

THE INFLUENCE OF PSYCHOSOCIAL FACTORS AND RESOURCES ON SUICIDAL IDEATION OF ADOLESCENTS

By

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This dissertation (in article format) is being submitted in accordance with the partial requirements for the degree

**MAGISTER ARTIUM
(CLINICAL PSYCHOLOGY)**

in the

**FACULTY OF HUMANITIES
DEPARTMENT OF PSYCHOLOGY**

at the

UNIVERSITY OF THE FREE STATE

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October 2005

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Ancel George

31/10/2005

ACKNOWLEDGEMENTS

My sincere thanks to the following significant influences in my life:

- ❖ God almighty for guiding me along his planned path (Jeremiah 29: 9-10)
- ❖ My wife Anneke and our children Andrea and Nathan for their love and support as well as the prayers and support from the rest of the family
- ❖ My supervisor, Dr Henriëtte Van den Berg for her leadership, patience and guidance during this study
- ❖ My co-supervisor Reveny Moodley for her support and encouragement
- ❖ Prof. Karel Esterhuyse for assisting with the statistical analysis
- ❖ My fellow interns for their friendship and support through our years of study
- ❖ The psychology staff compliment at Free State Psychiatric Services
- ❖ Erica Wessels for proof reading and translation

A. A. George

Bloemfontein
October 2005

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ABSTRACT

Adolescent well-being is increasingly being threatened by a wave of suicidal behaviour among this population group. In South Africa concern has been raised as adolescent suicidal behaviour (suicidal ideation, suicide attempts and completed suicides) has increased to almost 8% of the total adolescent deaths. Various factors such as psychosocial factors (individual and environmental) as well as social resources and stressors appear to have a significant influence on the level of suicidal ideation. The aim of this study is to investigate the influence of psychosocial factors and resources on suicidal ideation in adolescents in the Northern Cape Province. A biographical questionnaire, the Rosenberg Self-esteem Scale, the Life Stressors and Social Resources Inventory, Youth Form, the Suicidal Ideation Questionnaire as well as the Hope Scale were used to gather information from the participants. A hierarchical regression analysis was performed to analyse the data obtained. From the study it was concluded that self-esteem and suicidal ideation are negatively correlated. The level of suicidal ideation appears to increase with age, while socio-economic status, the influence of parents and peer romantic relationships all seem to contribute to the level of suicidal ideation experienced. Further research in areas of coping, problem-solving and conflict management are recommended in the understanding of suicide among adolescents in South Africa.

Keywords:

Suicide, suicide attempt, parasuicide, suicidal ideation, self-esteem, hope, self-destructive tendencies, personal stressors and resources, environmental stressors and resources, adolescence, healthy development, parental support, peer support.

ABSTRAK

Adolescente welstand word toenemend bedreig deur 'n laag van selfmoordgedrag onder hierdie populasiegroep. Toenemende kommer bestaan in Suid-Afrika, omdat adolessente selfmoordgedrag (selfmoordideeë, selfmoordpogings en voltooië selfmoorde) toeneem het tot bykans 8% van die totale adolessente sterftes. Verskeie faktore waaronder psigososiale faktore (individuele en omgewingsfaktore) asook sosiale hulpbronne en stressors blyk 'n beduidende bydrae te lewer tot die vlak van selfmoordideeë. Die doel van hierdie studie is om ondersoek in te stel na die invloed van psigososiale faktore en hulpbronne op selfmoordideeë onder adolessente in die Noordkaap Provinsie. Inligting is ingesamel deur middel van 'n biografiese vraelys, die Rosenberg Selfbeeldskaal, die Lewensstressors-en-sosiale-hulpbronnevraelys – Jeugvorm, die Selfmoordideeë vraelys, sowel as die Hoopskaal. 'n Hiërargiese regressie-analise is gedoen ten einde die data te analiseer. Uit die studie het duidelik geblyk dat daar 'n beduidende negatiewe korrelasie tussen selfbeeld en selfmoordideeë bestaan. Die vlak van selfmoordideeë blyk toe te neem met ouderdom, terwyl sosio-ekonomiese status, die invloed van ouers en romantiese portuurverhoudings ook 'n betekenisvolle bydrae gelewer het tot die vlak van selfmoordideeë. Verdere navorsing word aanbeveel oor die rol van coping, probleemoplossing en konflikhantering by selfmoord onder adolessente in Suid-Afrika.

Slutelwoorde:

Selfmoord, selfmoordpoging, selfmoordideeë, selfbeeld, hoop, selfvernietegende neigings, persoonlike stressors en hulpbronne, omgewing stressors en hulpbronne, adolessensie, gesonde ontwikkeling, ouer-ondersteuning, portuur-ondersteuning

She became more and more quiet. On a December afternoon the 15 year old teenager, Ilanthe' Keiser from Helderkruin, decided that she did not want to live anymore. She text-messed all her friends the following message, "Yesterday a dream. Today a memory. If you miss me, remember I am only a heartbeat away". She washed her hair and dressed herself in new clothes. Everyone in the house was under the impression she was going out for the evening. She took her fathers' 22 caliber fire-arm from the safe-box, bent over it and pulled the trigger. A muffled sound of gun-fire was heard. A note written by her was found with these words, "if only you could have known".

(translated by the researcher, Louw, 2005).

INTRODUCTION AND LITERATURE REVIEW

In the United States (US) more than 30 000 individuals, a significant number of which are adolescents, lose their lives to suicide each year. It is estimated that suicide accounts for 12% of all deaths among adolescents. These alarming statistics, endorsed by the United Nations as an average reflection of industrialised countries (Sadock & Sadock, 2003), result from the significant increase in suicide/parasuicide in the age group 15 to 24 years since 1983. **Suicide** refers to an act whereby the person kills him or herself of his or her own free will, mostly to escape a situation at home, in school, or within the social environment that he/she considers to be unbearable (Moore, 2000). An **incomplete suicide attempt** (parasuicide) refers to the intentional act of self-injury of which the outcome is not fatal. Such an act or acts vary from minor suicidal gestures to serious suicidal acts (Rutter, 1995). Sadock and Sadock (2003) estimate that approximately 650 000 cases of parasuicide are reported in the US each year.

South Africa has higher suicide statistics than other industrialised nations of the world. According to the Non-Natural Mortality Surveillance System (NMSS) the average suicide rate during 1999 in South Africa was 17.2%, which is 1.2% above the world average of 16%. NMSS statistics also reveal a cause for concern regarding the suicide rate among those 15 to 24 years old, which rose from 1.3% in 1984 to 8% in 1999 (Statistical Notes, 2000). According to the Youth Health Risk Survey conducted in South Africa in 2002, one in every five high- school learners considered attempting suicide (**suicidal ideation**) within the six-month period prior to the survey. It was further estimated that 15.8% of learners who had considered suicide had a suicide plan, while 17% had actually attempted suicide (Reddy et al. 2002). Suicidal ideation is defined as the domain of thoughts and ideas about death, suicide and serious self-injurious behaviour, and includes thoughts related to execution and the outcomes of such behaviour (Reynolds, 1999).

The Northern Cape Province (Kimberley area) has consistently been confronted with news articles such as “City rocked by teenage suicides” (Monare, 2003). According to Monare (2003) completed suicides average 15 cases per week, while 390 cases of attempted suicide or parasuicide were reported between April 2002 and January 2003, which constitutes at least 40 parasuicides per month. The age range for most of the reported cases was between 14 and 19 years, which reinforces the crisis in our adolescent population.

In this article, the Integrated Stress and Coping model of Moos and Schaefer (1993) was used as guiding theoretical model to conceptualise the psychosocial factors that influence suicidal ideation. The basic assumption of this model posits that personal and environmental stressors and resources, as well as the life crises and transitions of the individual, combine to shape cognitive appraisal and coping skills that ultimately determine the health and wellbeing of the individual.

