

UNIVERSITY OF KWAZULU-NATAL

HOWARD COLLEGE CAMPUS

SCHOOL OF PSYCHOLOGY

TOPIC TITLE:

An investigation into the association between perceptions of school connectedness
and suicidal ideation amongst school going adolescents,

HONOURS RESEARCH PROJECT

Wendy Leigh Penfold

205 500 853

SUPERVISOR: Dr. Kaymarlin Govender

Submitted in partial fulfillment of the requirements for the Honours Degree
Psychology at the University of KwaZulu-Natal

October 2008

ACKNOWLEDGEMENTS

Supervisor Dr. Kaymarlin Govender, for his enthusiasm, time, effort and input into every step of the research process.

CONTENTS

Page

1. Introduction
2. Literature Review
 - School connectedness and its relation to adolescent outcomes
 - Suicidal behaviour in adolescents
 - Theoretical framework
3. Aim and Rationale
4. Methodology
 - 4.1 Research design and sampling
 - 4.2 Measures
 - 4.3 Study procedure
 - 4.4 Data collection
5. Data Analysis
6. Ethical Considerations
7. Results
8. Discussion
 - 8.1 Research Question One
 - 8.2 Research Question Two
 - 8.3 Research Question Three
 - 8.4 Research Question Four
 - 8.5 Additional Findings
9. Conclusion
10. Limitations
11. Recommendations
12. References
13. Appendices
 - 13.1. Letter to the Department of Education
 - 13.2. Letter to principals

- 13.3. Letter to the parents/guardians of potential participants.
- 13.4. Consent form for parents of participants.
- 13.5. Consent form for participants.
- 13.6. Biographical questionnaire
- 13.7. Psychological Sense of School Membership Scale
- 13.8. Positive and Negative Suicide Ideation Inventory

INTRODUCTION

School connectedness has been defined in a multiplicity of ways and is often used interchangeably with terms such as school bonding, school climate, school engagement, school involvement and school attachment (Libbey, 2004). Goodenow (1993) defines school connectedness as “the extent to which students feel personally accepted, respected, included and supported by others in the school social environment” (p.80). Adolescence is a time characterized by changes occurring on physical, social and emotional levels (Brausch & Muehlenkamp, 2007). It is thus a time where adolescents develop a heightened need for social support, acceptance and sense of belonging as they begin to discover their own identities and choose the path they wish to follow for their futures (Goodenow, 1993). Suicide becomes a serious concern for this age group as the number of suicides increase from the age of 15 (Reddy et al., 2003). Suicidal ideation (or suicidal thoughts) is associated with feelings of loneliness (Rudatsikira, Muula, Siziya & Twa-Twa, 2007) depression and low self-esteem (Hall-Lande, Eisenberg, Christenson & Neumark-Sztainer, 2007). High levels of school connectedness – promoting acceptance, respect, inclusion and support – can protect against these negative feelings.

Although much research around the area of school connectedness has been conducted, and its positive effects upon adolescent’s behaviour and mental well-being have been shown (Bond et al. 2007; Goodenow, 1993; Libbey, 2004; McNeely & Falci, 2004; Patton et al. 2006; Shochet, Dadds, Ham & Montague, 2006; Springer, Parcel, Baumler & Ross, 2006) little research has focused specifically on the relationship between school connectedness and suicidal ideation. There also appears to be a need to investigate the issue of school connectedness within a South African context as the majority of previous studies have been conducted elsewhere.

REVIEW OF LITERATURE

The need to feel connected to others is one of the deepest desires people experience. A sense of connectedness and belonging may be experienced within a variety of social environments, such as the home, the work place and the school (Tikkun, 1992, in Resnick, Harris

& Blum, 1993). The need to feel a sense of belonging and the need to feel like a valued member within a social setting may be an adolescent's central concern. As adolescents move away from childhood connections with their parents they need to foster relationships with the outside world. Since adolescents spend a large majority of their waking hours within the school environment, school is able to play a significant role in assisting adolescents to form these relationships with teachers and peers (Goodenow, 1993).

McNeely and Falci (2004) describe two types of school connectedness – conventional connectedness where connections are made with individuals engaging in prosocial behaviour (e.g. teachers) and unconventional connectedness where connections are made with individuals engaging in antisocial behaviour (e.g. deviant peers). Research has shown that while conventional connectedness acts to protect against health risk behaviour, unconventional connectedness may lead to engagement in risk behaviour (McNeely & Falci, 2004). Thus the type of connectedness the learner feels will depend upon with whom they form close connections. Adolescents with a strong perception of school connectedness have created strong social relationships with other learners, with other adults in the school, such as teachers, and with the school itself regarding the norms and values on which the school is established (Wehlage, 1989, in Goodenow, 1993). The sense of caring and connectedness, experienced within these relationships, nurture the development of these young adolescent lives (Resnick et al., 1993).

2.1. School connectedness and its relation to adolescent outcomes

Factors protecting against negative outcomes in adolescents are to be found within their social relationships and their feelings of being connected to others (Resnick, et al. 1993). Protective factors are experiences that enhance the probability of positive results while minimizing the probability of negative results (Bernat & Resnick, 2006).

The Add Health study has shown that one of the protective factors for young people engaging in health risk behaviour is school connectedness (Bernat & Resnick, 2006). In a study on risk and protective factors amongst youth in the Caribbean, it emerged that school connectedness was the most powerful and dominant protective factor, against health risk behaviour, across all ages and

genders (Blum & Ireland, 2004). School connectedness has also been found to be the dominant protective factor against acting out behaviour, such as teenage pregnancy and juvenile delinquency, in both boys and girls (Resnick et al. 2003). Similar findings reveal that school connectedness also acts to protect against absenteeism, the use of drugs and injury amongst school going adolescents (Bonny, Britto, Klostermann, Hornung & Slap, 2000). It has been shown, in actual fact, that school connectedness is even more protective over adolescents health risk behaviours than family connectedness (Carter, McGee, Taylor & Williams, 2005) pointing to the significant role the school and the development of school connectedness, plays in the life of the adolescent.

In a recent study carried out on a sample of secondary school going adolescents, it was found that a significant negative correlation exists between school connectedness and depression. High levels of school connectedness were strongly associated with lower levels of depression. School connectedness was found to be even more significantly correlated with depression than parental attachment, thus once again pointing to the significant role school connectedness plays in the life of the adolescent with regards to health risk behaviour (Shochet, Homel, Cockshaw & Montgomery, 2008). Schools play a significant role in offering adolescents a source of connectedness to adults. The school environment provides a unique sense of belonging not offered by other sources, such as peers or family (Resnick, et al.1993).

It is important, as Wilson (2004) suggests, for school's to provide the environment in which children and adolescents are able to develop – on an academic, emotional, relational and behavioural level. Libbey (2004) found that adolescents who feel a sense of school connectedness, a sense of belonging, who feel their teachers treat them fairly and are supportive towards them, perform better academically and socially. Adolescents who feel connected to their school are also more involved in extracurricular activities (Bonny et al. 2000).

Lack of school connectedness has been shown to result in lower levels of motivation, less involvement in school activities, reduced academic achievement or even complete withdrawal from the school (Goodenow, 1993). Adolescents participating in extracurricular activities, receiving higher grades and having good attendance at school feel more connected (McNeely,

Nonnemaker & Blum, 2002). Furthermore, as Bond et al. (2007) have shown, the experiences of adolescents at school seem to have an effect on their mood and act as a predictor of their likelihood of substance abuse and educational achievements. While female learners with a sense of school connectedness are less likely to account for binge drinking, drug use and suicidal ideation, this pattern also exists among male learners (Springer et al. 2006).

