differing types of victimization and coping strategies influence the type of social reactions experienced by current victims of intimate partner violence? *Violence Against Women, 16*(6), 638-657. doi: 10.1177/1077801210370027
- Sung, H. Y. (2010). The influence of culture on parenting practices of East Asian families and emotional intelligence of older adolescents: A qualitative study. *School Psychology International, 31*(2), 199-214. doi: 10.1177/0143034309352268
- Suto, I., & Arnaut, G. L. Y. (2010). Suicide in prison: A qualitative study. *The Prison Journal, 90*(3), 288-312. doi: 10.1177/0032885510373499
- Swan, S. C., & Snow, D. L. (2006). The development of a theory of women's use of violence in intimate relationships. *Violence Against Women, 12*(11), 1026-1045. doi: 10.1177/1077801206293330
- Swart, T. M., Stevens, G., & MacKenzie, S. (2007). Schools-based violence prevention initiatives: Lessons for programme design. *South African Safety Promotion: A Journal of Injury and Violence Prevention, 5*(1), 3-18.

- Talashak, M. L., Norr, K. F., & Dancy, B. L. (2003). Building teen power for sexual health. *Journal of Transcultural Nursing, 14*(3), 207-216. doi: 10.1177/1043659603014003007
- Tasca, M., Griffin, M. L., & Rodriguez, N. (2010). The effect of importation and deprivation factors on violent misconduct: An examination of Black and Latino youth in prison. *Youth Violence and Juvenile Justice, 8*(3), 234-249. doi: 10.1177/1541204010366619
- Taut, S., & Brauns, D. (2003). Resistance to evaluation: A psychological perspective. *Evaluation, 9*(3), 247-264. doi: 10.1177/13563890030093002
- Teater, B. A. (2011). Maximizing student learning: A case example of applying teaching and learning theory in social work education. *Social Work Education, 30*(5), 571-585. doi: 10.1080/02615479.2010.505262
- Test, D. W., Fowler, C. H., Wood, W. M., Brewer, D. M., & Eddy, S. (2005). A conceptual framework of self-advocacy for students with disabilities. *Remedial and Special Education, 26*(1), 43-54. doi: 10.1177/07419325050260010601
- Tett, R. P., Fox, K. E., & Wang, A. (2005). Development and validation of a self-report measure of emotional intelligence as a multidimensional trait domain. *Personality and Social Psychology Bulletin, 31*(7), 859-888. doi: 10.1177/0146167204272860
- Tiendrebeogo, G., Meijer, S., & Engleberg, G. (2003). *Life skills and HIV education curricula in Africa: Methods and evaluations*. Published technical paper no 119 for the United States Agency for International Development (USAID).

- Tirnady, R. (2008). *Life skills and criminal thinking: A comparison between offenders and college students* (Unpublished master's thesis). Central Connecticut State University, New Britain.
- Trincherro, R. (2013). *Can chess training improve Pisa scores in mathematics?* Retrieved from http://www.kcfe.eu/sites/default/files/Trincherro_KCFE.pdf
- Trulson, C. R. (2007). Determinants of disruption: Institutional misconduct among state-committed delinquents. *Youth Violence and Juvenile Justice*, 5(1), 7-34. doi: 10.1177/1541204006295162
- Umeh, K., & Omari-Asor, L. (2011). Emotional vulnerability and coping styles for resolving decisional conflict. *The Journal of Psychology*, 145(4), 297-312.
- Underwood, L. A., Barretti, L., Storms, T. L., & Safonte-Strumolo, N. (2004). A review of clinical characteristics and residential treatments for adolescent delinquents with mental health disorders: A promising residential program. *Trauma, Violence and Abuse*, 5(3), 199-242. doi: 10.1177/1524838004264344
- UNICEF. (2012). *Global evaluation of life skills education programmes*. Evaluation report printed at New York: United Nations Children's Fund.
- United Nations Programme on HIV/AIDS (UNAIDS). (2003). *Progress report on the global response to the HIV/AIDS epidemic*. Geneva: UNAIDS.
- Unterrainer, J. M., Kaller, C. P., Halsband, U., & Rahm, B. (2006). Planning abilities and chess: A comparison of chess and non-chess players on the Tower of London task. *British Journal of Psychology*, 97, 299-311.
- Vail, K. (1995). Check this, mate: Chess moves kids. *The American School Board Journal*, 182, 38-40.