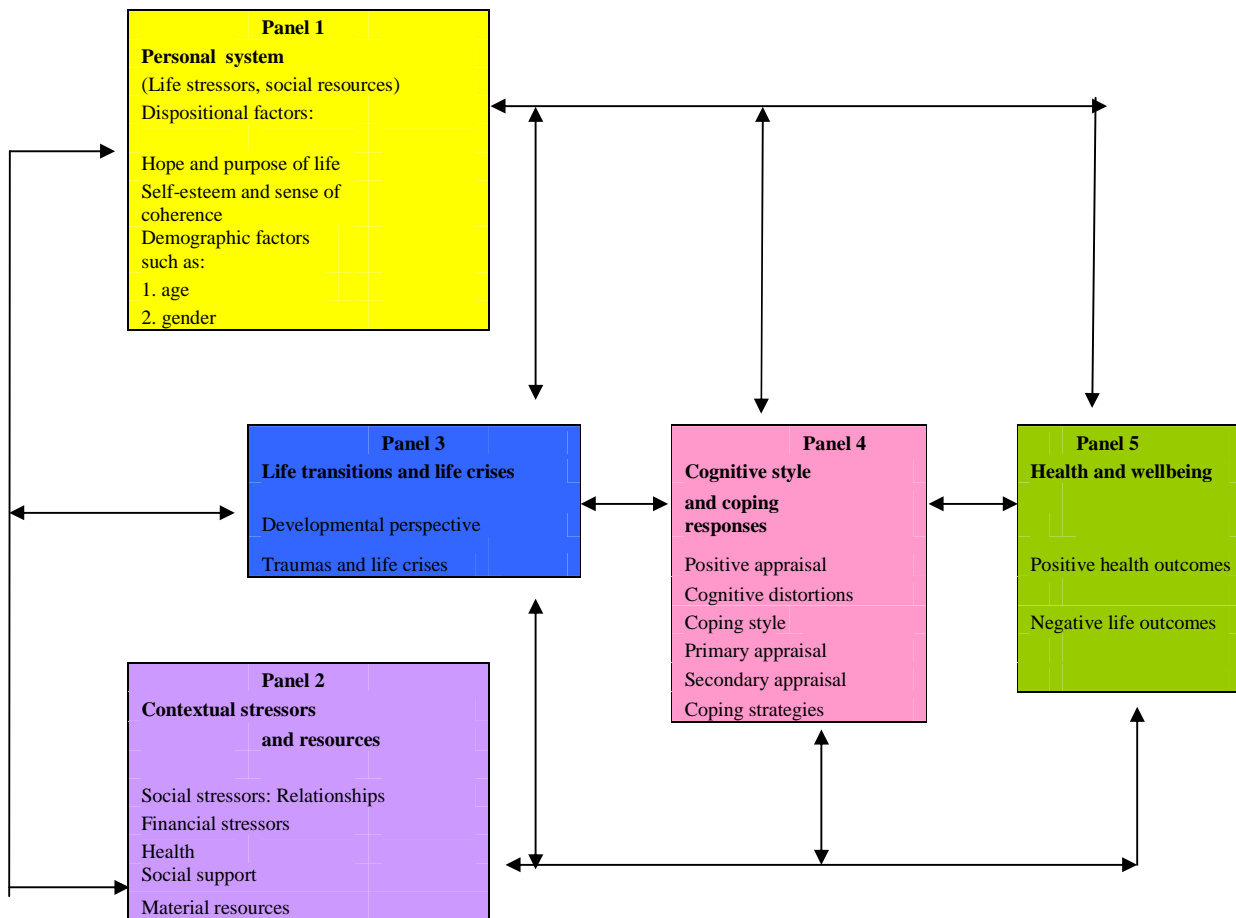


Figure 1. The Integrated Stress and Coping Process Model (Moos & Schaefer, 1993)

The bidirectional pathways in the model indicate that the processes are reciprocal and therefore able to influence each other. For example, an adolescent's personal system can exert a positive or negative influence on the environmental system, and vice versa. According to the stress and coping model, an adolescent's health and wellbeing is substantially influenced by his/her exposure to stressors, as well as the availability and utilisation of personal and environmental coping resources.

In accordance with the integrated stress and coping model, the personal system composed of stressors and resources (**panel 1**) is a relatively stable disposition that affects the selection of appraisal and coping processes, which influence the cumulative behavioural outcome (Moos & Schaefer, 1993). Examples of such personal resources and stressors are self-esteem and hope.

Self-esteem is defined as self-evaluation by an individual and involves the individual's attitude towards himself/herself along a positive to negative continuum (Baron & Byrne, 2000). According to Brown and Dutton (1995) low self-esteem leads to an over-generalisation of the implications of failure and rejection. A high sense of self-esteem is perceived as a resource factor allowing an individual to maintain a positive and optimistic outlook amidst his/her negative circumstances (Dutton & Brown, 1997; Yang & Clum, 1996). In a survey concerning the prevalence of suicidal behaviour in the Free State Province, Mashego, Peltzer, Williamson and Setwaba (2003) offer supportive evidence indicating that a high self-esteem contributes towards acting as a buffer in reducing the risk of suicidal behaviour among secondary school pupils. Wilson et al. (1995) conclude that low self-esteem is a pathway towards a negative attributive style of engaging one's environment, thereby predisposing an individual towards self-destructive tendencies.

Complementary to evaluations of oneself (self-esteem), **hope** emphasises a self-evaluation of the future. Snyder et al. (1991) identified two components of hope, namely agency and pathways. According to Snyder et al. (1991) hope-agency is a sense of successful determination in meeting goals of the past, present and future, whereas hope-pathway is viewed as confidence in one's ability to devise plans in order to achieve one's goals. According to Beck, Rush, Shaw and Emery (1979) as well as Goldston, Daniel, Reboussin, Reboussin, Frazier and Harris (2001), a strong association exists between hopelessness and depression. Goldston et al. (2001) further concluded that a lower level of hopelessness correlates significantly with a higher risk of suicidal behaviour. As a personal variable one's sense of hopelessness appears to have a significant contribution towards suicidal ideation and suicidal behaviours (Sebate, 1999). As a predictor variable, hopelessness has a strong correlation with later suicide attempts and proves to have even greater predictive value if the individual has a past history of parasuicide (Goldston et al., 2001).

In addition to hope and self-esteem, other personality factors must be considered in terms of their effects on the individual. **Neuroticism** is seen as one of the less-efficient personality types, as affected individuals are easily unsettled, anxious, and have difficulty in dealing with negative life situations (McDevitt & Ormond, 2004). Personality and behavioural characteristics such as the **Type A coronary-prone behaviour pattern** concept observed by Dunbar (1943) is described as increasing an individual's predisposition towards being stressed (Louw & Edwards, 1995). According to Wilson et al. (1995) a clinical study of adolescents who attempted suicide identified stress as having contributed towards the increased incidence of suicidal behaviour among these individuals.

Demographic factors such as age and gender as moderators of suicidal ideation are included in the discussion of the personal system. The indiscriminate availability of life-threatening substances (alcohol and other drugs) has become common in our present-day society. A lowering of the onset age of exposure to substances has consequently resulted in youth engaging in risky behaviours and suicidal acts at earlier ages than before (Diekstra & Garnefski, 1995; Richardson, 1994). A national youth risk survey determined that the Northern Cape Province registered the highest percentage of learners (71.5%) that had previously used alcohol (Reddy et al., 2002). A negative school environment, such as academic pressure to perform and the associated stressor of Grade-12 learners having to find employment after school, is linked to increased alcohol abuse amongst adolescents (Coker & Borders, 2001; Kwon Hoo, 2002). The abuse of alcohol and other substances is listed as a risk factor in suicidal behaviour, which indirectly predisposes the youth towards self-destructive behaviours (Gilliland and James, 2001).