Curran (2007) has shown that in the United States high levels of engagement with substance use can be explained as an effect of the decline in resources (including good schools) that children and adolescents require to develop into productive adults. Intervention programmes, like that of the multilevel Gatehouse Project, aimed at developing a positive school climate and sense of connectedness by endorsing social inclusion within schools, have shown to reduce the patterns of health risk behaviour amongst adolescent learners. Such interventions result in reports of lower levels of substance use, early initiation of sexual intercourse and antisocial behaviour (Patton et al. 2006).

Adolescents experiencing teacher support – where they feel their teachers care about them and treat them fairly – are reported less likely to engage in smoking, drinking, marijuana use, suicide attempts or ideation, sexual intercourse and violence (McNeely & Falci, 2004). Schochet et al., (2006) looked at the relationship of school connectedness and adolescents' mental health and found that higher levels of school connectedness resulted in improved mental health. School connectedness was shown to predict future health problems – including depression, anxiety and overall functioning deficits – in adolescents. More specifically, this study showed that even when prior health problems were controlled for, school connectedness acted as a predictor, one year later, of depression in both boys and girls, anxiety in girls and overall functioning deficits in boys (Schochet, et al., 2006). Since such mental health problems are often accompanied by suicidal behaviour, what is here emerging is the possibility of a more direct relationship between school connectedness and suicide.

Reducing risk factors is not enough to enhance good health behaviour outcomes of adolescents. The reduction in risk factors needs to go hand in hand with the enhancement of protective factors in order for there to be a successful decline in health risk behaviour (Blum & Ireland, 2004). Thus

enhancing school connectedness, since it has been identified as such a strong protective factor, is one step towards the possible reduction of health risk behaviours amongst adolescents.

2.2. Suicidal behaviour in adolescents

When compared to other age groups of children, adolescents have the highest risk of involvement in health risk behaviour (Arntee, 1999, in Miller & Glinski, 2000). Suicidal behaviour is one of the most severe of the health risk behaviours within this age group (Miller & Glinski, 2000). While suicidal behaviour is seen to include thoughts of suicide, threats of suicide, attempts of suicide and completed suicide acts, this study focuses specifically on suicidal thoughts – termed as suicidal ideation – and its relation to school connectedness.

Dore, Aseltine, Franks & Schultz (2006) report that nationwide suicide amongst the youth is the third leading cause of death and that according to the World Health Organization (2000) approximately one million people die every year as the result of suicide. Across the globe, rates of suicide have increased by more or less 60% in the last 45 years. Dore et al. (2006) also report findings from the Center for Disease Control (2002) showing that between 1952 and 1995, rates of suicide amongst adolescents, between 15 and 19 years of age, has tripled. Steele & Doey (2007) report findings that in the United States, 53% of adolescents (between 13 and 19 years of age) have been shown to have suicidal thoughts. The 2001 Youth Risk Behaviour Survey, administered throughout the United States to adolescents in High School, revealed that out of all the learners who responded to the survey, 19% had experienced suicidal thoughts, 15% had planned to attempt suicide and 8.8% had actually attempted suicide within the last year (Dore et al. 2006).

Shockingly together these findings reveal that within the United States, one young person kills him or herself every two hours (Peter & Murphy, 1998, in Dore, et al.). This alarming statistic is accompanied by the equally distressing estimate of the American Association of Suicidology (1999), also reported by Dore et al., (2006), that there are as many as 200 attempts of suicide amongst the youth for every completed suicide act. Thus suicidal behaviour is a growing concern amongst the youth of this world and is an area that requires crucial attention as suicide effects not

merely the individual youth who commits the act, but that individuals family, peers, school and others in the community (Dore et al., 2006).

More local research has shown that suicidal ideation amongst adolescents has become a serious public health concern in the rural areas of Uganda (Rudatsikira, et al. 2007) as it undoubtedly is in other third world African Countries. Reddy et al. (2003) conducted a health risk behaviour survey and found that within South Africa, 1 out of 4 learners (24.6%) had felt so sad or hopeless in the last six months that they had stopped some of their usual activities for two or more weeks in a row. This hopelessness and depressive feeling is likely to be associated with thoughts or even attempts of suicide. Feelings of loneliness are also shown to be associated with increases in suicidal ideation (Rudatsikira et al. 2007). Adolescents who feel lonely and isolated have been shown to have more symptoms of depression, lower self-esteem and increased likelihood of attempting suicide (Hall-Lande, et al. 2007).

Dore et al., (2006) report findings of previous research consistently indicating that depression across race and ethnic groups acts as a risk factor for suicidal ideation and suicide attempts. The physical, social and emotional changes experienced by adolescents often cause the development of negative feelings towards their bodies. These negative feelings were shown to be highly predictive of suicidal ideation (Brausch & Muehlenkamp, 2007). The stress and intense emotions caused by these changes in all aspects of their lives and the resultant negative feelings can result in adolescents believing the only solution is for them to end their lives. Adolescents often believe that if they feel unhappy now that this feeling will last for the rest of their lives. Adolescents who are suicidal experience intense feelings of being worthless, hopeless and helpless and feel these negative feelings will never end (Granello & Granello, 2005).

It has been noted that gender differences exist with relation to suicidal behaviour. Girls are more likely than boys to have experienced suicidal ideation and to have reported suicide attempts (Dore et al., 2006). Studies have shown that while 4-10% of boys report suicide attempts, 10-20% of girls report such behaviour (Miller & Glinski, 2000). However while such reports show girls as being far ore likely to attempt suicide, boys are more likely to be successful at it when

they do (King, 1997, in Miller & Glinski, 2000) largely due to the fact that boys are likely to use more lethal means of killing.

Kidd et al. (2006) discuss how suicidal behaviour amongst adolescents has, in many previous studies, been linked to issues within the school environment. Multiple findings have shown that adolescents who drop out of school have an increased risk of problem behaviours such as suicide – ideation, threats or attempts (Thompson, Mazza, Herting, Randell & Eggert, 2005). Even after controlling for depression, it has been found that poor academic performance (within the school setting) and attempts of suicide are related (Lewinsohn, Rohde & Seeley, 1993, in Kidd et al., 2006).

These findings suggest that the school and the experience of school connectedness may play a vital role in adolescents' suicidal behaviour. By creating a sense of closeness and belonging, the experience of school connectedness can act to protect against loneliness and depression and thus reduce the likelihood of suicidal behaviours. In fact, resiliency and vulnerability to suicidal behaviour has been found to be influenced by a collection of factors that include success in school and affiliations with peers (Fergusson, Beautrais & Horwood, 2003). Adolescent's suicidal behaviour has been found to be influenced by the interacting effects of good relationships with the adolescents' parents, peers and school, particularly in a high risk group of boys who had weak peer ties and had previously attempted suicide (Kidd et al. 2006).

Engaging in antisocial violent behaviour at school is also shown to be associated with suicidal thoughts in adolescents. The horrific shooting and killing of 13 people in the 1999 Colorado school attack is an extreme example of how two young adolescents' violent actions on their school was linked to their own suicide (Lubell & Vetter, 2006). It has already been stated that adolescents' feelings of security within the school contributes to school connectedness. Violence within schools, such as this example, as well as less extreme violent acts or unrest within the school, like the unrest and uproar within schools as the result of the teachers strike in South Africa in 2007, presumably contribute to lower levels of school connectedness.

