INFLUENCE OF GENDER, ALCOHOL USE, AND SOCIAL SUPPORT ON SUICIDAL- AND RISKY SEXUAL BEHAVIOUR AMONG ADOLESCENTS

ZAINUB DAVIDS

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INFLUENCE OF GENDER, ALCOHOL USE, AND SOCIAL SUPPORT ON SUICIDAL- AND RISKY SEXUAL BEHAVIOUR AMONG ADOLESCENTS

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Mini-Dissertation (article format) submitted in partial fulfilment of the requirements for the degree of Masters of Social Sciences in Clinical Psychology at the North-West University (Mafikeng Campus.)

Supervisor: Professor E.S. Idemudia

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Dedications

I dedicate this dissertation to my late parents for their support, guidance and values they instilled in me during childhood. I also dedicate this to my family who supported and believed in me all the way since the beginning of my studies, may you also be motivated and encouraged to reach your dreams.

ACKNOWLEDGEMENTS

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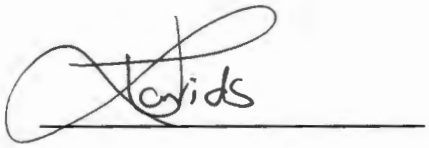
- My husband for his enduring support, patience and belief in me.
- My daughters for their constant support and understanding that working on this study required time away from them.

DECLARATION

I declare that this dissertation hereby submitted by me for the Master's degree in Clinical Psychology at North West University has not been previously submitted by me at this or any other university, this is my own work and all materials contained herein have been duly acknowledged.



Z. DAVIDS

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PREFACE

Article format

For the purpose of this thesis, which is the requirements for the degree in Clinical Psychology the article format as described by General Regulation A. 7.5.1.b of the North-West University was chosen.

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The target journal for submission of the current manuscript is Journal of Social Sciences (JSS). For the purpose of examination tables will be included in the text.

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I, the undersigned, hereby give consent that Zainub Davids may submit the manuscript entitled "INFLUENCE OF GENDER, ALCOHOL USE, AND SOCIAL SUPPORT ON SUICIDAL- AND RISKY SEXUAL BEHAVIOUR AMONG ADOLESCENTS" for the purpose of a dissertation in fulfilment for the Masters of Clinical Psychology.

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MANUSCRIPT

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INFLUENCE OF GENDER, ALCOHOL USE, AND SOCIAL SUPPORT ON SUICIDAL- AND RISKY SEXUAL BEHAVIOUR AMONG ADOLESCENTS

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ABSTRACT

Adolescent suicidal behaviour is an increasing phenomenon worldwide. This study investigated; 1) whether there will be a significant difference between gender and suicidal- and risky sexual behaviour, 2) whether alcohol use influence suicidal- and risky sexual behaviour, 3) whether social support influence suicidal- and risky sexual behaviour. Data was collected from 161 participants that were randomly selected from three different high schools in Mafikeng. The sample included 82 (50.9%) males and 79 (49.1%) females. The mean age of the participants was 15 years, with a range from 12 to 18 years.

Factorial analysis of variance was used to test hypotheses. Results indicated a significant main effect of gender on risky sexual behaviour, $p < .05$, but non-significant effect of gender on suicidal behaviour. Results also indicated a significant main effect of alcohol use on suicidal behaviour, $p < .05$. A significant main effect of alcohol use on risky sexual behaviour was also indicated by the results, $p < .001$. The influence of social support on suicidal behaviour was not supported by the results, but the influence of social support on risky sexual behaviour was supported. Further research is needed to determine methods to educate students, school personnel and family members to recognise and to respond immediately to suicidal behaviour. Community awareness will play a major role in trying to reduce suicidal behaviour.

Key Words: Adolescence/adolescent/suicidal behaviour/alcohol use/social support/high /Mafikeng.

Introduction and problem of statement

Adolescent suicidal behaviour is an increasing phenomenon worldwide among youth in all countries of the world with as many as 200,000 committing suicide in the most important time of their lives each year (Greydanus, 2007). Data from the World Health Organization (2008) indicates that 90,000 or more adolescents are victims of suicide annually out of over four million suicide attempts. Comparing the findings of the World Health Organization and Greydanus, it is evident that there is an alarming significant increase in adolescent suicidality.

During adolescence young people face important changes, both internally and externally and the manner in which they respond to stressful events may be a factor in determining levels of suicidal ideation (Cuhadaroglu, 2010). Louw and Van Ede (2005) indicate that adolescence is the transition from childhood to adulthood and it is filled with psychological, sociological and physical changes. It is regarded as a difficult stage of human development that involves a wide range of major life changes. During this period of transition, adolescents experience puberty which impacts on physiological and psychological systems. The adolescent undergoes a development of cognitive function, changes in self-concept, and will negotiate major alterations in all social relationships (Coleman, 2007).

Adolescents are constantly confronted with problematic situations, which include new social roles, new relationships, economic and financial uncertainties, having to get used to their body changes and solving problems independently. Given the combinations of problems these adolescents are faced with, it make them prone to self-destructive behaviours (using drugs, abusing alcohol and irresponsible sexual encounters) and such stressors all contribute to increased levels of stress, hopelessness and possible suicidal ideation among adolescents (Meehan, Peirson & Fridjhon, 2007). Suicidal behaviour and/or suicide is one problem that

has been attributed in part to adolescents' inability to cope with their stressors (Lewis & Frydenburg, 2009). Louw and Louw (2007) propose that adolescents, when compared to adults, are more emotionally unstable. When confronted with problems and the inability to deal with it effectively, suicide may appear to be the only solution to their problems.