The gender distribution of suicidal behaviour appears to be balanced in terms of suicide attempts versus completed suicides (Sadock & Sadock, 2003). By implication, therefore, it appears that female parasuicides outnumber male parasuicides by a ratio of four to one. According to Sadock and Sadock (2003) males engage in much more serious methods of suicide than females, leading to a higher completed suicide rate. The above findings are supported by an investigation (Pillay, 1995) of suicidal attitudes among learners at a secondary school in the Durban area. In a study of adolescent secondary school learners, Madu and Matla (2003), found that males outnumber females in both their level of suicidal ideation and parasuicides.

The health outcomes of adolescents are affected by more than just their internal or personal experiences. **Environmental stressors and resources (panel 2)** such as social support, health and financial factors are significant determinants in the health and wellbeing of adolescents.

According to Larson, Wilson and Mortimer (2002) the **family** is seen as the central source of **support** for adolescents worldwide. The authors further posit that a positive parenting style acts as a protective factor, which enhances the adolescent's general wellbeing. In a study by Paulsen and Everall (2001), they concluded that negative life events such as divorce in the family, the experience of death or extreme school difficulties show a contribution towards suicidal thoughts. The authors furthermore suggest that a build-up of daily stressors in the absence of an effective support system can contribute towards suicidal behaviour. Pillay and Wassenaar (1997) concluded that adolescents with a conflicting relationship with their parents show a high incidence of self-destructive behaviours. Additional research by Aspalan (2003) and Engelbrecht and Van Vuuren (2000) confirm the fact that family disorganisation and disruption acts as a precursor to suicidal ideation and suicide. Strained relations between parents and adolescents have been identified as causing significant amounts of stress in adolescents. These raised stress levels, according to Wilson et al. (1995), have been identified as a contributing factor in suicidal behaviour. The basic functions of a family are multifaceted and include aspects such as having to ensure socio-emotional competence. Growing up in a supportive family allows for healthy development of aspects such as self-esteem, motivation, religious and spiritual orientations, as well as providing an emotionally safe and supportive environment for its members (Thomlison, 2002).

Relationships outside the family, namely **peer and educator-learner relationships**, have been implicated as contributing towards suicidal behaviour. Sebaste (1999) and Rigby (2000) found that peer pressure could have a negative effect on adolescents' wellbeing as it damages their self-concept and interferes with identity formation. In a study by Pillay (1995) peer relationship problems were found to be second only to parent-adolescent conflict as a significant contributing factor in suicidal behaviour. Having a supportive teacher-learner relationship is considered a moderating factor against suicidal behaviour, and enhances how adolescents cope with self-destructive thoughts (Paulson & Everall, 2001; Rigby, 2000). Professionals or peer-educators can make a positive contribution towards fostering effective interpersonal skills such as problem-solving and social skills, thereby changing our youths' pathway from destructive behaviours to

healthy development (Berk, 2002). Romantic relationships have been found to show a significant contribution towards suicidal behaviour. Aspalan (2003) found that parental dissatisfaction with their children's partners acts as a trigger for self-destructive behaviour. In a study by Engelbrecht and Van Vuuren (2000), 17% of their subjects stated relationship problems as a reason for considering suicide.

Another environmental factor, namely **poverty**, appears to contribute to suicidal behaviour. Larson et al. (2002) state that increasing economic stratification serves to further hinder our disadvantaged youth in securing equal access to resources and opportunities in preparing themselves for adulthood. According to Diekstra and Garnefski (1995) unemployment of parents, especially fathers, is significantly related to the occurrence of depression and suicidal reactions in their children.

As a contextual factor, **physical health** can influence the mental wellbeing of adolescents. Although adolescents' immediate physical health has been improving, Larson et al. (2002) cautions against significant remaining health threats. One of the major health risks at present among the younger population group is HIV/AIDS. Although the direct effects of HIV/AIDS have a much smaller impact on adolescents, this impact is projected to significantly rise after leaving school (Whiteside & Sunter, 2001). The indirect effects of the disease will, however, fully impact on the emerging family members as their parents contract this illness, causing major social and economic difficulties. Having to deal with the traumatic experiences and social stigma of HIV/AIDS, denies the affected adolescents the necessary resources and opportunities that may assist in healthy development. Being denied such resources appears to contribute in increasing adolescents' chances of developing emotional and other behavioural problems. Direct health influences on the adolescent, such as loss of mobility or poor physical condition, have been reported to contribute to the incidence of suicidal behaviour (Sadock & Sadock, 2003).

Adolescence as a developmental stage is characterised by increasing psychosocial challenges within the living environment of the adolescent. According to Moos and Schaefer's (1993) model, the adolescent stage (**panel 3**) forms an interactive part in the process that determines the eventual health outcomes. Cummings (1995) defined adolescence as a developmental transition between childhood and adulthood, which begins at about the age of 12 or 13 years and extends to the late teens or early twenties. Cummings further emphasises society's need to adopt a

protective role in nurturing adolescents who are being faced with ever-increasing pressure to perform, conform, and successfully negotiate the rapid emotional, physical and cognitive changes so typical of the period of transition. Adolescent development brings with it not only the perks of greater social recognition, but additional new challenges that involve making decisions about indulging in risk behaviours. Not having adequate supportive structures and resources predisposes the adolescent to engage in negative behaviours as a means of coping. Exposure to alcohol, drugs, sexually transmitted diseases and eventually the threat of depression and suicidal behaviours becomes very real to adolescents (Heaven, 1996; Larson et al., 2002). According to Cummings (1995) this is a stage of consolidation and integration, which allows the adolescent to successfully meet the challenges ahead or become predisposed to negative life experiences.

Adolescents are faced with many crises as they explore their environment. In viewing Erickson's psychosocial theory, Sigelman and Rider (2003) note that adolescents must successfully solve the stage **Identity versus Role of confusion** as they define their roles and identity within society. Unsuccessful completion of this stage translates into unhealthy development. Other crises such as destabilised families, family violence and abuse, as well as personal losses through death create feelings of negativity, hopelessness and confusion and may even cause depression and isolation in adolescents (Sigelman & Rider, 2003).

Panel 4 of the model includes coping and cognitive style. **Coping** refers to the set of behaviours that individuals use in their efforts to manage stressful situations. One copes with a stressor either by adjusting to the prevailing circumstances (emotion focused) or directly attempting to change them. An individual's choice of coping strategies will therefore influence behavioural outcomes, such as suicidal behaviour (Hobfoll, 1988; Lazarus & Folkman, 1984; Moore, 2000; Smith, 1993). Cognitive styles such as low or high monitors of information processing have important implications for an individual's health. Low monitors are less anxious and more able to relax than high monitors. Adolescents' flawed reasoning has been implicated as contributing towards self-harming behaviours (Moos & Schaefer, 1993). Adolescents are likely to view stressful situations in catastrophic proportions, leading to irrational attributions. Such inflexibly rigid and impaired cognitive abilities predispose adolescents to suicidal ideation (Mayekiso, 1992; Wilson et al., 1995). Coping is not covered in this current study, although it has proved invaluable in dealing with stressful situations.

It has become increasingly necessary for researchers to gain a better understanding of how internal and external factors, as well as moderating factors, contribute towards self-destructive behaviour. According to Louw (2005) suicide is ranked as the third-highest cause of death in South Africa presently. The spate of suicide and parasuicide in the Northern Cape Province during 2003 (Monare, 2003) once again highlighted the plight of our youth's future.