- Van Tongeren, D. R., & Klebe, K. J. (2010). Re-conceptualizing prison adjustment: A multidimensional approach exploring female offenders' adjustment to prison life. *The Prison Journal, 90*(1), 48-68. doi: 10.1177/0032885509357547
- Van Voorhis, P., Spruance, L. M., Ritchey, P. M., Listwan, S. J., & Seabrook, R. (2004). The Georgia cognitive skills experiment: A replication of reasoning and rehabilitation. *Criminal Justice and Behaviour, 31*(3), 282-305. doi: 10.1177/0093854803262506
- Van Zyl, D. H. (2009). *Judicial Inspectorate for correctional services: Annual report 2008/2009. Treatment of inmates and conditions in Correctional Centres*. Cape Town, South Africa: Department of Correctional Services.
- Vernon, P. A., Villani, V. C., Schermer, J. A., & Petrides, K. V. (2008). Phenotypic and genetic associations between the big five and trait emotional intelligence. *Twin Research and Human Genetics, 11*(5), 524-530.
- Vigil-Colet, A., Lorenzo-Seva, U., Codorniu-Raga, M. J., & Morales, F. (2005). Factor structure of the Buss-Perry Aggression Questionnaire in different samples and languages. *Aggressive Behaviour, 31*, 601-608. doi: 10.1002/ab.20097
- Visher, C. A., & Travis, J. (2003). Transitions from prison to community: Understanding individual pathways. *Annual Reviews of Sociology, 29*, 89-113. doi: 10.1146/annurev.soc.29.010202.095931
- Wells, J. B., Minor, K. I., Angel, E., & Stearman, K. D. (2006). A quasi-experimental evaluation of a shock incarceration and aftercare program for juvenile offenders. *Youth Violence and Juvenile Justice, 4*(3), 219-233. doi: 10.1177/1541204006290153

- Welsh, W. N., McGrain, P., Salamatin, N., & Zajac, G. (2007). Effects of prison drug treatment on inmate misconduct: A repeated measures analysis. *Criminal Justice and Behaviour, 34*(5), 600-615. doi: 10.1177/0093854806296897
- Wichmann, H., & Wichmann, S. (1960). *Chess: The story of chess pieces from antiquity to modern times*. London, England: Hamlyn.
- Wichroski, M. A., Zunz, S. J., & Forshay, E. (2000). Facilitating self-esteem and social supports in a family life-skills program. *Affilia, 15*(2), 277-293. doi: 10.1177/08861090022093868
- Wilkowski, B. M., & Robinson, M. D. (2008). The cognitive basis of trait anger and reactive aggression: An integrative analysis. *Personality and Social Psychology Review, 12*(3), 3-21. doi: 10.1177/1088868307309874
- Williams, A. B., Wang, H., Burgess, J., Wu, C., Gong, Y., & Li, Y. (2006). Effectiveness of an HIV/Aids educational programme for Chinese nurses. *Journal of Advanced Nursing, 53*(6), 710-720.
- Wilson, D. B., Bouffard, L. A., & Mackenzie, D. L. (2005). A quantitative review of structured, group-orientated, cognitive-behavioral programs for offenders. *Criminal Justice and Behavior, 32*(2), 172-204. doi: 10.1177/0093854804272889
- Wolff, N., & Shi, J. (2009a). Contextualization of physical and sexual assault in male prisons: Incidents and their aftermath. *Journal of Correctional Health Care, 15*(1), 58-77. doi: 10.1177/1078345808326622
- Wolff, N., & Shi, J. (2009b). Feelings of safety among male inmates: The safety paradox. *Criminal Justice Review, 34*(3), 404-427. doi: 10.1177/0734016809333343