The sense of closeness and belonging felt alongside school connectedness suggests feelings of companionship rather than the loneliness associated with increased suicidal ideation. Furthermore school connectedness has been shown to act as one of the protective factors against social isolation and mental health risks (Hall-Lande et al. 2007). As already mentioned, school connectedness is associated with improved mental health (Schochet et al. 2006). The argument here is thus that a relationship exists between school connectedness and suicidal ideation. School connectedness – acting to protect against loneliness, depression and violent or antisocial behaviour – is expected to be associated with lower levels of suicidal ideation.

Miller & Glinski (2000) discuss numerous risk factors for suicidal behaviour amongst adolescents. Some of these include earlier attempts of suicide, psychopathology – such as mood or conduct disorders, abuse of alcohol or other substances, homosexuality as well as freely available means of suicide – such as in cases where the adolescent has access to a firearm within the home. Contextual factors such as family life and stressful life events also play a role in adding to the risk of such behaviour.

It is important to acknowledge the many underlying threats to the health and well-being of adolescents, such as those resulting from economic inequality and instability that hinders the prosperity of individuals and families and where meeting the cost of living is a daily struggle (Resnick, Harris & Blum, 1993). This seems particularly important when one thinks of the history of political and economic upheaval within South Africa. For the most part, such an acknowledgment is essential when one considers the youth of the country as it has been shown that young people experience economic hardship more intensely than adults (Resnick, Harris & Blum, 1993). Although a sense of school connectedness cannot rectify these often life-long struggles, the sense of caring and belonging provided by the school environment form two necessary elements of promoting adolescent health.

2.3. Theoretical framework

Although there are a number of theories that may be used to explain school connectedness, attachment theory (Neser, 2007) appears to be the most appropriate for use in this study.

Attachment theory assumes that emotionally secure connections provide the ground from which development can occur both psychologically and socially (Patton, Bond, Butler & Glover, 2003). Attachment theory suggests, according to Nesper (2007), that secure attachment makes the development of identity and the development of trust possible, allowing children to grow into healthy adolescents. Social and emotional support, stemming from secure attachments, assists with the normal process of adolescent development. Difficulties in such attachments may thus result in the adolescent feeling isolated, disconnected and even suicidal (Dore et al. 2006). Children who experience difficulties in attachment thus function more poorly and this often leads to increasing risk factors that make them more susceptible to future mood disorders and suicidality (Dore et al. 2006).

Attachment theory focuses on the importance of secure emotional connections – the kinds of which should develop in school – that allow positive development in children to occur. Along with the other changes experienced by adolescents are changes in their relationships with family members as well as others in the school environment (Paton et al. 2003). Where these relationships are insecure there is a greater risk the adolescent will suffer problems of an emotional, social and behavioural nature. Adolescents spend a large majority of life within the setting of a school and thus the relationships formed within this environment are crucial to their development and socialization into adulthood. School connectedness can thus be seen as an antecedent for the development of secure emotional attachments in adolescents.

AIM AND RATIONALE

Although numerous studies of school connectedness and its effects have been conducted internationally, more studies need to be conducted specifically within the context of South Africa. The history of South Africa may have affected adolescents in ways unique from those of other countries. The reliability of the measures of school connectedness – such as a sense of belonging, caring, opportunities for school involvement and feelings of security and safety, to mention a few – need to be studied within a local context. If the associations between school connectedness and risky behaviour (including suicidal ideation) are shown to be similar to international evidence, it

is probable that international interventions to improve levels of school connectedness, such as the Gatehouse Project (Paton et al. 2003) will also be successful within South African schools.

Despite the evidence of increasing suicide amongst adolescents, it has been a neglected issue as the focus has been primarily on infectious diseases (like HIV/AIDS) rather than issues of mental health (Rudatsikira et al. 2007). Research has shown that severe suicidal ideation increases the likelihood of attempted suicide which subsequently increases the chance for completed suicide (Chabrol, Rodgers & Rousseau, 2006). Thus looking at ways of reducing suicidal ideation in adolescents is important in reducing the number of actual and completed suicides.

This study aims to investigate the association between perceptions of school connectedness and suicidal ideation and hypothesizes that a strong sense of school connectedness will be associated with lower levels of suicidal ideation. More specifically, this study will attempt to investigate the following research questions:

1. Do perceptions of school connectedness significantly correlate with suicidal ideation?
2. Are there gender differences in perceptions of school connectedness and suicidal ideation?
3. Are there chronological age differences in perceptions of school connectedness and experiences of suicidal ideation?
4. Are there differences between schools regarding adolescent's perceptions of school connectedness and experiences of suicidal ideation?

METHODOLOGY

4.1. Research design and sampling

This study is a quantitative correlational study designed to investigate the association of two variables – school connectedness and suicidal ideation. A purposive sample size of 241 secondary school going adolescents from grade 8 to grade 10, and thus ranging from the ages of

13 to 17 were recruited for the study. The sample was taken from two co-ed secondary schools within the region of KwaZulu Natal. The names of these schools have been kept hidden for purposes of anonymity. From School A, a school considered to be doing relatively well in terms of good resources and high academic results, 127 learners participated and from School B, a school considered to be suffering in these areas, 114 learners participated.

STILL NEED TO INCLUDE A BRIEF SECTION EXPLAINING SPECIFIC DIFFERENCES BETWEEN SCHOOL A AND SCHOOL B – FOR EXAMPLE, SCHOOL FEES, TEACHER-STUDENT RATIO ETC.

The decision to conduct a comparative study between two secondary schools within the same area was to ascertain whether the resources, structures and management of the school itself play a role in learner's perceptions of school connectedness. The two schools were within less than five minute driving distance apart and thus any differences in the perceptions of school connectedness between these two schools may be attributed not to different geographical locations but to differences within the school itself.

Of the total sample from both of the schools, 38.8% were learners in grade 8, 22.9% from grade 9 and 38.3% from grade 10. It was organized that the guidance teacher at each of the prospective schools assisted in the selection of four classes from across the three grades. The classes selected for the study were of various academic groupings thus accounting for a range of academic abilities amongst learners. This was important as it is often assumed that learners from upper academic groupings do better at school and thus have a more positive perception of their schooling experience. The decision to take the sample from co-ed schools was to investigate potential differences between boys and girls regarding their perceptions of school connectedness and their experience of suicidal ideation.

4.2. Measures

Demographic information. The section on demographics includes general questions around the age, grade, sex, and race of adolescents (Appendix 6). This biographical information

is required in order to meet the aims of the study by investigating age and gender differences in experiences of school connectedness and suicidal ideation.

School connectedness. The PSSM (Psychological Sense of School Membership) scale developed by Goodenow (1993) was employed to measure school connectedness (Appendix 7). This scale consists of 18 items with responses in the form of a 5 point Likert scale ranging from 1- *strongly disagree*, to 5- *strongly agree* (Shochet, et al. 2006). The questions are focused around issues of inclusion, acceptance, respect, encouragement and sense of belonging (Shochet et al. 2006). 13 of the questions are stated in the positive – for example “I feel like a real part of my school” (Goodenow, 1993, p.84). Every second positive question is however followed by a negative – of which there are five in total. For example, “It is hard for people like me to be accepted here” (Goodenow, 1993, p.84). Such questioning helps to ensure that participants are consistent in their answers and thus that the measure has internal reliability.

International studies have shown the PSSM scale to be both valid and reliable in measuring perceptions of belonging (Goodenow, 1993). Since no literature was found concerning the use of the PSSM in a South African context, its reliability and validity needs to be tested amongst South African learners. The development of the scale was tested amongst school going adolescents of varying ethnic groups and languages (Goodenow, 1993). Results have shown the Cronbach alpha score for internal consistency reliability of the PSSM as ranging from .77 to .88 within different samples (Goodenow, 1993). Goodenow (1993) made use of contrasting groups – such as suburban and urban schools, ethnic majority and ethnic minority learners and special education and non-special education learners in order to test for construct validity. Although some predicted group differences were not supported in these findings, in general results supported the validity of this scale (Goodenow, 1993).