In this study not all the components of the stress and coping model were included in the research. Suicidal ideation is considered to be the health outcome being measured and consequently formed the criterion variable of this study (**panel 5**). In the personal system (**panel 1**) hope, self-esteem, as well as age and gender were considered in terms of the individuals' contribution towards the suicidal ideation criterion. The contextual influences (**panel 2**) on the criterion were considered by observing variables such as financial stress, home environment and relationships within the adolescent's domain. The phase of human development (**panel 3**) focused on adolescents in the senior phase of secondary schooling. The cognitive component (**panel 4**) was not used in this specific study.

The focus of this study was to:

- 1) Determine the incidence of suicidal ideation amongst a sample of adolescents in the Northern Cape Province.
- 2) Investigate the influence of psychosocial factors, namely individual factors (such as a sense of hope and self-esteem), as well as social factors (such as teacher, parental and peer support and family problems) on suicidal ideation.
- 3) Determine the moderating influence of demographic factors such as socio-economic status, gender and age on suicide ideation.

METHODOLOGY

In order to realise the objective of this study, namely to determine whether psychosocial factors significantly influence suicidal ideation in adolescents, the following procedure was followed:

Research design

A correlational design has been used in this study, with suicide ideation as the criterion variable, and hope, self-esteem, life stressors and social resources as predictor variables. Gender, age and socio-economic status were considered as moderating variables (Huysamen, 1994).

Participants and information gathering

A stratified random sample was used to ensure equal representation of gender and age groups in the sample. A total of 590 learners from Grades 10 to 12 at twelve schools in the Northern Cape Province were involved in the study.

Defining characteristics of the group:

- The mean age of the group was 17.3 years with a standard deviation of 1.66.
- With regard to gender distribution, males accounted for 267 (45.2%) and females accounted for 323 (54.8%).
- Subjects from a rural background numbered 120 (20.3%) compared to 470 (79.7%) from an urban background.
- Although English was the primary means of communication, subjects listed their home language as English (6.4%), Afrikaans (73%), Xhosa (7%), Sesotho (0.7%) and Sestwana (13%).

Questionnaires were made available in English. To cross the language barrier, any questions from learners were addressed by psychologists and psychometrists from the Northern Cape Province Education Support Services Department. Testing occurred on a school day as identified by the Department of Education in the Northern Cape Province. After having selected the various subjects and obtaining the necessary consent, questionnaires were completed by learners in groups at their respective schools. Learners were assessed in groups of about 20 to maximise rapport. The testing took place over a period of 3 hours. Halfway through the testing the learners were given a break of 30 minutes during which they were served refreshments.

Measuring instruments

The measuring instruments consisted of the following measures.

- a) Biographical questionnaire. This self-compiled questionnaire consisted of items that serve to gather information on age, gender, grade, language preference and geographical location. Additional information such as parental marital status, parental employment status and previous exposure to suicidal behaviour was also gathered by means of this questionnaire.
- b) The Rosenberg Self-esteem Scale (Rosenberg, 1989) was administered to give an indication of the participants' feelings of self-worth and self-acceptance. The scale is composed of ten

items, five of which are negatively worded. Items are answered according to a four-point rating scale, which extends from strongly agreeing to strongly disagreeing. A low score on the self-esteem scale is a reflection of an individual with a low self-esteem, whereas a high score indicates an individual with a high self-esteem. Alpha coefficients of between 0.77 and 0.88 are reported for the total score of this measuring instrument (Rosenberg, 1989).

- c) The Life Stressors and Social Resources Inventory, Youth Form (Moos & Moos, 1994) consists of 209 items broadly divided into two sections, namely life stressors and social resources. This measuring instrument has a total of 16 subscales, 9 of which measure life stressors and 7 measuring social resources within the domain of the subject. This instrument is primarily used to provide an indication of what the participants perceive to be the available resources and stressors in their community. The subscales for life stressors (SS) are as follows: Physical Health (PH), Home and Money (HM), Parents (PAR), Siblings (SIB), Extended Family (FAM), School (SCH), Friends (FR), Boyfriend/Girlfriend (BG) and Negative Life Experience (NLE). The subscales for social resources (RS) are as follows: Parents (PAR), Siblings (SIB), Extended Family (FAM), School (SCH), Friends (FR), Boyfriend/Girlfriend (BG), and Positive Life Experience (PLE). A high score indicates a high level of stress or the presence of adequate resources in a specific domain. This measuring instrument has proved to be reliable and valid. The internal consistency index varies between 0.79 and 0.88 for the stressor subscales and 0.78 to 0.91 for social resources subscales. In a South African study conducted by Wissing (1996) the Cronbach α -coefficients ranged between 0.79 and 0.88 for the life stressors scales and between 0.78 and 0.91 for the social resources scales.
- d) The Hope Scale (Snyder et al., 1991) is comprised of 12 items and is used to measure two interrelated aspects of hope, namely agency (a sense of successful determination in meeting goals in the past, present and future) and pathways (confidence in the ability to devise plans in order to meet goals). Scoring of items is achieved by an eight-point rating scale, ranging from definitely false to definitely true. A high score on any of the two subscales correlates positively with the aspect (agency or pathway) of that subscale. Alpha coefficients of between 0.74 and 0.88 are reported for the total score of this measuring instrument. In a South African study by Potgieter (2004) alpha coefficients were calculated as follows: agency with an alpha-coefficient of 0.818 and pathway at α -coefficient of 0.754.

e) The Suicidal Ideation Questionnaire for Adolescents (Reynolds, 1999) measures the frequency and intensity of suicidal thoughts. Each of the 30 items measures a specific behaviour or thought related to suicide. Individual scores are obtained by computing the sum of the scores completed on a 7-point Likert scale. A high score is indicative of a high level of suicidal ideation while a low score reflects a low level of suicidal ideation. Internal consistency coefficients of between 0.93 and 0.97 have been reported for this measuring instrument (Reynolds, 1999). No comparative study could be found to reflect measurement results within a South African context.

The internal consistency of the instruments used in this study was investigated by computing Cronbach's α -coefficients (SPSS Incorporated, 2003). The alpha coefficients for all the scales and subscales are reported in Table 1.

Table 1: Cronbach's α -coefficients for all the measuring instruments in this study

Construct	α-coefficient
Suicidal ideation	0,954
Hope – Agency	0,585
Hope – Pathway	0,719
Self-esteem	0,643
LISRES stressor scales	
PH physical health	0,888
HM home & money	0,850
PAR parents	0,830
SIB siblings	0,785
FAM family	0,777
SCH school	0,811
FR friends	0,723
BG boyfriend/girlfriend	0,793
NLE negative life experience	0,745
LISRES resource scales	
PAR parents	0,883
SIB siblings	0,861
FAM family	0,836
SCH school	0,820
FR friends	0,783
BG boyfriend/girlfriend	0,889
PLE positive life experience	0,719

The computed coefficients in Table 1 indicate that the scales of the measuring instruments provide acceptable internal consistency measures. According to Nunnally and Bernstein (1994) coefficients of 0.6 and above are considered acceptable for non-cognitive constructs. The hope-agency scale is slightly low, and should therefore be interpreted carefully.

STATISTICAL PROCEDURE

Descriptive statistics (means and standard deviations) were calculated for all variables (scales and subscales). In order to investigate the extent to which the variance in suicidal ideation in adolescence can be attributed to the predictor variables, a hierarchical regression analysis was performed. The predictor variables include two biographical variables, namely age and gender. Gender was measured on the nominal scale for purposes of the hierarchical regression analysis, with males afforded code 1 and females code 2. This work method entails, firstly, determining the total variance that is explained collectively by the predictor variables (complete model) with regard to the criterion. Subsequently, one of the variables was omitted each time in order to determine that particular variable's contribution to the explanation of the variance. The percentage variance that is explained by a specific set of variables is indicated by R^2 (squared multiple correlation coefficient). The effect sizes of the individual contributions of variables were calculated to determine the practical significance of the relationships between variables.