- Wolff, N., & Shi, J. (2009c). Type, source, and patterns of physical victimization: A comparison of male and female inmates. *The Prison Journal*, 89(2), 172-191. doi: 10.1177/0032885509334754
- Woloshyn, V. E., & Rye, B. J. (1995). Using Bloom's learning taxonomies to conceptualize effective sexuality education for adolescents. *The Canadian Journal of Human Sexuality*, 4(3), 155-167.
- Wood, J. (2005). Gang activity in English prisons: The prisoners' perspective. *Psychology, Crime & Law*, 12(6), 605-617.
- Wooldredge, J. D. (1999). Inmate experiences and psychological well-being. *Criminal Justice and Behavior*, 26(2), 235-250. doi: 10.1177/0093854899026002005
- World Health Organisation. (1993). *Life skills education for children and adolescents in schools*. Geneva: Author.
- World Health Organization. (1994). *Training workshops for the development and implementation of life skills programmes*. Geneva, Switzerland: Author.
- World Health Organization. (1996). *Mental health care law: Ten basic principles*. Geneva, Switzerland: Author.
- World Health Organisation. (1997). *Life skills education for children and adolescents in schools*. Geneva, Switzerland: Author.
- World Health Organization. (1998). *Health promotion glossary*. Geneva, Switzerland: Author.
- World Health Organisation. (1999). *Partners in life skills education: Conclusions from a United Nations inter-agency meeting*. Geneva, Switzerland: Author.

- World Health Organization. (2001). *Regional framework for introducing life skills education to promote the health of adolescents*. New Delhi: Author.
- World Health Organization. (2002). *School AIDS education in SEAR countries*. New Delhi: Author.
- World Health Organisation. (2003a). *Promoting the health of young people in custody*. Copenhagen: Author.
- World Health Organization. (2003b). *Skills for health: Skills-based health education including life skills: An important component of a child-friendly/health-promoting school*. Geneva, Switzerland: Author.
- World Health Organization. (2004). *Participatory learning activities from the EI/WHO training and resources manual on school health and HIV and Aids prevention*. Geneva, Switzerland: Author.
- World Health Organization. (2006). *Fourth meeting of the regional advisory panel on impacts of drug abuse*. Cairo: Author.
- World Health Organization. (2008). *Preventing violence and reducing its impact: How development agencies can help*. France: Author.
- World Health Organization. (2009a). *Guidelines for school eye health for the Eastern Mediterranean region (EMR)*. Geneva, Switzerland: Author.
- World Health Organization. (2009b). *Milestones in health promotion: Statements from global conferences*. Geneva, Switzerland: Author.
- World Health Organization. (2009c). *Preventing violence by developing life skills in children and adolescents*. Malta: Author.
- World Health Organization. (2009d). *Violence prevention: The evidence*. Malta: Author.

- Wright, K. A. (2010). Strange bedfellows? Reaffirming rehabilitation and prison privatization. *Journal of Offender Rehabilitation, 49*, 74-90. doi: 10.1080/10509670903435522
- Wurdinger, S., & Rudolph, J. (2009). A different type of success: Teaching important life skills through project based learning. *Improving schools, 12*(2), 115-129. doi: 10.1177/1365480209105576
- Yates, J. F., Ji, L., Oka, T., Lee, J., Shinotsuka, H., & Sieck, W. R. (2010). Indecisiveness and culture: Incidence, values, and thoroughness. *Journal of Cross-Cultural Psychology, 41*(3), 428-444. doi: 10.1177/0022022109359692
- Young, M., Kelley, R., & Denny, G. (1997). Evaluation of selected life skills modules from the contemporary health series with students in grade 6. *Perceptual and Motor Skills, 84*, 811-818.
- Zollinger, T. W., Saywell, R. M., Muegge, C. M., Wooldridge, J. S., Cummings, S. F., & Caine, V. A. (2003). Impact of the life skills training curriculum on middle school students' tobacco use in Marion County, Indiana, 1997-2000. *Journal of School Health, 73*, 338-346.