The occurrence of adolescent suicide in South Africa is a significant cause for concern (Donson, 2008; Schlebusch & Burrows, 2009). Studies indicate that suicide is the third leading cause of death among young South African population with annual rates of up to 17.2% per 100,000 of the population, with up to twenty times non-fatal suicide attempts (Schlebusch, 2005). Schlebusch (2005) also indicates that the highest prevalence of suicides was amongst whites (26.7%), followed by Asians (18%), Blacks (7.6%) and Coloureds (6.8%).

Reddy, James, Sewpaul, Koopman, Funani, Sifunda, Josie, Masuka, Kambaran, Omardien, & Umthente Uhlaba Usamila (2008) found that 41.2% of adolescents in the North-West Province reported having experienced feelings associated with suicide. Among the different cultural groups (Black, White, Coloured, Indian and others), Coloured adolescents, who considered attempting suicide, showed the highest prevalence of 23.9%. Joe, Stein, Seedat, Herman, and Williams (2008) also report that Coloureds have the highest prevalence for suicidal attempts. In addition, Flisher, Liang and Ward (2006) also found high figures for the lifetime prevalence of attempted suicide in secondary school students in South Africa (18.6% female had attempted suicide). Taken from the above findings it is evident that suicidal behaviour amongst adolescents is a cause of concern.

Suicidal behaviour is a broad concept which incorporates a range of self-destructive acts as the result of emotional discomfort or distress (Mclean, Maxwell, Platt, Harris & Jepson, 2008). It can be subdivide into non-fatal and fatal suicidal behaviour. Fatal suicidal behaviour

refers to the act of intentionally causing one's own death. Non-fatal suicidal thoughts and behaviours are classified more specifically into; suicide ideation, which refers to thoughts of engaging in behaviour intended to end one's life. On the other hand a suicide attempt refers to engagement in potentially self-injurious behaviour in which there is at least some intent to die (Palmer, 2008).

Adolescence is a time when risk-taking increases and can be classified as either negative or positive based on outcome (Blum & Nelson-Mmari, 2004). The most common risk behaviour adolescents engage are sexual risk-taking, violence, drugs and alcohol use (Steinberg, 2008).These behaviours are often seen as behaviours which learn teens acceptance and respect from their peers (Jetha & Segalowitz, 2012). The parts of adolescents' brains which develop first are those which control physical coordination, emotion and motivation. The prefrontal contex (part of the brain which controls reasoning and impulses) is located near the front of the brain and develops last (until the age of 25) (Farley & Reyna, 2006). This may help explain why adolescents make quirky decisions and what makes them prone to risk taking behaviour.

Several risk factors have been identified with suicidal behaviour and include depression, family history of psychiatric disorders, family disruption, alcohol abuse, history of physical or sexual abuse, conflicts with friends and family (Daniel, Goldston, Reboussin, Walsh, & Wood, 2006). Family-related factors (for instance being born to a single mother, family dissolution and violence), school-related and academic problems as well as personal factors including low self-esteem and depression, are also considered important contributory factors influencing adolescent suicidal behaviour (Schlebusch, 2005).

Sexual activity and alcohol use in adolescence are often regarded as risky behaviours (Windle, 2003). Alcohol drinking during adolescence has been generally acknowledged to be a major health problem. For example, alcohol drinking is particularly linked to sexual risk taking behaviour (Collins, Siebenbruner & Zimmerman-Gembeck, 2004; Hart, Henderson, Parkes & Wight, 2007). On the other hand, social support with regard to supportive, effective family functioning, are associated with decreased sexual and alcohol risk behaviour (Bauermeister, Elkington, & Zimmerman, 2011; Buser, Peterson, & Westburg, 2010; DeVore & Ginsburg, 2005). It is evident that these risk behaviours have been found to covary in predictable ways. These risk factors play a role in adolescent suicide and might significantly increase the likelihood of some form of suicidal behaviour when they are present.

Risky sexual behaviour is one of the most significant health problems among adolescents, which include having multiple sex partners, lack of condom use or consuming alcohol before sexual intercourse (Marshal, Molina, & Pelham, 2003). Engagement in risky sexual behaviour is considered to be a high-risk behaviour for adolescents, because of the potential physical complications (e.g., sexual transmitted diseases and pregnancies) and their possible inability to respond appropriate to emotional situations (Centres for Disease Control and Prevention, 2007). Kim and Kim (2008) found that risky sexual behaviours are considered meaningful predictors of adolescent suicidal behaviour.

It is indisputable what effects these risk factors of suicidal behaviour have on the well-being of adolescents. Therefore, this study address the risk factors associated with adolescent suicidal behaviour and risky sexual behaviour; alcohol use, gender difference, and social support. The results of this study may be the empirical basis for creating specific knowledge

and information and it can be used as groundwork for health care providers to understand and help adolescents at risk for suicide.

A significant increase in adolescent suicidal behaviour has been noted globally. Over one million people loose their lives due to suicide with a significant increase rate of 60% over the past 45 years (World Heath Organization, 2008). A frightening awareness of this phenomenon is that the increased rate of suicide and suicidal attempts involves the 15–24 year old age group (Sadock & Sadock, 2009). In the Northern Cape Province in South Africa, adolescent suicide has increased with an average of 15 cases of suicide per week and 40 suicides per month in the 14-19 year old age group (George, 2005). Taken from the above-mentioned findings it is evident that there is a growing trend toward younger South Africans taking their lives. The fact remains that suicidal behaviour in South Africa cannot be ignored, especially among the youth.