RESULTS AND DISCUSSION OF RESULTS

Before reporting and discussing the results of the hierarchical regression analyses, the descriptive statistics (means and standard deviations) with regard to the criterion and predictor variables, as well as gender and age, are discussed as per Table 2.

The participants obtained a mean of 39.51 and a standard deviation of 36.14 for the criterion variable **suicidal ideation**. The scores obtained in this study are significantly higher than the scores obtained by participants in study conducted by Reynolds (1999) where a mean of 17.76 and a standard deviation of 20.76 were obtained. These scores appear significantly higher than the scores of Reynolds, which indicates that the participants in this study reported a generally higher degree of suicidal ideation.

The participants achieved a mean score of 20.33 and a standard deviation of 4.57 for **self-esteem**. In a study conducted by Grobler (1998) amongst secondary school learners in the Mangaung area (Bloemfontein) a mean score of 28.57 was obtained. The higher mean scores achieved by the

Table 2: Means and standard deviations for the research group as a whole

Variable	N	M	s
Criterion variable:			
Suicidal ideation	513	39,51	36,14
Predictor variables:			
Self-esteem	541	20,33	4,57
Hope – agency	558	23,72	4,28
Hope – pathway	567	23,45	4,88
Age	590	17,27	1,66
Stressor: - PH physical health	590	2,09	3,42
Stressor: - HM home and money	590	11,36	7,67
Stressor: - PAR parents	590	6,55	3,95
Stressor: - SIB siblings	590	9,01	5,84
Stressor: - FAM extended family	590	6,78	4,67
Stressor: - SCH school	590	16,08	8,26
Stressor: - FR friendships	590	7,21	4,61
Stressor: - BG boyfriend/girlfriend	590	4,56	4,81
Stressor: - NLE neg life experience	587	12,16	6,61
Resource: - PAR parents	590	10,77	5,40
Resource: - SIB siblings	590	11,24	6,08
Resource: - FAM extended family	590	17,18	6,65
Resource: - SCH school	590	18,73	8,50
Resource: - FR friendships	590	24,45	7,79
Resource: - BG boyfriend/girlfriend	590	10,95	7,50
Resource: - PLE pos life experience	590	11,64	4,33

participants in Grobler's study indicate that participants in this study (Northern Cape) reported a lower overall self-esteem.

With regard to the **predictor hope**, participants' mean scores on the two different subscales were 23.72 for hope (agency) and 23.45 for hope (pathways). The scores obtained in this research study appear to be consistent with results (24.73 for agency and 23.86 for pathways) obtained by Potgieter (2004) in a multicultural investigation into wellness in young adults.

In reporting on the stressors and resources, participants' scores showed considerable variation between individual scores. The **stressors and resources** scores were slightly higher than

corresponding results yielded by Moos and Moos (1994) and Wissing (1996). In addition it was noted that negative life experience (NLE) scores as reflected by the research group were significantly higher than the scores measured in the American study of Moos and Moos (1994). This finding could be influenced by factors such as socio-economic disparities, high crime rates and the violence that continues to mark the growing pains of a democratic South Africa. In comparing the group results to a South African study on university students (Wissing, 1996) the only significant deviations were recorded in the stressor school (SCH) with a mean of 11.65 to 16.08, the resource SCH (mean of 10.13 to 18.73), which was considerably higher amongst the participants in this research, and the resource boyfriend/girlfriend (mean 15.97 to 10.95), which was lower than that recorded in the earlier study.

In discussing Table 3 various significant correlations between the **criterion and predictor variables** were found:

- a) On the 1% level a significantly negative correlation was found between the criterion suicidal ideation (SID) with self-esteem, while the stressor home and money (HM) and age correlated positively on the 1% level with suicidal ideation. This indicates that the lower a participant's self-esteem, the greater the adolescent's experience of dissatisfaction with domestic and financial matters and the older the participant the higher the degree of suicidal ideation reported by participants. Similar findings were made in the South African studies of Mashego et al. (2003), where high self-esteem was viewed as a positive factor serving to heighten one's resistance to suicidal behaviour. A positive self-esteem has been associated with the development of positive thought processes and cognitions about oneself, thereby enhancing an individual's ability to deal with challenging situations. The link between poverty and suicidal ideation is supported by Diekstra and Garnefski (1995), as well as by Larson et al. (2002), thereby confirming financial constraints as a contributing factor towards negative life outcomes such as hopelessness, depression and suicidal behaviour.
- b) A significantly positive correlation on the 5% level was found between the criterion suicidal ideation (SID) and the stressor parents (PAR), while a negative correlation was found between hope-agency and the stressor boyfriend/girlfriend (BG). This indicates that supportive parents show a contribution in reducing the level of suicidal ideation experienced. The more stressful romantic relationships are perceived to be, and the more pessimistic an adolescent is about attaining future goals, the higher the frequency of that adolescent's

suicidal thoughts. These findings are supported by Larson et al. (2002) and by Pillay and Wassenaar (1997) who reported that responsive parenting assists the adolescent with the process of becoming his/her own person (individuation), thereby reducing feelings of entrapment, frustration and possible suicidal behaviour. The correlation between suicidal ideation and romantic relationships is supported by Aspalan (2003) as well as by Engelbrecht and Van Vuuren (2000), who concluded that stressful relationships can influence the contemplation of suicidal behaviour.

In addition to the above correlations, an intercorrelational analysis between the predictor variables will be discussed, with a report of all scales and subscales in Table 3.

- c) A significantly positive correlation was found on the 1% level of significance between self-esteem as compared to hope-agency and hope-pathways. It can be assumed, therefore, that the more positive a person is with regard to achieving his/her future goals (pathways) and in devising such future plans, the more positive his/her level of self-appraisal will be. The practical significance appears to be of moderate hope-agency (hopa) and large hope-pathways (hopp) value. Sandin et al. (1998) view self-esteem as a factor of resilience and suggest that it correlates positively with hope as a dispositional factor.
- d) On the 1% level, a significant correlation is seen between home and money (HM) when compared to the stressors extended family (FAM), friendships (FR) and negative life experience (NLE) and the resources parents (PAR), siblings (SIB), extended family (FAM) and friendships (FR). In the case of the stressors the relationship is positive, while it is negative when comparing the resources. Accordingly, the more difficulties adolescents experience with their living and financial conditions the more likely they are to report family and friendships as unsupportive and generally display a negative view of their environment and lives. In conditions of optimal living and financial conditions, relationships with parents, siblings, family and friends are perceived as being more positive. The practical significance is small and inferences should be made with caution. These findings lend support from Sebaste's (1999) qualitative study in which poor socio-economic circumstances were found to increase family conflict and dissatisfaction with life to the point of attempting suicide.