Appendix A:

Informed consent form

INFORMED CONSENT FORM

You are hereby kindly requested to participate in this research project. The research is about the new life skills programme that has been developed for this correctional centre and its effectiveness and impact upon young adult prisoners. Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to terminate participation. You therefore withdraw from the study at any time. Your information and assessment results will be kept confidential.

I hereby agree to willingly participate in this study and understand:

- That my identity will be kept confidential
- What my involvement in this study entails
- That my participation is voluntary and that I may withdraw at any time

Signature of participant

Date

Appendix B:

Semantic Differential Scale

EVALUATION OF TODAY'S SESSION

Please rate today's session (on a scale of 1 to 5), according to your personal experiences. Please mark the appropriate box with an "X".

Group member name: _____

Group member number: _____

Phase: _____

Module: _____

Session: _____

	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	
My participation today was:						
Positive	1	2	3	4	5	Negative
Energetic	1	2	3	4	5	Lazy
Involved	1	2	3	4	5	Uninvolved
The session was:						
Meaningful	1	2	3	4	5	Insignificant
Insightful	1	2	3	4	5	Vague
Interesting	1	2	3	4	5	Dull
Experiential	1	2	3	4	5	Unpractical
Beneficial	1	2	3	4	5	Unhelpful
The facilitator was:						
Helpful	1	2	3	4	5	Unhelpful
Energetic	1	2	3	4	5	Lazy
Fair	1	2	3	4	5	Biased
Educated	1	2	3	4	5	Uneducated
Prepared	1	2	3	4	5	Unprepared

SUMMARY

The purpose of this research project was to develop, implement and evaluate a *Life Skills* programme for young adult male long-term offenders with the aim of improving their *life skills* that, in turn, could enable them to adjust more effectively in the correctional environment. This programme is developed based on the principles of psycho-education, the cybernetic cycle, and cognitive behavioural therapy. CBT is chosen, as studies had shown that it successfully improved the life skills, psychological well-being, and institutional behaviour of offenders. The game of chess is used as a vehicle of change to enable the offenders to learn new life skills or to improve their existing life skills. Chess, like CBT, trains individuals to think before making a move (acting), generate alternative moves (solutions), evaluate possible risks (consequences), and make decisions about appropriate moves (behaviour).

Experimental research is used to investigate the effectiveness of the programme. In this study, 96 literate young male adult offenders between the ages of 21 and 25 years, with long sentences, were selected randomly. The participants were assigned randomly into an experimental and a control group. The Solomon four-group design (Braver & Braver, 1988; Huysamen, 1998; Lusk et al., 1999) is utilized to control for the effect of pretest sensitisation.

The experimental groups attended the structured *Life Skills* programme for a period of six months, while the control groups participated in the normal daily activities of the correctional centre. The effectiveness of the programme was tested by obtaining measurements on the four domains (problem solving, decision-making, anger management, and coping with emotions). These measures were conducted before the programme commenced, directly (short term) after, three months (medium term) after

and six months (long term) after. The effectiveness of the programme was thus investigated over various terms. A semantic differential scale was also used to identify the offenders' perceptions of the programme.

The offenders indicated that the programme and its contents were meaningful and beneficial, while the findings indicate that the programme had limited success in equipping them with the necessary skills crucial to their survival in a correctional centre. The programme did have significant effects, especially on problem solving and anger management in the short and medium term. These improvements were not long lived.

The results of this study thus show that the programme had limited success and it did not positively influence their life skills in the long term that would have enabled them to deal with the challenges of a correctional environment. It is necessary to refine and adjust or even redevelop this programme. However, the fact remains that programmes must be developed for offenders to improve their adjustment in correctional centres as well as for their release into communities.