Suicidal ideation. The PANSI (Positive and Negative Suicide Ideation) inventory assesses the frequency of suicide related thoughts occurring over the past two weeks (Appendix 8). The inventory consists of 14 statements with responses in the form of a 5 point Likert scale ranging from 1- *none of the time* to 5- *most of the time* (Osman, 1998). In the same way as the PSSM scale, the PANSI inventory consists of both positive questions and negative questions. There are

a total of six positive questions, for example “during the past two weeks, including today, how often have you felt that you were in control of most situations in your life?” (Osman, 1998, p.1) and 8 negative questions, for example “during the past two weeks, including today, how often have you thought about killing yourself because you felt like a failure in life?” (Osman, 1998, p.1). The PANSI inventory has been validated using a sample of adolescent boys and girls with coefficient alpha scores ranging from .81 to .94. Osman, Gutierrez, Kopper, Barrios & Chiros, (1998) have also showed test-retest reliability for this scale ($r = .79$ for the positive questions and $r = .69$ for the negative questions).

4.3. Study Procedure

Each school was contacted and the proposed study discussed. Permission to conduct the study was sought from each school principal (Appendix 2). After ethical clearance has been granted for the study, informed consent forms were handed out to grade 8 to grade 10 learners in both schools volunteering to participate in the study (Appendix 5). A letter addressed to the parents outlining the purposes and other details of the research was attached to the informed consent forms (Appendix 3). Data collection only occurred once the majority of these consent forms had been returned. No parents responded negatively to the letters and thus it was assumed that in cases where consent forms were not returned on time, parents did not object to their children participating in the study. The participants were notified by their teachers of the days and times in which data collection would take place. Before data collection was carried out at the participating schools, a pilot study was conducted by the researcher. The questionnaire was piloted with two adolescent boys from one of the participating schools. This pilot study took place outside of school hours and the two boys were selected as they conveniently lived in close proximity to the researcher thus allowing quick and easy administration of the questionnaire. The main function of this pilot study was to correct any ambiguities in the questionnaire in terms of the language and concepts that were used, the way the questions were structured and the overall format of the questionnaire. The pilot study also allowed the researcher to establish the average time required for the questionnaire to be completed. This was important to ensure that on the day of data collection, the questionnaires could be administered and completed during a single Life Orientation lesson and thus not disrupt the rest of the learners’ school day.

4.4. Data collection

It was arranged that data collection took place during school time in the Life Orientation lesson for each grade. At School A, the guidance counsellor was present in order to assist with supervision and class control. At School B, the researcher administered the questionnaires without supervision. The participants were requested to complete questionnaires, with structured response categories, dealing with questions on demographics, school connectedness and suicidal ideation. Participants were given clear instructions concerning how to fill in their questionnaire, and 45 minutes were given for them to do so. It was also made known, before the questionnaires were handed out that participants were allowed to drop out of the study at any time and that they did not need to answer any questions they felt uncomfortable with. Participants were also continually assured of the anonymity of their responses as concern repeatedly arose as to whether they would be identified and their responses made known to either their teachers or parents.

DATA ANALYSIS

Once the data had been collected, it was entered onto a computer and analyzed using the SPSS software package. Demographic information was analyzed using descriptive statistics including measures of central tendency (mode, median, mean) and measures of variation (range, standard deviation, variance). The demographic information and scales of school connectedness and suicidal ideation were used in t-tests (independent sample) to see if school connectedness varies as a function of the sex of participants. T-tests were also used to compare the mean scores of school connectedness and suicidal ideation within the two sample schools.

Pearson's correlation was employed to determine the association of two variables (namely school connectedness and suicidal ideation). These results proved useful in determining support for the hypothesis that higher levels of school connectedness are associated with lower levels of suicidal ideation. Correlation coefficients (r) were used to determine the size and direction of the relationship between these two variables. Pearson's correlation was also used to ascertain the correlation between school connectedness (dependent variable) and independent variables school,

age, grade, sex and race as well as between suicidal ideation (dependent variable) and these same independent variables.

Standard multiple regression analysis was used to analyze the effects of two or more predictor (independent) variables and a single outcome (dependent) variable. Participants were categorized according to various possible independent variables (for example, age, race, grade, sex, school and suicidal ideation scores) and the effects of these categories on school connectedness (dependent variable) were examined. One way analysis of variance (ANOVA) was utilized to ascertain differences between the mean scores of independent variables and how these affect dependent variables. Thus the mean scores of school connectedness and the mean scores of suicidal ideation were compared within the categories of age, grade and race of participants.

ETHICAL CONSIDERATIONS

Permission to conduct this study was given by the Department of Education (Appendix 1) as well as the principals of the two relevant schools (Appendix 2). This study deals with learners in grade 8 to grade 10, the age group of participants thus ranging from 13-17 years of age. Informed consent was gained from the participants themselves (Appendix 5) as well as from their parents or guardians (Appendix 4). Before participation in the study learners were informed as to the voluntary nature of the research as well as their allowance to drop out of the study at any time, and their right to refuse answers to any questions they do not wish to respond to. The information provided by the participant's remains confidential and the results used solely for the purpose of this study. All questionnaires were coded to prevent identification of the participants involved. The participant's identities have thus remained anonymous and the names of the schools have not been mentioned. At completion of the study, the findings were documented and a copy made available to the principals of the schools involved. Parents, guardians and teachers were invited to access this document from the principal if they wish to view these findings. Hard copies of the questionnaires and measuring instruments have been stored in a secure location only accessible to the researcher. Electronic data was stored on a memory stick and discs kept by the researcher. No data was stored directly onto computer. At the completion of this

research, data was deleted off the memory stick. A back-up copy of the data on CD has been kept in a secure location at the UKZN, Howard College Campus in the Department of Psychology. Hard copies have also been stored at the UKZN, Howard College Campus in the Department of Psychology. The data will be disposed of by the university after a period of 5 years.

RESULTS

The results presented in this section emerged from an analysis of the data using descriptive statistics (including frequencies, percentages, means and standard deviations), t-tests, Pearson correlation coefficients, standard multiple regression and analysis of variance (ANOVA). The statistical significance was set at the 5% confidence level ($p < .05$).

Table 1.

Demographic profile of participants (N=241)

SCHOOL	AGE	GRADE	SEX	RACE
A – 127 (52.7)	13 – 7 (2.9)	8 – 93 (38.8)	Male – 112 (46.9)	Black – 16 (6.6)
B – 114 (47.3)	14 – 97 (40.2)	9 – 55 (22.9)	Female – 127 (53.1)	Coloured – 4 (1.7)
	15 – 107 (44.4)	10 – 92 (38.3)		Indian – 221 (91.7)
	16 – 29 (12.1)			
	17 – 1 (.4)			

Note: Numbers in parentheses reflect percentages

Table 1 presents the demographic profile of the sample of participants. From School A, 127 learners (52.7%) and from School B 114 learners (47.3%) participated in the study, creating a total sample of 241 participants. Descriptive statistics reveal that the majority of participants in the total sample were 14 or 15 years of age (40.2% and 44.4% respectively). Almost an equal number of learners were sampled from grade 8 (38.8%) and grade 10 (38.3%) with the least number of learners being sampled from grade 9 (22.9%). The sample population was reasonably equally weighted in terms of the sex of the participants, however females were slightly more represented and accounted for 53.1% of the sample population, compared to males who

accounted for 46.9%. The sample was highly disproportioned with regard to the “race” of the participants. The sample was selected from an area with a predominantly Indian population and this is clearly reflected in the high frequency of participants indicating their “race” to be Indian (91.7%). From the total 241 participants, none identified themselves as White, only 4 indicated their “race” as Coloured (1.7%), 16 indicated their “race” as Black (6.6%) and the majority of 221 indicated their “race” as Indian (91.7%).