Table 3: Intercorrelational comparisons between all the variables applicable to the group as a whole

	Sid	self	hopa	hopp	sPH	sHM	sPAR	sSIB	sFAM	sSCH	sFR	sBG
Sid	1											
self	**-.303	1										
hopa	*-.100	**0.3	1									
hopp	-0.070	**0.24	**0.5	1								
sph	0.013	0.002	0.038	0.037	1							
sHM	**0.121	0.096	-0.031	-0.04	-0.026	1						
sPAR	0.026	0.092	-0.077	-0.044	0.034	0.07	1					
sSIB	0.032	0.048	0.074	0.035	0.101	0.07	**0.38	1				
sFAM	0.001	0.073	-0.015	-0.1	0.094	**0.232	**0.304	**0.4	1			
sSCH	0.008	0.008	0.02	0.023	0.115	0.096	**0.36	**0.39	**0.37	1		
sFR	0.013	0.063	-0.004	-0.002	0.08	**0.16	**0.324	**0.375	**0.411	**0.55	1	
sBG	*0.103	-0.01	-0.052	-0.025	0.032	*0.143	**0.197	**0.18	**0.27	**0.27	**0.349	1
NLE	0.057	0.039	0.02	0.025	**0.19	**0.23	**0.305	**0.194	**0.24	**0.288	**0.266	**0.276
rPAR	*-.105	-0.6	0.018	0.018	-0.043	**-. 0.274	0.084	0.055	-0.124	0.066	0.019	-0.076
rSIB	-0.065	-0.05	0.015	0.015	-0.077	**-.159	-0.024	0.019	-0.126	-0.032	-0.071	-0.008
rFAM	-0.006	-0.05	-0.006	-0.006	-0.042	**-.238	-0.004	0.02	**-.162	0.094	-0.001	-0.029
rSCH	-0.025	0.015	-0.052	-0.052	-0.064	-0.05	0.017	0.01	0.074	*0.15	0.055	0.004
RFR	-0.084	-0.077	0.004	-0.053	-0.019	**-.258	0.058	0.109	0.012	0.144	-0.001	.031
rBG	-0.018	-0.053	0.007	-0.025	-0.022	-0.065	0.114	0.031	0.095	0.088	0.062	**0.323
PLE	-0.044	-0.039	-0.062	0.014	0.038	-0.097	**0.19	0.077	0.05	0.122	0.1	0.134
age	**0.118	0.064	-0.117	-0.081	-0.021	0.031	-0.093	-0.128	0.043	-0.073	-0.035	-0.012
gen	-0.059	0.008	-0.05	-0.02	-0.057	0.001	-0.023	-0.033	-0.018	-0.046	-0.024	-0.004

Stressors (s)

1. Suicidal ideation (**sid**)
2. Physical health (**sph**)
3. Home and money (**shm**)
4. Parents (**spar**)
5. Siblings (**ssib**)
6. Extended family (**sfam**)
7. School (**ssch**)
8. Friends (**sfr**)
9. Boyfriend/Girlfriend (**sbg**)
10. Negative life experience (**nle**)
11. Self-esteem (**self**)
12. Hope agency (**hopa**)
13. Hope pathways (**hopp**)

Table 3: Intercorrelations continued

	nle	rpar	rsib	rfam	Rsch	Rfr	rgb	ple	age	gen
self	0.038	-0.059	-0.049	-0.05	0.015	-0.077	-0.053	-0.04	0.064	0.008
hopa	0.02	0.074	0.021	0.026	-0.057	0.004	0.007	-0.062	-0.117	-0.05
hopp	0.025	0.017	0.015	-0.006	-0.052	-0.053	-0.025	0.014	-0.081	-0.02
rph	**0.196	-0.043	-0.077	-0.042	-0.063	-0.019	-0.022	0.038	-0.021	-0.057
rhm	**0.235	**0.274	**0.158	**0.238	-0.05	**0.258	-0.065	-0.097	0.031	0.001
spar	**0.305	0.084	-0.024	-0.004	0.017	0.058	0.114	**0.19	-0.094	-0.023
ssib	**0.194	0.055	0.018	0.02	0.011	0.11	0.031	0.077	-0.128	-0.033
sfam	**0.243	-0.124	-0.126	**0.162	0.074	0.012	0.095	0.051	0.043	-0.018
ssch	**0.288	0.066	-0.032	0.094	*0.15	0.114	0.088	0.122	-0.073	-0.047
sfr	**0.266	0.019	-0.071	-0.001	0.055	-0.001	0.061	0.1	-0.035	-0.024
sbg	**0.275	-0.075	-0.008	-0.029	0.004	0.031	**0.323	0.134	-0.011	-0.004
Nle	1	*0.155	-0.111	-0.13	-0.036	-0.128	0.031	**0.336	0.002	-0.0248
rpar		1	**0.357	**0.382	**0.177	**0.287	0.131	**0.259	-0.094	-0.036
rsib			1	**0.435	**0.263	**0.316	0.139	0.129	-0.06	0.012
rfam				1	**0.363	**0.439	**0.162	**0.193	-0.081	0.025
rsch					1	**0.354	**0.161	**0.168	0.043	0.014
rfr						1	**0.258	**0.178	-0.065	0.012
rgb							1	**0.241	-0.021	-0.01
ple								1	-0.037	-0.069
age									1	0.128
gen										1

**p≤0.01

* p≤0.05

Resources (r)

- | | |
|--|--|
| 1. Parents (rpar) | 2. Siblings (rsib) |
| 3. Extended family (rfr) | 4. School (rsch) |
| 5. Friends (rfr) | 6. Boyfriend/Girlfriend (rgb) |
| 7. Positive life experience (nle) | |

- e) A significant correlation on the 5% level was found between home and money (HM) and the stressor boyfriend/girlfriend. From this correlation it appears that adolescents who are dissatisfied with their living conditions at home and experiencing financial constraints are more likely to experience romantic relationships as unsatisfying.
- f) A significant correlation on the 1% level of significance was found between the parents (PAR) and the stressors siblings (SIB), extended family (FAM), school (SCH), friends (FR), boyfriend/girlfriend (BG) and negative life experience (NLE) and the resource positive life experience (PLE). All these correlations are positively correlated with parents (PAR). Therefore, the less satisfying the adolescent-parent relationship is considered to be, the greater the difficulties adolescents are likely to experience in other areas of interaction, as their outlook on life is more negatively influenced. Adolescents who perceive their parents to be responsive and supportive show a higher degree of optimism about life and its challenges in general. Relationship problems appear related to the increased level of stress experienced and may therefore contribute in raising the individual's vulnerability to suicidal behaviour (Wilson et al., 1995). The variables show a moderate practical significance and can thus be considered to be of practical significance.
- g) On the 1% level of significance, positive correlations were found between siblings (SIB) and the stressors extended family (FAM), school (SCH), friends (FR), boyfriend/girlfriend (BG) and negative life experience (NLE). It can thus be inferred that the more problematic an adolescent experiences relations to be within their sibling relationships, the greater the influence of sibling relationships on other life experiences such as interactions at school and with friends and family, as well as general perceptions of life. The variables show a moderate to high practical significance and therefore appear highly applicable in the understanding of adolescent functioning.
- h) A significantly positive correlation on the 1% level was found between negative life experience (NLE) and physical health (PH). This result indicates that adolescents who experience their health as a stressful factor are more inclined to perceive life experiences in a negative manner. The practical significance is small and needs to be interpreted with caution.

- i) On the 1% level of significance, a positive correlation was found between extended family (FAM) and the stressors school (SCH), friends (FR) and boyfriend/girlfriend (BG). From the above correlations it appears that a higher degree of relationship difficulties with adolescents' families is in direct proportion to relationship difficulties experienced within their school environment, with their friends and in their romantic relations. The practical significance of these contributions have been found to be moderate to high and supports the influence of family on the adolescent's daily life.
- j) On the 1% level of significance a positive correlation was found between school (SCH) and the stressors friends (FR), boyfriend/girlfriend (BG) and negative life experience (NLE). From this information it can be inferred that the more pleasurable adolescents experience their school environment to be, the higher the frequency of experiencing gratifying friendships and romance and the less negative feedback they are likely to experience from their environment. A supportive teacher-learner relationship engenders a sense of safety and has been noted to have a buffering effect, thereby improving adolescents' coping abilities in general (Paulson & Everall, 2001). Schooling and friendships have a large effect size and can be considered of significant practical value in the social dynamics of adolescents.
- k) On the 1% level of significance a positive correlation was found between friends (FR) and the stressors boyfriend/girlfriend (BG) and negative life experience (NLE). This indicates that the higher the degree of difficulty or unpleasantness experienced within the adolescent's friendships, the more likely the adolescent is to experience romantic relationships as ungratifying and conflict filled, and events in his/her life as stressful. The practical significance of the variable interactions is small to moderate, thus contributing sparingly to reasonably to the value of friendships as a determinant.
- l) A significantly positive correlation was found on the 1% level of significance between boyfriend/girlfriend (BG) and the stressor negative life experience (NLE). The interpretation is therefore that the more tension or break-ups experienced by the adolescent in romantic

relationships, the greater (the inclination) towards perceiving the rest of the environment and life experiences as negative.