The majority of research findings and data in the field of suicidal behaviour is obtained by using hospital settings and patients as subjects assessing mental disorders as a prediction of suicidal behaviours (Fine, Alison, Van der Westhuizen & Kruger, 2012; Hill, Pettit, Green, Morgan, & Schutte, 2012; Mitchell, Garand, Dean, Panzak, & Taylor, 2005). There is little knowledge and information about suicidal behaviour in a normal adolescent population. The large body of South African research on suicidal behaviour tends to be based on data representative from provincial groups and lacks data based on rural adolescent community groups. There are no recent statistics about suicidal behaviour and risk factors among adolescents in the North-West Province. Trends are mostly obtained from suicidal deaths, which are more likely to be documented. This results in little knowledge and information about the risk factors associated with suicidal behaviours and risky sexual behaviour for the

adolescent population. Therefore, it would be of considerable importance to assess risk factors such as gender, alcohol use and social support which is needed to apply and develop prevention strategies. This study seeks to fill the gap in the literature on adolescent suicidal behaviour, by investigating the phenomena in Mafikeng.

Theoretical background

Worldwide, suicide is one of the leading causes of death, especially among adolescents. The World Health Organization (2008) reports that the global suicide rate raised from 10 out of every 100,000 people in 1950's to 18 out of every 100,000 people in 1995. While it has declined in some countries, there has been an upward trend across the world in general. Data reported that suicidal ideation, attempts and complete suicide, continually occur at significant rates especially among adolescents (Kessler, Berglund, Borges, Nock, & Wang, 2005; WHO, 2008). Prevalence of suicidal behaviour is more common among females, whereas males tend to commit suicide rather than engaging in attempts (Bradley, West, Ford, Frame, Klein, & Lohr, 2004). Deeks (2005) indicates that suicidal behaviour is indeed common in adolescents with findings indicating that approximately 10% of adolescents attempt suicide at some point in their lives and 30% of adolescents report that they had thought about killing themselves at some point in their lives. However, researchers believe that because of cultural, religious and social taboos, the numbers of suicidal behaviour in youth are significantly under-reported (Schlebush, 2005).

Reddy, Panday, Swart, Jinabhia, Amousum, and Moyeki (2002) conducted a study in Cape Town, South Africa, which involved 10,669 participants in grades 8–11 in 9 provinces and found that 24% learners in the past 6 months reported having experienced feelings of sadness or hopelessness, 14% had considered suicide, 19% had attempted suicide and 28% of those

who attempted suicide required medical treatment. Recent findings from Reddy et al. (2008), concluded the following from a South African sample of 10,270 learners, 24% learners in the past six months reported feelings of sadness or hopelessness, 21% had considered suicide, 21% had attempted suicide and 29% of those who attempted suicide required medical treatment. There is thus evidence to suggest that not only has the rate of suicide ideation increased, but that the rate of suicidal attempts has also increased over a period of four years.

The Centres for Disease Control and Prevention (2007) in the United States found that 8.4% of high school students attempted suicide one or more times in a 12 month period. In Korea, 11.6% of primary and high school students reported attempting suicide, which is a higher rate than that of their U.S. counterparts (Kim & Kim, 2008). Furthermore, suicide is one the two most prevalent causes of death in Korean adolescents and the first leading cause of death among girls in 2006 (Korean National Statistics, 2007). While most studies on suicidal behaviour gives indication of increased rates, few studies focus on risks factors contributing to suicidal behaviour.

Suicide is the third leading cause of death among adolescent in the United States in the age group 10–24 and accounting for 4 599 deaths (CDC, 2007). Additionally, according to Swahn and Bossarte (2007), who conducted a study with high school students in 39 states found that 18.7% of females and 10.3% of males had seriously considered attempting suicide and 13.4% females and 9.3% males planned how they would attempt suicide. Furthermore, 6.9% attempted suicide one or more times and 2% made a suicidal attempt that resulted in an injury or overdose. Coetzee and Underhay (2003) found that in South Africa, 21.54% of 16 year-olds had considered committing suicide. Furthermore, 12.31 % have actually attempted suicide.

From the above mentioned literature, it is evident that suicidal behaviour among adolescents is a significant health problem globally. Despite the vast amount of research that has been done throughout the world, much research needs to be done in the field of rural community based adolescents.

Gender and suicidal behaviour

Hawton and Van Heeringen (2000) conducted a study in the United Kingdom to identify gender differences in suicidal behaviour and found that attempted suicide is higher in females than in males. Similar trends are evident in the United Kingdom regarding a higher percentage of suicidal attempts amongst females unlike those of their male counterparts who engage in more destructive and lethal methods (Madu & Matla, 2003). The reason could be that males tend to be more aggressive and that they have better access to more violent means of causing self-harm.

Bradshaw, Masiteng, and Nannan (2000) found that fatal suicide rates reflect that more females (12%) in the 10 to 19 year old age group commit suicide than males (7%). A disparity was found in the findings of Martin, Swanell, Hazel, Harrison, and Taylor (2010), who found that suicide is more common among young men while females reported higher rates of engaging in self-harm activities than young men. Kaess, Parzer, Haffner, Steen, Roos, Klett, Brunner and Resch (2011) conducted a study which explains gender differences in non-fatal suicidal behaviour among adolescents and found that serious suicidal thoughts were reported by 19.8% of the female students and 10.8% of the male group. The male group (9.3%) had a history of suicidal ideations and 4.9% had previously attempted suicide.

Females are thus more likely to engage in non-fatal suicidal behaviour, while males are more likely to end their lives as a result of suicidal acts. Andriessen (2006) also informs the interpretation of men as completers and women as attempters. Non-fatal suicide is reviewed as reactive, manipulative and attention-seeking, while fatal suicide is viewed as serious and wilful (Wasserman & Steven, 2009).