Table 2.

Mean scores of participant perceptions of school connectedness

Question	Mean	Std Dev	N
1. I feel like a real part of my high school.	3.971	.990	209
2. People here notice when I am good at something.	3.904	1.140	209
3. It is hard for people like me to be accepted here.	3.990	1.293	209
4. Other students in this school take my opinion seriously.	3.392	1.105	209
5. Most teachers at my school are interested in me.	3.579	1.199	209
6. Sometimes I fee as if I don’t belong here.	3.641	1.490	209
7. There is at least one teacher or other adult in this school I can talk to if I have a problem.	3.947	1.481	209
8. People at this school are friendly to me.	4.134	.976	209
9. Teachers here are not interested in people like me.	4.153	1.129	209
10. I am included in lots of activities at my school.	3.306	1.462	209
11. I am treated with as much respect as other students.	3.837	1.331	209
12. I feel very different from most other students here.	3.153	1.433	209
13. I can really be myself at this school.	4.010	1.316	209
14. The teachers here respect me.	4.067	1.167	209
15. People here know I can do good work.	4.206	1.056	209
16. I wish I were in a different school.	3.742	1.494	209
17. I feel proud of belonging to my school.	3.990	1.271	209
18. Other students here like me the way I am.	4.163	1.161	209

Note: Figures are rounded to three decimal places

Table 2 reveals the mean scores of participants for all 18 statements in the Psychological Sense of School Membership (PSSM) scale. The N column shows that out of the total 241 participants, only 209 responded to all 18 statements in the scale. Participant's responses were coded on a 5 point Likert Scale ranging from *strongly disagree* to *strongly agree*. The minimum score for each statement was 1 and the maximum score was 5. Positive and negative statements were coded in such a way that a high score indicates high levels of perceived school connectedness and a low score indicates low levels of perceived school connectedness.

From Table 2 it can be seen that statements 9, 15 and 18 of the PSSM scale achieved the highest mean score from participants, thus indicating high levels of perceived school connectedness. Out of the 209 participants, the mean score for statement 9, *teachers here are not interested in people like me*, is 4.153 thus indicating that the average response for this statement was somewhere between *strongly disagree* (a score of 5) and *moderately disagree* (a score of 4). More specifically, frequency statistics reveal that for this statement 51.0% of participants responded with *strongly disagree* and 23.8% with *moderately disagree*. This indicates that a total of 74.8% of participants disagreed with this statement thus suggesting that on average participants felt their teachers did take an interest in them.

The high mean scores for statement 15 (4.206) and statement 18 (4.163) indicate that on average participants feel others in their school environment (peers and teachers) believe in their abilities to perform well at school and that they are liked by other students. Frequency statistics reveal that for statement 15, *people here know I can do good work*, just over half of the participants (52.1%) responded with *strongly agree* and 29.0% responded with *moderately agree* and for statement 18, *other students here like me the way I am*, 76.4% either strongly or moderately agreed with this statement.

In comparison, statement 10, *I am included in lots of activities at my school*, has a considerably lower mean score than the others (3.306). It thus appears that on average perceptions of school connectedness are lower when participants consider their involvement within school activities. This may be accounted for by the fact that the two schools sampled for this study are geographically situated within a working class area with families generally within the lower

income bracket. It is thus possible that due to a lack of resources for extracurricular activities, such as sports, and a lack of funding to pay for the hiring of coaches, fewer opportunities for such involvement are available and thus students feel they are not included in many activities within their school.

Table 3.

Reliability statistics

Scale	Cronbach's Alpha	Number of items
PSSM	.835	18

Reliability statistics were carried out for the Psychological Sense of School Membership (PSSM) scale and the Cronbach's Alpha coefficient for this measure calculated to .835. This is similar to the Cronbach's Alpha indicated by Goodenow's (1993) original study using the PSSM. For suburban samples, reliability was calculated at .875 and .884 at different times and for urban samples .803 and .771. Thus the reliability of the PSSM for this study is acceptable.

Table 4.

Mean scores of participant perceptions of suicidal ideation

Question:	Mean	Std Dev	N
<i>During the past two weeks, including today, how often have you:</i>			
1. Seriously considered killing yourself because you could not live up to the expectations of other people?	1.981	1.350	214
2. Felt that you were in control of most situations in your life?	2.519	1.324	214
3. Felt hopeless about the future and you wondered if you should kill yourself?	2.136	1.403	214
4. Felt so unhappy about your relationship with someone you wished you were dead?	2.294	1.560	214
5. Thought about killing yourself because you could not accomplish something important in your life?	1.813	1.246	214
6. Felt hopeful about the future because things were working out well for you?	2.594	1.390	214

7. Thought about killing yourself because you could not find a solution to a personal problem?	1.949	1.290	214
8. Felt excited because you were doing well at studies?	2.173	1.261	214
9. Thought about killing yourself because you felt like a failure in life?	1.729	1.271	214
10. Thought that your problems were so overwhelming that suicide was the only option for you?	1.907	1.360	214
11. Felt so lonely or sad you wanted to kill yourself so that you could end your pain?	1.846	1.328	214
12. Felt confident about your ability to cope with most of the problems in your life?	2.481	1.345	214
13. Felt that life was worth living?	2.065	1.284	214
14. Felt confident about your plans for the future?	2.014	1.243	214

Note: Figures are rounded to three decimal places

Table 4 looks at participant's perceptions of suicidal ideation by providing four examples of the questions participants were asked to respond to in the Positive and Negative Suicide Ideation (PANSI) inventory. In the table, the first three questions are positive and the last one is negative. On a whole the PANSI inventory consists of 14 questions assessing the frequency of suicidal ideation, 8 of the questions are stated in the positive and 6 are stated in the negative. The table shows quite a considerable variation in participant's responses to these questions. This information becomes clearer in Table 5 which provides the mean scores for these questions. It is particularly worth noting however, the responses to the last question, *how often in the past two weeks, including today, have you seriously considered killing yourself because you could not live up to the expectations of other people?* While more than half of the participants (56.8%) responded with *none of the time* and 12.9% responded with *very rarely*, there is still more or less 28.3% of participants who present with high levels of suicidal ideation, including 10% who state that they seriously consider killing themselves *most of the time*. Such a statistic, although relatively low, is still a grave concern considering it is dealing with the issue of suicide.

Table 5, as mentioned above, reveals the mean scores of participants for some of the questions in the PANSI inventory. The N column shows that out of the total 241 participants, 214 responded to all 14 statements in the scale. Participant’s responses were coded on a 5 point Likert Scale with the minimum score for each statement being 1 and the maximum score being 5. Positive and negative statements were coded in such a way that a high score indicates high levels of suicidal ideation and a low score indicates low levels. The last question, pertaining directly to thoughts of committing suicide as a result of not living up to the expectations of others has a relatively low mean score (1.981) indicating that on average participants did not engage in such thinking. However despite this, the higher mean scores of the first three questions in the table reveal participants had negative feelings towards the future. This reveals that on average participants have high feelings of disillusionment, low internal locus of control and that they lack the motivation and confidence needed to cope with life’s problems. This is an important finding as it suggests that youth of this country may be largely negative about their futures. This may be expected due to the many day to day struggles facing South Africans including poverty, unemployment and poor social conditions.