RESULTS OF THE HIERARCHICAL REGRESSION ANALYSIS

The hierarchical regression analysis was performed in order to investigate the contributions of the various predictor variables to the explanation of the variance suicidal ideation in adolescents. The results of this analysis are discussed in table 4.

The results in table 4 indicate that all the predictor variables explain a combined 14,04% ($R^2 = 0,1404$) of the variance **suicidal ideation** for adolescents. This calculated R^2 -value has been found significant on the 1% level of significance [$F_{21;430} = 3,34$].

Table 4: The contributions of various variables to R^2 of suicidal ideation

Variables in analysis	R^2	Contribution to R^2	F	f^2
1. [selfs]+[hope]+[stressor]+[resour]+[biog]	0,1404	1-4 = 0,0109	2,725	0,01
2. [selfs]+[hope]+[stressor]+[resour]+age	0,1338	2-4 = 0,0043	2,150	
3. [selfs]+[hope]+[stressor]+[resour]+gender	0,1351	3-4 = 0,0056	2,800	
4. [selfs]+[hope]+[stressor]+[resour]	0,1295			
5. [selfs]+[hope]+[stressor]+[biog]+[resour]	0,1404	5-13 = 0,0184	1,314	
6. [selfs]+[hope]+[stressor]+[biog]+par	0,1233	6-13 = 0,0013	0,650	
7. [selfs]+[hope]+[stressor]+[biog]+sib	0,1221	7-13 = 0,0001	0,050	
8. [selfs]+[hope]+[stressor]+[biog]+fam	0,1237	8-13 = 0,0017	0,850	
9. [selfs]+[hope]+[stressor]+[biog]+sch	0,1226	9-13 = 0,0006	0,300	
10. [selfs]+[hope]+[stressor]+[biog]+fr	0,1226	10-13 = 0,0006	0,300	
11. [selfs]+[hope]+[stressor]+[biog]+bg	0,1309	11-13 = 0,0089	4,450*	
12. [selfs]+[hope]+[stressor]+[biog]+ple	0,1220	12-13 = 0,0000	0,000	
13. [selfs]+[hope]+[stressor]+[biog]	0,1220			
14. [selfs]+[hope]+[biog]+[resour]+[stressor]	0,1404	14-24 = 0,0269	1,490	0,02
15. [selfs]+[hope]+[biog]+[resour]+ph	0,1139	15-24 = 0,0003	0,150	
16. [selfs]+[hope]+[biog]+[resour]+hm	0,1175	16-24 = 0,0039	1,950	
17. [selfs]+[hope]+[biog]+[resour]+par	0,1136	17-24 = 0,0000	0,000	
18. [selfs]+[hope]+[biog]+[resour]+sib	0,1136	18-24 = 0,0000	0,000	
19. [selfs]+[hope]+[biog]+[resour]+fam	0,1149	19-24 = 0,0013	0,650	
20. [selfs]+[hope]+[biog]+[resour]+sch	0,1136	20-24 = 0,0000	0,000	
21. [selfs]+[hope]+[biog]+[resour]+fr	0,1140	21-24 = 0,0004	0,200	
22. [selfs]+[hope]+[biog]+[resour]+bg	0,1278	22-24 = 0,0142	7,100**	
23. [selfs]+[hope]+[biog]+[resour]+nle	0,1182	23-24 = 0,0046	2,300	
24. [selfs]+[hope]+[biog]+[resour]	0,1136			
25. [selfs]+[biog]+[resour]+[stressor]+[hope]	0,1404	25-28 = 0,0018	0,450	0,07
26. [selfs]+[biog]+[resour]+[stressor]+hopa	0,1399	26-28 = 0,0013	0,650	
27. [selfs]+[biog]+[resour]+[stressor]+hopp	0,1393	27-28 = 0,0007	0,350	
28. [selfs]+[biog]+[resour]+[stressor]	0,1386			
29. [biog]+[resour]+[stressor]+[hope]+[selfs]	0,1404	29-30 = 0,0614	30,700**	
30. [biog]+[resour]+[stressor]+[hope]	0,0790			

Key: [biog=biographical variables]; [resour=resources; par=parents; sib=siblings, fam=family, sch=school; fr=friends; bg=boyfriend/girlfriend; ple=positive life experiences] [selfs=self-esteem] [hopa=hope-agency; hopp=hope-pathway]

** $p \leq 0,01$ * $p \leq 0,05$

The set of biographical variables (age and gender) contributed 1.09% towards R^2 of the total model of suicidal ideation. This contribution is, however, not significant on at least the 5% level of significance.

The results further indicate that the set of resource variables (parents, siblings, friendships, boyfriend/girlfriend, and positive life experience) contributed 1.84% towards R^2 of the total model of suicide ideation. When looking at the individual resources it becomes evident from table 4 that one of the resources, namely boyfriend/girlfriend, has contributed 0.89% to the explanation of the variance of suicidal ideation of adolescents. This contribution has been found significant on the 5% level of significance [$F(1/497) = 4,45$; $p \leq 0,05$]. This contribution has a small effect size and therefore its practical significance should be viewed with caution.

The set of stress variables (physical health, home/money, parents, extended family, school, friendships, boyfriend/girlfriend, and negative life experience) combined to contribute 2.69% towards R^2 of the total model of suicide ideation. When looking at the individual stressor scales it becomes evident from table 4 that boyfriend/girlfriend explains 1.42% of the variance of suicidal ideation for adolescents. This contribution was found to be significant on the 1% level of significance [$F(1/499) = 7,10$; $p \leq 0,01$]. In terms of its practical significance the effect size measured was small and must therefore be used with caution. Peer relationships are underlined as one of the stabilising factors in the adolescent's life. Good relations with one's peers, teachers and romantic partners act as a protective factor, alternatively poor peer relationships increase the incidence of self-destructive behaviours (Rigby, 2000; Aspalan, 2003).

The unique contribution of self-esteem explains 6.14% of the variance of suicidal ideation of adolescents. A low self-esteem, according to Brown and Dutton (1995) as well as Dutton and Brown (1997), is associated with a diminished ability to cope with failure, leading to negative overgeneralisations. This contribution was found to be significant on the 1% level of significance. In addition, a small to moderate effect size is measured, which indicates a moderate practical significance when applied to adolescents.

RECAPITULATION AND DISCUSSION

Results from the study indicate that the measuring instruments provide good internal consistency measures. Alpha coefficients were all considerably above the 0.60 cut-off (Nunnally & Bernstein, 1994) acceptable for non-cognitive constructs. Suicidal ideation measured the highest α -value, whereas the hope-agency subscale of the Hope Scale was low and should be interpreted with caution. It is assumed that the small number of items on this subscale may have contributed to a slightly lower internal consistency. The stressors and resources scales have all reflected acceptable to high values of internal consistency.