Gender and risky sexual behaviour

Sexual behaviour during adolescence was found to be influenced by a peer pressure and may also be due to cognitive development and desire for acceptance which makes adolescents susceptible to risky sexual behaviour (Searle, 2009). Ntseane and Preece (2005) indicate that sexual practices are a manifestation of community discourses on sexuality. For example, the involvement in risky sexual behaviour is mostly likely among men and women who socialize and live in communities in which collective moralities and cultural norms are most open-minded towards risky sexual behaviour.

Frank, Esterhuizen, Jinabhai, Sullivan and Taylor (2008) conducted a comparison study involving Cape Town and Wentworth high-school students in South Africa and found a significant number of Wentworth pupils (9.6% of females and 31.3% of males) that had their first sexual experience before age 12. In addition, this high-risk behaviour was also predominant among Cape Town students (23.2% of males and 10.8% of females). Puente, Zabaleta, Rodrigues, Cabanas, Monteagudo and Pueyo (2011) investigated gender differences in sexual risk behaviour among adolescents in Spain and included 4,653 boys and 4,687 girls. They found that 82.3% boys and 63.0% girls are engaged in risky sexual behaviour (boys had more sexual partners and used condoms as a contraceptive method less frequently than girls).

Risky sexual behaviour is more likely among males than among females. However, little research has been conducted on the influence of alcohol use and risky sexual behaviour.

Therefore, when implementing intervention it is necessary to take into consideration other risk factors leading to risky sexual behaviour. The aim of this study is to assess risk factors such as, gender, alcohol use and social support influencing risky sexual behaviour.

Alcohol use and suicidal behaviour

Alcohol has two different effects on emotion, with low doses often ameliorating negative affect, but higher doses producing central nervous system depressant effects (Hufford, 2001). Many adults and adolescents believe alcohol can be used as a form of self-medication, but unfortunately this effect reverses itself at higher levels of intoxication (Pihl & Smith, 1983), and can precipitate suicidal behaviour. Borges (2000) found that the effects of alcohol were mainly on suicidal ideation and unplanned attempts rather than planned attempts, thus lending more evidence to the theory that acute intoxication is more significant in relation to suicide than chronic abuse.

There have been numerous studies that reported a significant correlation between substance use and suicide in adolescent suicidality (Conason, Oquendo, & Sher, 2006; Mehlenbeck, Spirito, Barnett, & Overholser, 2003). Studies have consistently demonstrated that suicidal behaviour are more likely to occur among adolescents who abuse alcohol (Bae, Ye, Rivers, & Singh, 2005; Shaffer & Pfeffer, 2001) or use illicit drugs (Gould, Greenberg, Velting, & Shaffer, 2003; King, Schwab-Stone, & Flisher, 2001). Furthermore, researchers have found that adolescents who frequently drink alcohol tend to have higher rates of suicidal behaviours compared with non-drinkers within the same age groups (Nishimura, Goebert, Mikler, & Caetano, 2005). In addition, substance abuse can cause social isolation, low self-esteem, loss of work or school and estrangement from family and friends. These are all factors that can build a core of stresses that may lead to suicidal tendencies. However, while the majority of research found a relationship between alcohol use and suicidal behaviour, the combination of

depression and alcohol dependence often leads to suicidal behaviour (Conner & Duberstein, 2004).

Alcohol has been found to be a risk factor for suicidal behaviour and actual suicide. May, Van Winkles, Williams, McFeeley, and Serna (2002) conducted a study on alcohol and suicidal deaths among American Indians of Mexico, and found that 69% of the suicides were alcohol-related. Additionally, Gray and Winterowd (2002) surveyed 243 native American adolescents, ages 14-18 and found that adolescents who consumed alcohol, smoked marijuana and used cocaine, had an increase in related likelihood of negative health outcomes, including suicide. Park, Scepp, Jang, and Koo (2006) found that parental divorce and parental alcohol abuse are significant predictors of suicidal ideation. Social challenges may result in further stress to the adolescent that could lead to depression, which is a common cause of suicide (Giddens, 2007). Suicide attempters are more likely to engage in substance abuse than suicidal ideators, which may suggest that substance use could facilitate the transition from suicidal ideation to suicidal attempts and possible suicide itself (Bridge, Goldstein, & Brent, 2006).

However, it is important to realize that despite the numerous findings which show causal relations between alcohol use and suicidal behaviour, suicide attempters and suicide completers show demographic, personality and clinical differences (Conner & Duberstein, 2004). Additionally, a significant association between alcohol-related disorders and suicidal attempts among adolescents were found, rather than alcohol use and suicidal behaviour (Chatterji, Dave, Kaestner, & Markowitz, 2004).

Alcohol use and risky sexual behaviour

Cunningham (2008) defines risky sexual behaviour as initiating one's life at a young age, engaging in unprotected sexual activity, intercourse with multiple partners without adequate use of contraception or forced sexual initiation. Adolescents who engage in risky sexual behaviours are at an increased risk of pregnancy or sexually transmitted diseases (STD) (Marshal, *et al.*, 2003). Having multiple sexual partners is a critical risk factor for STD's among adolescents and young adults. This is particularly true if they do not use condoms correctly and consistently. Most adolescents do not have multiple concurrent sexual partners. However, adolescents often have multiple sequential partners because their relationships tend to be short in duration (Santelli, Brener, Lowry, Bhatt, & Zabin, 2005). Morojele, Kachienga, and Mokoko (2006) conducted a study and found an association between sexual behaviour and alcohol consumption with regard to unprotected sex in casual relationships. This confirms that alcohol use and risky sexual behaviour is a major concern.

Several studies have found that the use of alcohol or drugs during sexual activity is associated with risky sexual behaviour, such as intercourse with multiple partners and failure to use condoms (Jemmott, Jemmott & O'lear, 2007). Alcohol and drug use may change the nature of the sexual behaviour in which people engage because logic and good judgement are clouded and inhibitions are loosened when people are intoxicated. The majority of adolescents are uninformed of the association between risky sexual behaviour and emotional distress, abuse and self-harm (behaviours like self-cutting, suicidal thoughts or attempts). Both females and males who attempted suicide were more likely than those who did not attempt suicide to engage in risky sexual behaviours (Shaughnessy, Doshi, & Jones 2004).