Scale	Cronbach’s Alpha	Number of items
PANSI	.889	14

Reliability statistics were carried out for the Positive and Negative Suicide Ideation (PANSI) inventory and the Cronbach’s Alpha coefficient for this measure calculated to .899. This is quite comparable to a similar study carried out by Naidoo (2006) on a sample of 143 first year University students, where Reliability Coefficients, calculated separately for the positive and negative subscale calculated to .804 and .917 respectively.

Table 6.

Overall mean score for school connectedness (including all 18 items) and suicidal ideation (including all 14 items).

	Mean	Std. Deviation	N
School Connectedness	65.255	11.04340	209
Suicidal Ideation	27.6230	11.54516	214

Overall the highest score that could be obtained on the school connectedness scale was 90 and the lowest was 18. From Table 6

it can be seen that the mean overall score for the 209 participants that responded to all 18 questions, is 65.255. This shows relatively high levels of perceived school connectedness at both schools. For the PANSI inventory, the highest possible score that could be obtained is 70 and the lowest score is 14. This table shows that the mean score for suicidal ideation, across the 214 respondents is relatively low at on 27.630.

Independent sample t-tests were carried out to ascertain whether or not the mean perceptions of school connectedness and suicidal ideation vary between the two schools. The mean scores for perceptions of school connectedness in School A (64.70) and in School B (65.86) and the mean scores for suicidal ideation in School A (27.03) and School B (28.30) are similar. Thus no significant difference was found between school connectedness and schools ($t = -.763, p=.446$) or

between suicidal ideation and schools ($t = -.807, p=.421$). The same procedure was used to see if perceptions of school connectedness and suicidal ideation vary between male and female participants. The mean scores for perceptions of school connectedness in males (64.44) and females (65.80) and the mean scores for suicidal ideation in males (25.88) and females (28.87) are also similar. Thus once again no significant difference was found between school connectedness and sex ($t = -.885, p=.377$) or between suicidal ideation and sex ($t = -1.894, p=.060$).

One way analysis of variance (ANOVA) was utilized to test the difference in mean scores of school connectedness and age ($F=.651, p=.583$), school connectedness and grade ($F=.103, P=.902$) and school connectedness and race ($F=1.166, p=.314$). One way ANOVA was also used to test the difference in mean scores of suicidal ideation and age ($F=.884, p=.475$), grade ($F=.689, p=.503$) and race ($F=.924, p=.399$). Here again no significant findings were generated.

	Age	Grade	Race	Sex	School
Connect Pearson Correlation	.033	.014	.079	.062	.053
Sig. (2 tailed)	.631	.838	.255	.377	.446
N	209	209	209	207	209
Suicide Pearson Correlation	-.006	-.066	-.091	.130	.055
Sig. (2 tailed)	.935	.337	.186	.060	.421
N	214	213	214	212	214

Pearson's correlation was used to test the correlation between dependent variable (school connectedness) and independent variables, age ($r = .033, p=.631$), grade ($r = .014, p=.838$), race ($r = .079, p=.255$), sex ($r = .062, p=.377$) and school ($r = .053, p=.446$). No significant difference

was found between school connectedness and the various independent variables. Pearson's correlation was also carried out to test the correlation between dependent variable (suicidal ideation) and the independent variables, age ($r = -.006$, $p=.935$), grade ($r = -.066$, $p=.337$), race ($r = -.091$, $p=.186$), sex ($r = .130$, $p=.060$) and school ($r = .055$, $p=.421$). Here again no significant correlation was found between suicidal ideation and the various independent variables. However Pearson's correlation, as can be seen in Table 7, did show a very significant negative correlation between perceptions of school connectedness and suicidal ideation ($r = -.393$, $p<.01$) with high levels of school connectedness associated with low levels of suicidal ideation.

Table 7.

Correlation between perceptions of school connectedness and suicidal ideation

		Connect	Suicide
Connect	Pearson Correlation	1	-.393**
	Sig. (2-tailed)		.000
	N	209	192
Suicide	Pearson Correlation	-.393**	1
	Sig. (2-tailed)	.000	
	N	192	214

** $p < 0.01$

RESULTS OF REGRESSION ANALYSIS????

DISCUSSION

The aim of this study was to investigate the association between perceptions of school connectedness and suicidal ideation amongst a sample of secondary school going adolescents. Here the results of the study will be elaborated upon in view of the four research questions that this study aimed to investigate.

8.1 Research Question One

Do perceptions of school connectedness significantly correlate with suicidal ideation?

The results of this study answer this question with a definite yes. Pearson Correlation showed a significant negative correlation between school connectedness and suicidal ideation ($r = -.393$). This shows that an increase in one variable is related to a decrease in the other variable. In this case, high levels of school connectedness are associated with low levels of suicidal ideation. This finding thus supports the main hypothesis of this study that school connectedness acts as a protective factor against suicidal ideation. This finding also echoes numerous studies conducted internationally (Bernat & Resnick, 2006; Carter et al. 2005; Springer et al. 2006 & Schochet et al. 2006). The highest calculated score for school connectedness on the Psychological sense of school memberships (PSSM) scale was 85.28 (out of a total score of 90). This same participant scored one of the lowest scores on the Positive and Negative Suicide Ideation (PANSI) inventory of 14.07. The inverse relationship was also shown. The highest score for suicidal ideation was 57.29 (out of a total of 70). This same participant scored only 36.11 on perceptions of school connectedness. This shows that participants who scored high on school connectedness, scored considerably low on suicidal ideation and participants who scored low on school connectedness scored considerably high on suicidal ideation. This study thus shows that adolescents who experience a sense of school connectedness are less likely to experience thoughts of suicide.

8.2 Research Question Two

Are there gender (sex) differences in school connectedness and suicidal ideation? The motivation for selecting a sample of adolescents from two co-ed secondary schools was to ascertain any differences between perceptions of school connectedness and suicidal ideation amongst boys and girls. Independent sample t-tests were used to compare the mean score of school connectedness and the mean score of suicidal ideation between male and female participants. The results show that the mean score of school connectedness for males (64.44) and females (65.80) are relatively similar. The mean score of suicidal ideation for males (25.88) and females (28.87) are also relatively similar. No significant difference was found between school connectedness and sex ($t = -.885$, $p=.377$) or between suicidal ideation and sex ($t = -1.894$, $p=.060$). One way analysis of variance (ANOVA) also showed that there is no significant difference in the mean scores of school connectedness and sex ($F=.783$, $p=.377$) or between

suicidal ideation and sex ($F=3.587$, $p=.060$). Thus these results indicate that there appears to be no gender differences in school connectedness and suicidal ideation. While the explanation for this finding extends beyond the scope of this study the similarities in experience between boys and girls may simply be explained as the result of the sample participants being of very similar age and coming from similar contexts (both schools were sampled from the same area). Thus these similarities may account for similar perceptions of school connectedness and suicidal ideation between boys and girls.

8.3 Research Question Three

Are there chronological age differences in perceptions of school connectedness and experiences of suicidal ideation? Participants in this study ranged from 13 to 17 years of age with the mean age calculated as 14.668. Out of the total 241 participants, 204 (84.6%) were either 14 or 15 years of ages. Suicide becomes more serious a concern for this age group as the number of suicides increases from the age of 15 (Reddy et al. 2003). Suicidal behaviour is also one of the most severe health risk behaviours amongst adolescents (Miller & Glinski, 2000). To compare the mean scores of school connectedness and suicidal ideation between age groups, one way analysis of variance (ANOVA) was utilized. There was no significant finding for school connectedness and age ($F=.651$, $p=.583$) or for suicidal ideation and age ($F=.884$, $p=.475$). Thus although the average age of these participants (14.668) places them in a sample of adolescents considered as a prime risk for suicide, it appears their closeness of age does not permit one to test for chronological age differences.