The results indicate that the incidence of suicidal ideation of adolescents in the Northern Cape Province is significantly higher (double the mean score) than the scores reported for the comparative American adolescent sample (Reynolds, 1999). The higher prevalence of suicidal ideation could be attributed to a variety of stressors. Negative life experience shows a higher prevalence as a contributing stressor when compared to previous studies (Moos & Moos, 1994). According to Paulson and Everall (2001) negative life experiences such as family instability, family violence and divorce have been found to exert a negative influence on health outcomes. Under such stressful conditions adolescents become entrapped in a negative cognitive spiral of thoughts, thereby raising their predisposition towards suicidal tendencies (Mayekiso, 1992; Wilson et al., 1995). The negative correlation found between self-esteem and suicidal ideation in adolescence appears concurrent with the literature. Research findings are supported by the research study of Brown and Dutton (1995) who concluded that a low sense of self-esteem leads to negative perceptions about one's environment and oneself, thereby increasing the incidence of suicidal ideation. A healthy sense of self-esteem has been found to act as a buffer system against pessimism and suicidal thinking (Yang & Clum, 1996; Mashego et al., 2003). In terms of practical significance, the contribution of self-esteem to the variance in suicidal ideation has a medium effect size and therefore moderate practical predictive value.

The relationship between hope and suicidal ideation was not found to be statistically significant in this study. The subscale hope-agency indicated that those with a sense of successful determination of their goals appear less inclined towards suicidal thought patterns. It was found that an individuals' confident ability in devising plans to meet goals (hope-pathways) was not

equally supportive of hope-agency when correlated with suicidal ideation. These findings do not concur with research conducted by Sebaste (1999) where he posits a strong negative correlation between suicidal ideation and hope. The predictive value of hope in the variance of suicidal ideation is not in accordance with literature and offers limited practical significance in this study. This is contrary to the findings of Goldston et al. (2001), where hope was found to be a significant predictor of later suicidal behaviour.

The prevalence of suicidal ideation appears to be increasing with age, which suggests that Grade-10 learners (16 years) have a lower level of suicidal ideation than their seniors in Grade-12 (18 years). These findings are not in contradiction to the general upward curve of suicidal behaviour in the age group 15 to 24 years (Statistical Notes, 2000) where this age group has been identified as having the second-highest suicide rate over the development span. Madu and Matla (2003), however, found suicidal behaviour to peak during the initial teenage years and to decrease with increasing age up to the age of 19 years, as covered by their sample. Although the age-related increase in suicidal ideation is statistically significant, the practical significance is small.

The resource parents' shows a contribution in buffering the effects of suicidal ideation. Parents who are positive, responsive, accommodating, show trust and allow the adolescents' some degree of autonomy appear to significantly reduce the experience of suicidal thoughts in those adolescents. These findings are supported by Larson et al. (2002), who reported the family as having a pivotal supportive role as the provider of a safe and health-enhancing environment. Further support from Paulsen and Everall (2001) concludes that family stability makes a significant contribution towards reducing the occurrence of suicidal behaviour in adolescents. The practical significance of parents as a resource is determined as small in this study. Another dimension of family stability, namely a poor home environment and financial difficulties, significantly contributes to an increase in the prevalence of suicidal ideation. According to Diekstra and Garnefski (1995) socio-economic difficulties experienced by parents have a direct influence on the prevalence of suicidal ideation in their children. Larson et al. (2002) observed a disempowering economic stratification between the disadvantaged and the economically able, which predisposes individuals to negative life outcomes.

The prevalence rate for suicidal ideation between males and females has shown no significant differences when considering the variable gender. These findings do not concur with findings of Pillay (1995) and Sadock and Sadock (2003) who confirmed females as having a higher suicidal prevalence rate than males. Even more controversial findings by Madu and Matla (2003) concluded that gender prevalence rates for suicidal ideation found males to have a higher rate of suicidal ideation than females.

Relationships outside the family, such as teenage romances, have been statistically linked to suicidal ideation. Findings in this research study seem to suggest that problematic teenage romantic relationships contribute in raising the prevalence of suicidal ideation among adolescents. These findings concur with Engelbrecht and Van Vuuren (2000) who found that individuals who are troubled interpersonally show an increased risk for considering suicide. Wilson et al. (1995) expands on the poor problem-solving abilities identified in some adolescents as leading to the tendency to catastrophise problem situations to such an extent that suicidal ideation becomes an option.

The contribution made by individual variables (self-esteem, hope, age and gender) and social variables (stressors and resources) was found to explain 14.04% of the variance of suicidal ideation. Self-esteem made the most significant contribution in explaining suicidal ideation, however it was not found to be statistically significant in this study. These findings do not concur with the literature, as Dutton and Brown (1995) found self-esteem to have a significant influence in reducing negative life scripts, which predispose individuals towards suicidal ideation. Mashego et al. (2003) are of the opinion that self-esteem is a significant buffer against suicidal behaviour. The impact of teenage romantic relationships has been found to have a significant contribution on the level of suicidal ideation. Positive and fulfilling relationships appear to have a buffering effect, thereby reducing the prevalence of suicidal ideation. Problematic peer relations play a significant role in the occurrence of suicidal ideation, as they interfere with the development of an enabling self-concept in adolescents (Sebate, 1999; Pillay, 1995; Rigby, 2000).

RECOMMENDATIONS AND LIMITATIONS OF THIS STUDY

The variables covered in this study include four components of the stress and coping process model, namely health outcomes, the personal system, contextual stressors and resources, as well as the life transitional stage (adolescence). As all the components are not covered, it is suggested that a more comprehensive approach be used covering all components of the model, which may explain additional contributions to suicidal ideation.

Suicidal ideation is a multi-causal and dynamic concept presenting a challenge to future researchers, since so many aspects and changes in time, technology and other situational and dispositional factors combine to influence this eventual way of thinking. Studying those who have reached such a point in their lives (unsuccessful suicides) may offer a deeper understanding of the dynamics involved in the build-up to suicidal ideation.

The findings obtained in this research are a step in the right direction in trying to determine which factors are significant determinants in suicidal ideation. In some ways these findings are good news for families, as the influence of the family was not found to make an overwhelming contribution to suicidal ideation. Future research will therefore have to consider other factors such as the influence of peer pressure, gang-related pressure, religion, rejection and loneliness, poor problem-solving skills, conflict management and substance abuse, as well as the influence of academic pressure on adolescents as contributing variables. This will enable behavioural scientists to better understand the interplay between the various factors that contribute towards suicidal ideation. Greater clarity is needed in terms of the moderating factors such as race, gender and age, which may be better explained by a sample extending over a wider age range.

The use of non-South African instruments to measure variables alludes to the existing need for instruments developed and adapted for the purposes of the population under study. This would eventually enable and assist various therapists and institutions to use preventative measures applicable to and accurate for the nurturing of our youth.

It is important to interpret the results of this study in light of its limitations:

- a) The inclusion of more variables such as the coping/cognitive modality, which was excluded from this research, could yield a greater understanding of this complex phenomenon.
- b) The sample's age-span was too narrow to secure a clear understanding of the prevalence of suicidal ideation and age, as adolescents in the younger phase of adolescence (junior high school learners) were excluded from this study.
- c) Focusing on learners in general rather than those who were directly involved in a suicide attempt may have robbed this study of valuable information regarding the dynamics incorporated. It is also possible that the contribution of the variables measured in this study when applied to persons who have attempted suicide may yield very different results.
- d) When consulting with the Department of Educational Support Services in the Northern Cape Province, it was understood that English was the means of communication within the department, which made the use of English questionnaires seem acceptable. In retrospect, the use of English may have influenced the participants' responses even though qualified staff was in attendance.

It is hoped that findings from future research will lead to the development and implementation of programmes for both parents and adolescents alike. Parents and adolescents can both benefit from being skilled and empowered in building and developing skills to strengthen adolescents' resistance to suicidal ideation.

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