The Centres of Disease Control and Prevention (2012) conducted a study and found that the prevalence of condom use increased during 1991-2003 (43.2% - 63.0%), but did not change significantly during 2003-2011 (63.0% - 60.2%). Furthermore, the prevalence of having drunk alcohol or used drugs before last sexual intercourse increased during 1991-2001 (21.6% - 25.6%) and did not change significantly from 2009 (21.6%) to 2011 (21.1%). There is research suggesting that adolescents perceive themselves to be relatively invulnerable to consequences of their behaviour (Malow, Devieux, & Lucenko, 2006). Therefore, adolescents may engage in repeated and risky sexual acts and expecting no negative consequences. Specifically, alcohol users are more likely to engage in impulsive and aggressive behaviours, lack social support, and experience hopelessness.

These predisposing factors in turn, increase the risk for experiencing precipitating factors directly related to suicidal behaviours among individuals who consume alcohol. While a vast amount of research was done on the relationship between alcohol consumption and risky sexual behaviour, few investigated the effect it has on suicidal behaviour. Thus, little is known about the influence of consuming alcohol and risky sexual behaviour on suicidal behaviour.

Social support and suicidal behaviour

Social support in the form of friends, family or any other person is considered very useful and it is an important defence against emotional despairs and suicide-related behaviour (McLaughlin, 2007). Similar findings were found by Cheng and Chan (2007) who confirm that suicidality is strongly predicted by depression, substance use and death attitude, which is lowered by support from family and friends. Kidd and Carrol (2007) also identify positive parent relations as the most consistent protective factor for adolescent suicide attempts. In

addition, Rutter and Behrendt (2004) found that social support is related to less feelings of isolation, higher levels of resilience and healthier adolescent functioning. Similarly, Delongis and Holtzman (2005) found that individuals use a greater variety of coping strategies when they felt supported by others.

Bernburg, Thorlindson, and Sigfusdottir (2009) conducted a survey on 5 331 Icelandic adolescents and results show that household poverty and parental conflicts are significantly associated with increased risk of both suicide attempts and suicidal behaviour. While parental support and social networks are significantly associated with a decrease rate in suicidal attempts (Baller & Richardson, 2002), Rutter and Behrendt (2004) found that social support is related to less feelings of isolation, higher levels of resilience and healthier adolescent functioning. Similarly, Delongis and Holtzman (2005) found that individuals use a greater variety of coping strategies when they feel supported by others.

Lyon, Benoit, and O'Donnell (2000) conducted a survey on 879 adolescents with the aim to examine suicidality among urban youth and its relationship to patterns of adult support, and indicated that half of those reporting suicide attempts had spoken with an adult about their distress. In conclusion, it was found that improving communication among youth, families and service providers should be a focus of suicide prevention planning.

Social support has usually been documented to be a protective factor against youth suicide (Beaman & Moody, 2004; Rutter & Behrendt, 2004). Low social support is a significant predictor of adolescent suicidal behaviour (Eskin, Ertekin, Dererboy, & Demirkiran, 2007). Social, family and environmental factors were also studied to determine the extent of these influences on suicidal risks in adolescents (Heo, 2007; Park, Scepp, Jung, & Koo, 2006). Correspondingly, Heo (2007) suggests that a lack of social support is a significant predictor

of suicidal ideation, whereas strong family support protects adolescents from suicidal ideation.

Palmer (2001) posits that social support can prevent adolescents from reaching the point where they might seriously consider suicide. It also increases the likelihood that they will receive help if they become suicidal. Similarly, Bearman and Moody (2004) investigated the relationship between friendships and suicidality among male and female adolescents in New York. It was found that adolescents who committed suicide increased the likelihood of suicidal ideation and attempts for others and those social isolated adolescents were more likely to have suicidal thoughts.

Van Renen and Wild (2008) conducted a study in South Africa to explore the associations between family functioning and adolescent suicidal behaviour of 87 high school students aged between 14-16 years old and also determined that adolescents who reported suicidal behaviour in a 12 month period experienced lower levels of connections and higher levels of conflict in the parent-child relationship than non-suicidal adolescents. Conflict in parent-child relationships and a number of other family-level constructs are associated with suicide ideation. Reinherz, Tanner, Berger, Beardslee, and Fitzmaurice (2006) report that problematic family functioning during childhood predicted suicide ideation in young adulthood. Rudatsikira, Muula, Siziya, and Twa-Twa (2007) conducted a study in Uganda to obtain prevalence of and assess factors that may be associated with suicidal ideation among school-going adolescents and found that 21.6% of the respondents reported to seriously have considered committing suicide within the last 12 months and that loneliness and a lack of parental involvement were positively associated with adolescent suicidality.

Sommer (2005) conducted a comparison study which involved adolescents in both Germany (N=318) and South Africa (N=299) and found that South African adolescents are more vulnerable to suicidal behaviour than adolescents in Germany. Low family support, death of a friend and life-threatening situations were associated with suicide attempts in the South African sample, while variables for the German sample were low perceived family and friend support, previous suicide attempts, and life-threatening events. Findings also indicate that suicidal behaviour is frequent in both countries and that social support is a strong protective factor against suicide attempts. Thus, lower levels of social support systems were a significant predictor of adolescent suicidal behaviours (Carlton & Deane, 2000).