8.4 Research Question Four

Are there differences between schools regarding adolescent's perceptions of school connectedness and experiences of suicidal ideation? The results of this study found no significant difference between school connectedness and schools ($t = -.763$, $p=.446$) or between suicidal ideation and schools ($t = -.807$, $p=.421$). Thus adolescent's perceptions of school connectedness and experiences of suicidal ideation did not vary between School A and School B. The mean scores in School A for perceptions of school connectedness (64.70) and suicidal ideation (27.03) are similar to the mean scores in School B for school connectedness (65.86) and suicidal ideation

(28.30). School A is a school considered to be doing relatively well in terms of resources, to have secure safety mechanisms in place and to be producing high academic results. On the other hand School B is suffering more in these areas in terms of a lack of resources, insufficient safety and security measures and poorer academic results. (STILL WAITING FOR SOME STATS INFORMATION FROM THE TWO SCHOOLS TO ASSIST THIS ARGUMENT).

Despite these apparent differences, perceptions of school connectedness do not significantly vary between schools. An explanation for this may be that these two schools are situated less than 5 minutes drive apart and that this geographical proximity covers over potential differences. In other words, perceptions of school connectedness are similar at both schools simply because they are situated in the same context. It may well be that perceptions would be considerably different between schools if they were situated a further distance apart where the area in which the school is found may impact upon the way adolescents experience their school life.

8.5 Additional findings

One of the ways of assessing a measure of suicidal ideation is to look at whether the kinds of questions asked are directly related to thoughts of killing oneself or of wishing to die and of death in general (Goldston, 2000, in Brown). The negative subscale of the PANSI inventory consists of 8 questions in total, 6 of which pertain directly to suicide and the thought of killing oneself. Thus the PANSI inventory is a good measure of suicidal ideation as it relates directly to suicidal thoughts of killing oneself rather than simply thoughts of wishing oneself dead. It is well worth noting that out of the 214 participants who completed all 14 items on the suicidal ideation scale, 108 scored below 25 (out of a total of 70). That means that over half of the participants in this study (56.5%) present with high levels of suicidal ideation. The percentage of participants presenting with high levels of suicidal ideation (56.5%) is thus alarmingly high, pointing to the need for school interventions to improve students perceptions of school connectedness and thus to reduce levels of suicidal ideation. According to the results of this study, a number of participants responded with *most of the time* to questions of *during the past two weeks, including today, how often have you, seriously considered killing yourself because you could not live up to the expectations of other people* (10%), *thought about killing yourself because you could not accomplish something important in your life* (7.1%), *thought about killing yourself because you*

could not find a solution to a personal problem (7.1%), thought about killing yourself because you felt like a failure in life (9.1%), thought that your problems were so overwhelming that suicide was the only option for you (10.8%) and felt so lonely or sad you wanted to kill yourself so that you could end your pain (9.1%). The fact that any participant, regardless of how many, responded with *most of the time* or *a good part of the time* to questions pertaining directly to thoughts of killing themselves is cause enough for alarm.

Another interesting finding is that amongst respondents there appeared to be a general trend of negative feelings towards their futures. Two questions pertaining directly to perceptions of their future were asked of participants in the PANSI inventory. One was concerning feelings of hope for their futures and the other concerning feelings of confidence about their plans for the future. The general trend that was noticed was that even in situations where the participant did not indicate high levels of suicidal thoughts, there was still a negative perception of the future. A possible explanation for this may be that the youth of today are often surrounded by a general concern amongst many South Africans regarding the future of this country. This explanation is however only inferred and further studies would have to be conducted to assess adult's perceptions regarding their futures and how this may impact upon adolescents.

CONCLUSION

The results of this study show a significant negative correlation between dependent variable school connectedness and independent variable suicidal ideation. Thus the study supports the main hypothesis that high levels of school connectedness are associated with low levels of suicidal ideation. It can then be inferred that school connectedness acts as an important protective factor against suicide, a serious health risk behaviour amongst adolescents. With regard to the other independent variables in the study (school, age, grade, sex and race) no significant correlations were found. This study thus reveals that perceptions of school connectedness and experiences of suicidal ideation amongst secondary school going adolescents does not correlate significantly with the type of school the adolescent attends or with the age, grade, sex or race of the adolescent. It is also worth noting the additional findings concerning the

number of participants who scored exceptionally high on the suicidal ideation scale. It also appears considerably significant that the highest mean score out of all 14 items on the PANSI inventory was for the question regarding participant's perceptions of hopefulness regarding their futures (2.59). High levels of suicidal ideation and in particular high levels of disillusionment towards the future appear to be of great concern amongst these adolescents.

LIMITATIONS

The first limitation to consider is found in the design of the study itself. Being a correlational design means that the results of the study represent associations between variables, rather than causality. Thus while a negative correlation exists between school connectedness and suicidal ideation, this means that high levels of school connectedness are associated with low levels of suicidal ideation. It cannot be assumed that high levels of school connectedness causes low levels of suicidal ideation.

Secondly, the schools from which the sample for this study were obtained are situated in the same geographical area and thus the question of generalizability arises, as findings cannot be assumed to be reflective of the population of adolescents at large. Purposive sampling was employed for this study and thus participants were selected upon the basis of the researchers' judgment, thus introducing bias into the study and placing further restraints on the generalizability of findings.

A third limitation occurs with regards to the voluntary nature of the study. Learners participating in the study volunteered to do so and thus bias may be introduced as the final sample is not reflective of the sample frame approached for the study. There may be common attributes amongst learners who do not volunteer that may influence the findings of the research.

Finally a possible limitation is found in the use of questionnaires as they rely on the honesty of the respondents and assume constructs (such as school connectedness and suicidal ideation) are accurately measured through participants self reports (Marshall & Rossman, 2006). During collection of data a lot of giggling occurred amongst participants and it appeared that

some participants did not take the questionnaire seriously enough. There is also the potential for social desirability in this study. Bond et al. (2004) explain how the sample of participants may feel like they are part of a group specially selected for participation in the research and thus instead of being honest, may instead answer questions in ways they feel they should.

RECOMMENDATIONS

Since the dominant finding of this study – that school connectedness is associated with suicidal ideation – echoes findings from studies conducted abroad it is recommended that international intervention strategies aimed at improving levels of school connectedness should be implemented in South African schools. One such intervention that found much success abroad is the multilevel Gatehouse Project (Paton et al. 2003). Such interventions need to be aimed at developing a positive school climate and a sense of connectedness by endorsing social inclusion within schools (Patton et al. 2006). It is also recommended that teachers and other workers within the school be educated regarding the problematic nature of suicide amongst the youth. They should also be trained to pick up the warning signs of learners who may be suicidal and be able to treat them accordingly.

Further research may be conducted to more specifically assess the role gender plays in adolescent's suicide behaviour. While this study was conducted within two co-ed schools, it is recommended that a similar study be conducted at single sex schools so as to extract the effect that mix gendered schools may have on perceptions of school connectedness and experiences of suicidal ideation. It may also be worthwhile to investigate the effect of class and economic stability upon adolescent's perceptions of school connectedness and suicidal ideation. This could also be done by sampling schools within different economic and class contexts.