Key terms

Life skills, programme development, programme evaluation, young adult offenders, maximum-security correctional centres, cognitive behavioural therapy, chess, problem solving, decision making, anger management, coping with emotions

OPSOMMING

Die doel van hierdie navorsingsprojek was om 'n *Lewensvaardighede*-program vir jong volwasse manlike langtermyn gevangenes te ontwikkel, implementeer en evalueer, met die doel om hulle *lewensvaardighede* te verbeter sodat hulle instaat sal wees om in die korrektiewe omgewing meer effektief aan te pas. Hierdie program is ontwikkel op die grondslag van die beginsels van psigo-opvoeding, die kubernetiese siklus, en kognitiewe gedragsterapie. Kognitiewe gedragsterapie is gekies, aangesien studies aantoon dat dit die lewensvaardighede, sielkundige welstand en institusionele gedrag van gevangenes suksesvol bevorder. Die spel van skaak is gebruik as 'n middel om verandering te bewerkstellig sodat gevangenes instaat gestel kon word om nuwe of verbeterde lewensvaardighede aan te leer. Soos kognitiewe gedragsterapie, leer skaak individue om te dink voordat hulle 'n skuif maak (optrede), alternatiewe skuiwe te genereer (oplossings), moontlike risikos te evalueer (gevolge) en besluite oor toepaslike skuiwe (gedrag) te neem.

Eksperimentele navorsing is gebruik om die effektiwiteit van die program te ondersoek. In hierdie studie is 96 geletterde jong, volwasse manlike gevangenes tussen die ouderdomme van 21 en 25 jaar, met lang vonnisse, ewekansig geselekteer. Die proefpersone is ewekansig aan 'n eksperimentele en 'n kontrolegroep toegewys. Die Solomon viergroepontwerp (Braver & Braver, 1988; Huysamen, 1998; Lusk et al., 1999) is gebruik om vir die effek van voorttoetsensensitiserings te kontroleer.

Die eksperimentele groepe het die gestruktureerde *Lewensvaardighede*-program vir 'n tydperk van ses maande bygewoon, terwyl die kontrolegroepe aan die normale daaglikse aktiwiteite van die korrektiewe sentrum deelgeneem het. Om die effektiwiteit van die program te toets, is metings ten opsigte van vier domeine (probleem oplossing, besluitneming, woede hantering en hantering van emosies)

verkry. Hierdie metings is voor die aanvang van die program, direk (korttermyn) daarna, drie maande (medium-termyn) later asook ses maande (langtermyn) later gedoen. Op hierdie wyse is die program se effektiwiteit oor verskeie termyne ondersoek. 'n Semantiese differensiële skaal is ook gebruik om die gevangenes se persepsies oor die program te identifiseer.

Die gevangenes het aangedui dat die program en die inhoud daarvan betekenisvol en voordelig was, terwyl die resultate aantoon dat die program beperkte sukses behaal het in die toerusting van die gevangenes met die noodsaaklike vaardighede wat krities vir hulle oorlewing in 'n korrektiewe sentrum is. Die program het wel betekenisvolle effekte op veral probleem oplossing en woede hantering in die kort- en medium-termyn gehad. Hierdie verbetering was egter nie langdurig nie.

Die resultate van die studie toon dus dat die program beperkte sukses behaal het en veral nie oor die langtermyn daarin kon slaag om die lewensvaardighede sodanig positief te beïnvloed dat hulle die uitdagings van 'n korrektiewe omgewing beter kan hanteer nie. Daar word voorgestel dat hierdie program verder verfyn en aangepas of selfs herontwikkel word. Dit bly noodsaaklik om programme vir gevangenes te ontwikkel ten einde hulle aanpassing binne korrektiewe sentrums asook na hulle vrylating in gemeenskappe te verbeter.

Sleutelsterme

Lewensvaardighede, programontwikkeling, progamevaluering, jong volwasse gevangenes, maksimum-sekuriteit korrektiewe sentrums, kognitiewe gedragsterapie, skaak, probleemoplossing, besluitneming, woedehantering, hantering van emosies