Anderson (2002) confirms that family relationships are the most central source of support for adolescents. However, with family structures changing because of divorce, single parenting and separation, many adolescents lack sufficient supportive relationships that are available when they need it most. Family disruptions, including death, divorce, separation, and unstable relationships have been a common occurrence in adolescents who have attempted or committed suicide (Hawton & Van Heeringen, 2000).

The findings of a study done by Kerr, Preuss and King (2006) suggest that young males and females have different associations between social support and suicidality and that these gender-specific associations have to be considered. Results indicate that female's perception of low family support is related to higher levels of hopelessness, depression and suicidal behaviour. Adolescent males, on the other hand, showed higher levels of peer support which were associated with greater levels of hopelessness, depression and suicidal behaviour. It was concluded that peer support is sometimes associated with more dysfunction in adolescents and that support from peers as perceived by adolescents may sometimes actually include shared anti-social behaviour and maladaptive, emotional coping.

It is thus not surprising that many studies regarding social support and the influence on suicidal behaviour have supported Emile Durkheim's theory (1951) of suicide that stresses that societal pressures and influences play a vital role in an individual's engagement in suicidal behaviour. In addition, Joiners Interpersonal Theory (2005) also proposes that the need to belong is fundamental and when met, can prevent suicide. However, while associations between lack of social support and suicidal behaviour have been well examined, there are a number of issues that require examination. Social support associated with having delinquent friends needs to be examined. This association may factor in illicit substance use and violence victimization, which can manifest to suicidal behaviour.

Numerous studies have shown that people with higher social support have a likelihood for survival (Holt-Lunstad, Layton, & Smith, 2010; Uchino, 2004, 2009). In addition, these studies found that social support has numerous ties to physical health, including mortality, and people with low social support are at a much higher risk of death from a variety of diseases (e.g., cancer and cardiovascular disease).

Social support and risky sexual behaviour

Most research on social support has focused on adult populations, but a growing number of research are exploring factors in many aspects of adolescent heath, including sexual health (Brady, Dolcini, Harper & Pollack, 2009; Elkington, Bauermeister & Zimmerman, 2011; Ford, 2009; Kalina, Geckova, Klein, Jarcuska, Orosova, Dijk & Reijneveld, 2011; Seiving, Eisenberg, Pettingell & Skay, 2006). The majority of adolescents who reveal risky sexual behaviour are individuals whose lives are characterized by social isolation, poor social skills, inadequate social support and supervision (Lovell, 2006).

Social support undoubtedly has an influence on adolescent sexual risk taking behaviour. For example, Elkington et al., (2011) indicates that social support in the context of supportive and connected families are associated with decreased sexual risk taking behaviour, while parental/family neglect are associated with higher sexual risk taking behaviour. Similarly, a study examining the effect of social support on risky sexual behaviour in homeless adolescents found that youths who had someone to turn to in need of comfort, a greater number of close friends, and someone they could count on, were less likely to engage in risky sexual behaviour (Ford, 2009).

A study conducted by Brady, Dolcini, Harper, and Pollack (2009) examined the role of stressful life events and their association to greater risk taking behaviour among African American adolescents. The study found that when there were lower reported levels of social support, there were greater levels of sexual risk taking behaviour. The study also indicated that those participants with low social support were more prone to risky sexual behaviour, while those who reported high social support from friends may engage in risky sexual behaviour for purposes of peer socialization. Similarly, data on 3,725 in the 8th and 9th grades of elementary schools representing the Slovak Republic, found that adolescents who engaged in sexual intercourse, whether safe or unsafe, who reported higher levels of social support from friends but lower levels of social support from families, were more likely to engage in risky sexual behaviour (Kalina et al., 2011).

The above studies on social support were either measured by family/parental support, social networks, family functioning or peer support. While social support in the present study is operationalised by four multi-item measures of availability, the availability of all four distinct

types of functional support indicates a high social support index (Sherbourne & Steward, 1991):

- Tangible support, involving the provision of material aid or behavioural assistance;
- affectional support, involving the expression of love and affection;
- informational/Emotional support, the offering of advice, guidance or feedback, expression of positive affect and empathetic understanding; and
- positive social interaction, involving the availability of persons with whom to do pleasurable things.

Theoretical Perspectives

Although there are many ideas or theories why adolescences commit suicide or engage in suicidal behaviour, there is no single comprehensive theory that describes and explains suicidal behaviour. Therefore, for the purpose of this study, the following theories of suicide will be discussed: Problem-behaviour Theory, Psychosocial Development Theory, Interpersonal Psychological Theory, Cognitive Theory, and Cultural Script of gender Theory.

Problem-Behaviour Theory

Problem-Behaviour Theory (PBT) is a psychosocial model that attempts to explain adolescent's behavioural outcomes such as substance use, deviancy, and risky sexual behaviours (Jessor & Jessor, 1977). This theory consists of three interrelated systems of psychosocial components: The personality systems include social cognitions, individual values, expectations, beliefs, and attitudes. The environmental system consists of social influence factors such as cultural orientation and expectations regarding problem behaviour. The third component of PBT is the behaviour system which consists of problem and conventional behavioural structures that work in opposition to one another, e.g., alcohol use or abuse, illicit drug use, and deviant behaviour (delinquency, risky sexual behaviour).

According to Problem-Behaviour Theory, adolescents who engage in behaviour that deviate from the norm, including substance use or risky sexual behaviour, are at the increased risk for other health problems. For example, drinking alcohol can contribute to adolescents' depression or it can be a manifestation of depression, which in turn can lead to suicide. Chilman (1990) argues that many adolescents do not have the cognitive maturity to translate knowledge about behavioural risks into action or to anticipate the consequence of risky sexual behaviour. Also the sense of invincibility that often characterizes adolescent behaviour may result in underestimation of risk.