REFERENCES

Bernat, D.H., & Resnick, M.D. (2006). Healthy youth development: Science and strategies. *Journal of Public Health management and practice*, 10-16, page numbers unknown.

Blum, R.W. & Ireland, M. (2004). Reducing Risk, Increasing Protective Factors: Findings from the Caribbean Youth Health Survey. *Journal of Adolescent Health*, 35, 493-500.

Bond, L., Patton, G., Glover, S., Carlin, J.B., Butler, H., Tomas, L. & Bowes, G. (2004). The Gatehouse Project: Can a multilevel school intervention affect emotional wellbeing and health risk behaviours? *Journal of Epidemiology and Community Health*, 58: 997-1003.

Bond, L., Butler, H., Thomas, L., Carlin, J., Glover, S., Bowes, G., & Patton, G. (2007). Social and school connectedness in early secondary school as predictors of late teenage substance use, mental health, and academic outcomes. *Journal of Adolescent Health*, 40, 9-18.

Bonny, A.E., Britto, M.T., Klostermann, B.K., Hornung, R.W., & Slap, G.B. (2000). School disconnectedness: Identifying adolescents at risk. *Journal of the American Academy of Pediatrics*, 106(5), 1017-1021.

Brausch, A.M., & Muehlenkamp, J.J. (2007). Body image and suicidal ideation in adolescents. *Journal of Body image*, 4(2), 207-212.

Carter, M., McGee, R., Taylor, B., & Williams, S. (2005). Health outcomes in adolescence: Associations with family, friends and school engagement. *Journal of Adolescence*, 30(1), 51-62.

Chabrol, H., Rodgers, R., & Rousseau, A. (2006). Relations between suicidal ideation and dimensions of depressive symptoms in high-school students. *Journal of Adolescence*, 30(4), 587-600.

Curran, E.M. (2007). The relationship between social capital and substance use by high school students. *Journal of Alcohol and Drug Education*, 51(2), 59-74.

Dore, M.M., Aseltine, R., Franks, R.P. & Schultz, M. (2006). Endangered Youth: A report on suicide among adolescents involved with the child welfare and juvenile justice systems. Retrieved 25 September from www.chdi.org/files

Fergusson, D.M., Beautrais, A.L., & Horwood, L.J. (2003). Vulnerability and resiliency to suicidal behaviours in young people. *Journal of Psychological Medicine*, 33, 61-73.

Goodenow, C. (1993). The Psychological sense of school membership among adolescents: Scale development and educational correlates. *Journal of Psychology in the schools*, 30, 79-90.

Hall-Lande, J.A., Eisenberg, M.E., Christenson, S.L., & Neumark-Sztainer, D. (2007). Social isolation, psychological health and protective factors in adolescence. *ProQuest Psychology Journals*, 42, 265-286.

Huysamen, G.K. (1976). *Descriptive statistics for the social and behavioural sciences*. Pretoria: van Schaik Publishers.

Kidd, S., Henrich, C.C., Brookmeyer, K.A., Davidson, L., King, R.A. & Shahar, G. (2006). The Social context of Adolescent Suicide Attempts: Interactive Effects of Parent, Peer, and School Social Relations. *Journal of suicide and Life – Threatening Behaviour*, 36(4), 386-395.

Libbey, H.P. (2004). Measuring student relationships to school: Attachment, Bonding, Connectedness, and engagement. *Journal of School Health*, 74(7), 274-283.

Lubell, K.M., & Vetter, J.B. (2006). Suicide and youth violence prevention: The promise of an integrated approach. *Journal of Aggression and violent behaviour*, 11(2), 1667-175.

Marshall, C., & Rossman, G.B. (2006) *Designing qualitative research*. London: Sage.

McNeely, C., & Falci, C. (2004). School connectedness and the transition into and out of health-risk behaviour among adolescents: A comparison of social belonging and teacher support. *Journal of School Health*, 74(7), 284-292.

McNeely, C.A., Nonnemaker, J.M., & Blum, R.W. (2002). Promoting school connectedness: Evidence from the national longitudinal study of adolescent health. *Journal of School Health*, 72(4), 138-146.

Miller, A.L. & Glinski, J. (2000). Youth Suicidal Behaviour: Assessment and Intervention. *Journal of Clinical Psychology*, 56 (9), 1131-1152.

Neser, J. (2007). The interface between school connectedness and peer victimization: An exploratory study. *Journal of Acta Criminologica*, 20(1), 55-78.

Osman (1998). *The Positive and Negative Suicide Ideation inventory*. Retrieved April 29, 2008, from <http://www.utsa.edu/psychlabs/osman/Files/pansi.pdf>

Osman, A., Gutierrez, P.M., Kopper, B.A., Barrios, F.X., & Chiros, C.E. (1998). The positive and Negative Suicide Ideation inventory: Development and validation. *Psychological Reports*, 82, 783-793.

Patton, G., Bond, L., Butler, H., & Glover, S. (2003). Changing schools, changing health? Design and implementation of the Gatehouse Project. *Journal of Adolescent Health*, 33, 231-239.

Patton, G.C., Bond, L., Carlin, J.B., Thomas, L., Butler, H., Glover, S., Catalano, R., & Bowes, G. (2006). Promoting social inclusion in schools: A group-randomized trial of effects on student health risk behaviour and well-being. *American Journal of Public Health*, 96(9), 1582-1587.

Reddy, S.P., Pandey, S., Swart, D., Jinabhai, C.C., Amosun, S.L., James, S., Monyeki, K.D., Stevens, G., Morejele, N., Kambaran, N.S., Omardien, R.G. & Van den Borne, H.W (2003) *Umthenthe Uhlaba Usamila – The South African Youth Risk Behaviour Survey 2002*. Cape Town: South African Research Council.

Resnick, M.D., Harris, L.J., & Blum, R.W. (1993). The impact of caring and connectedness on adolescent health and well-being. Children, Youth and Family Consortium, University of Minnesota, retrieved 25 September from www.cyfc.umn.edu/adolescents/resources/caring.html.

Rudatsikira, E., Muula, A.S., Siziya, S., & Twa-Twa, J. (2007). Suicidal ideation and associated factors among school-going adolescents in rural Uganda. *Journal of BMC Psychiatry*, 7, page numbers unknown.

Shochet, I.M., Dadds, M.R., Ham, D., & Montague, R. (2006). School connectedness is an underemphasized parameter in adolescent mental health: Results of a community prediction study. *Journal of Clinical Child and Adolescent Psychology*, 35(2), 170-179.

Shochet, I.M., Homel, R., Cockshaw, W.D. & Montgomery, D.T. (2008). How Do School Connectedness and Attachment to Parents Interrelate in Predicting Adolescent and Depressive Symptoms? *Journal of Clinical Child and Adolescent Psychology*, 37(3), 676-681.

Springer, A., Parcel, G., Baumler, E., & Ross, M. (2006). Supportive social relationships and adolescent health risk behaviour among secondary school students in El Salvador. *Journal of Social Science and Medicine*, 62, 1628-1640.

Steele, M.M., & Doey, T. (2007). Suicidal Behaviour in children and adolescents. Part 1: Etiology and Risk factors. *The Canadian Journal of Psychiatry*, 52(1), 21-33.

Thompson, E.A., Mazza, J.J., Herting, J.R., Randell, B.P., & Eggert, L.L. (2005). The mediating roles of anxiety, depression, and hopelessness on adolescent suicidal behaviours. *Journal of Suicide and life-threatening behaviour*, 35(1), 14-34.

Wilson, D. (2004). The interface of school climate and school connectedness and relationships with aggression and victimization. *Journal of School Health*, 74(7), 293-299.