Psychosocial Development Theory

According to Erickson (1968), the reasons why adolescents commit suicide seem to cluster around disruption of specific developmental tasks, vulnerability of the individual, and risk conditions in the immediate situation of the individual, such as lack of emotional support. Erikson (1968) posits that there are eight stages in a person's lifespan. These stages expose the individual to conflicts or crises that need to be resolved positively and in socially, expectable manner. Failure to do so may negatively impact on a person's personality development. Such failure may be understood as an important risk factor in the cause of suicide and violent behaviour. According to Erikson (1968), how each developmental task is resolved (e.g., infancy: trust versus mistrust; early childhood: autonomy versus doubt and shame; preschool age: initiative versus guilt; school age: industry versus inferiority), defines to a considerable extent how healthy or unhealthy the person becomes and how well he/she is able to deal with future tasks or crises.

Adolescents are faced with the stage of identity versus role confusion. Adolescents, during this stage, need to establish an identity in the sexual, social, ideological and career domains. For example, the changing sex roles of men and women may aggravate identity confusion. In

addition, environmental stressors such as pressure for academic achievement, family functioning, the availability of drugs and peer pressure can lead to depression. Suicide seems to occur when stress, cognitive immaturity and lack of emotional support are too overwhelming for the adolescent which result in the inability to cope and to reason clearly. According to this theory, social influences are believed to play a significant role in adolescents' involvement in health-risk behaviour. Strong family support protects adolescents from suicidal ideation (Heo, 2007). Palmer (2001) suggests that social support can prevent adolescents from reaching the point where they might consider suicide.

Interpersonal–Psychological Theory

Joiner (2005) proposes that the need to belong is fundamental. When met it can prevent suicide and when thwarted it can significantly increase the risk for suicide. The theory states that, for an individual to commit suicide, the individual must develop high levels of the following; A low sense of belongingness (the experience that one is alienated from others/ not part of a family, circle of friends or other value groups), and perceived burdensomeness (views of ones existence as a burden to family, friend and society). Similar to this study, the sense to belong and to have social support are fundamental. All this comprise the desire to commit suicide. Other researchers have also documented significant associations between social support and suicidal behaviour (Bearman & Moody, 2004; Heo, 2007; Lyon, et al., 2000; Park, et al., 2006; Rutter & Behrendt, 2004).

Cultural Scripts of gender and suicidal behaviour

This theory suggests that beliefs about gender roles influence suicidal behaviour (Canetto & Sakinofsky, 1998). In particular, it suggests that attempting suicide is considered to be feminine and committing suicide is considered masculine. Further, it suggests that the

differences in lethality of method can be explained by this theory (e.g., hanging, shooting or jumping). According to this theory, females are expected to attempt suicide more than males. Males are particularly critical of other males who survive a suicidal act, thus, they make use of more lethal methods. The theory of cultural scripts of gender and suicidal behaviour also indicates that it is considered unmasculine to admit to suicidal thoughts.

According to Erickson (1968) the reason for gender difference in suicidal behaviour is based on biological characteristics. For example, males learn to suppress their feeling, while females express themselves emotionally. Thus, girls often internalize their emotions while boys feel pressured to externalize their emotions. The adolescent male often acts on his emotions in a more violent way. This could be the reason why males report less on suicidal attempts than females (Bradley et al., 2004; Kaess et al., 2011; Hawton & Van Heeringen, 2000; Madu & Matla, 2003; Martin et al., 2010), as it is not accepted to reveal suicidal attempts. Males rather use more violent ways to make sure their attempts do not fail.

Cognitive Theory

Beck (1996) emphasises the important role that cognitive errors and distorted thinking play in suicidal behaviour. That is, the manner in which people think about and interprets life events determines their emotional and behavioural responses to those events. Hence, according to Beck (1996), maladaptive cognitions are the central pathway to suicidal behaviour. What makes adolescents prone to suicidal behaviour can be explained by brain development and emotional instability (Louw & Louw, 2007). Brain research indicates that brain development is not complete until the age of 25 (Farley & Reyna, 2006). In addition, the prefrontal cortex (primary function is to control reasoning and impulses), develops last.

Some adolescents who attempt suicide are doing so in a maladaptive effort to solve their problems and as a result of their inabilities to solve problems effectively they turn to drugs, alcohol use and sexual activity to help ease the tension (Sofronoff, Dalgliesh, & Kosky, 2005). However, adolescents who have social support tend to have positive outcome of early maladaptive schemas (Dale, Kane, Murray, Power, & Steward, 2010).

Aim of study

The aim of the study is to assess the influence of gender differences, alcohol use and social support on suicidal -and risky sexual behaviour among adolescents in the Mafikeng area, in order to facilitate better knowledge and understanding.

Objectives of study

The purpose of the research study is to examine the associations between risk factors and suicidal behaviour. Specifically the primary objectives of the study are as follows:

- To investigate if there is a gender difference in suicidal- and risky sexual behaviour.
- To investigate if alcohol use influence suicidal- and risky sexual behaviour; and
- To determine whether social support influences suicidal- and risky sexual behaviour.

Scope of study

The study intends to provide specific knowledge on adolescent suicidal- and risky sexual behaviour, as well as factors associated with suicidal- and risky sexual behaviour with the aim to develop and apply prevention strategies. The study was conducted at three different Secondary Schools in Mafikeng, in the North-West Province: Danville High School, Mafikeng High School, and Golfview Combined High School.

Significance of the study

To prevent suicidal- and risky sexual behaviour effectively, the risks and causes have to be known and understood as well as the impact these indicators have on adolescents. Much research throughout the world has been done in trying to understand the complexity of suicidal behaviour and risky sexual behaviour, but despite the accomplishment, much remains to be done in the field of adolescent behaviour with special reference to rural community based adolescents.

The results of this study would create more awareness and expansion of knowledge among adolescents about the dangers involved in suicidal behaviour and risky sexual behaviour and therefore makes them to manage their adolescent stage with more caution. This study will also help to improve the understanding of the relationships between risk factors such as alcohol use, gender and social support. It is hoped that the results of this study could be used as groundwork for health care providers to understand and help adolescents at risk of suicide and risky sexual behaviour, not based on assumptions but based on empirically tested findings. Also, understanding the risk factors of suicide among adolescents will help professional health workers to make more effective and appropriate intervention strategies when working with those clients.

In addition, the study will be of great importance as it could decrease stress on families and friends associated with suicidal behaviour as the findings of the study may contribute to the clinical profession with regard to recognition and early therapeutic intervention strategies to prevent suicide. Social support groups may be particularly helpful as it can lower the high level of negative and social stigma associated with adolescent suicidal behaviour. By addressing this, adolescents who have suicidal thoughts can benefit by talking about their

feelings. Lastly, this study may also contribute to assist the South African government in recognizing the potential worsening of suicidal behaviour and risk taking behaviour during adolescence and the need for its role to play in preventing this significant health concern, which cannot be ignored.

HYPOTHESES

- (a) There is a gender difference in risky sexual behaviour.
  - more boys than girls take part in risky sexual behaviour

  (b) There is a gender difference in suicidal behaviour.
  - more girls than boys attempt suicidal behaviour.
- (a) Alcohol use influences suicidal behaviour.
  - high alcohol use is more common amongst adolescents who engage in suicidal behaviour.

  (b) Alcohol use influences risky sexual behaviour.
  - high alcohol use is more common amongst adolescents who engage in risky sexual behaviour.
- (a) Social support influences suicidal behaviour.
  - low indicators of social support have an impact on suicidal behaviour.

  (b) Social support influences risky sexual behaviour.
  - low indicators of social support have an impact on risky sexual behaviour.

Operational definition of concepts

The following concepts will be defined, as they are initially significant in the study:

Suicidal behaviour

Suicidal behaviour refers to self-destructive behaviour originating with thoughts about ending one's life (Krug, Dahlberg, Mercy, Zwi & Lozano, 2002). Suicidal behaviour for the purpose of this study includes a suicide plan, ideation, and attempted suicide that results medical treatment. To assess suicidal behaviour in this study, five questions were used:

- During the past 12 months, did you feel so sad or hopeless almost everyday that you stopped doing some usual activities? (Question 23)
- During the past 12 months, did you ever seriously consider attempting suicide? (Question 24).
- During the past 12 months, did you plan how you would attempt suicide? (Question 25).
- During the past 12 months, how many times did you actually attempt suicide? (Question number 26)
- If you attempted suicide during the last 12 months, did any attempt result in injury, poising, or overdose that had to be treated by a doctor or nurse?

Risky sexual behaviour

Risky sexual behaviour refers to any classification of sexual behaviours, without a barrier such as condom use, engaging in sexual activity under the influence of alcohol or drugs, sexual activity with multiple partners, and failure to take protective actions, such as birth control. To assess risky sexual behaviour in the study, seven questions were used:

- Have you ever had sexual intercourse? (Question 60)

- How old were you when you had sexual intercourse for the first time? (Question 61)
- With how many people did you have sexual intercourse? (Question 62).
- During the past 3 months, with how many people did you have sexual intercourse? (Question 63)
- Did you drink alcohol or used drugs before you had sexual intercourse the last time? (Question 64)
- The last time you had sexual intercourse, did you or your partner use a condom? (Question 65)
- The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy? (Question 66)

Gender

Gender in the study refers to the biological and physiological characteristics of being male or female. To assess gender, one question was used: "What is your sex?"(Question 2).

Alcohol use

Alcohol use in this study refers to the consumption of an intoxicating liquid. The following questions were used to assess alcohol use:

- During your life, on how many days have you had at least one drink of alcohol? (Question 39)
- How old were you when you had your first drink of alcohol other than a few sips?"(Question 40)
- During the past 30 days, on how many days did you have at least one drink of alcohol? (Question 41)

- During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?(Question 42)
- During the past 30 days, how did you usually get the alcohol you drank?"(Question 43)
- During the past 30 days, on how many days did you have at least one drink of alcohol on school property? (Question 44)

Social support

Social support in the study is operationalised by four multi-item measures of availability: tangible support, involving the provision of material aid or behavioural assistance; affectional support, involving the expression of love and affection; informational/emotional support, the offering of advice, guidance or feedback, expression of positive affect and empathetic understanding; positive social interaction, involving the availability of persons with whom to do pleasurable things (Sherbourne & Steward, 1991). The MOS (Medical Outcomes Study) social support survey was used to assess social support. It is a brief 19 – item questionnaire which was developed by Sherbourne and Steward (1991) for patients in the Medical Outcomes Study (MOS). Response options are: None of the time (1), a little of the time (2), some of the time (3), most of the time (4), and all of the time (5).

Methodology

Design

The cross–sectional survey design was employed. The two dependent variables under study were suicidal behaviour and risky sexual behaviour. The independent variables under study were gender, alcohol use and social support.

Sample

A total of 161 students were selected to participate in the study. A table of random numbers of "yes" and "no" were assigned to select 161 students randomly from three high schools in Mafikeng in the North-West Province to participate in the study. The study utilized 2 questionnaires.

Participants

Learners were divided into groups of six to maximise rapport, which consisted of grades 8 and 12 learners. The gender distribution consisted of 79 (49.1%) males and 82 (50.9%) females. Ages of students ranged between 12 and 18 years. The majority of the participants were Blacks (59%, n = 95), followed by Coloureds (36%, n = 58), Indians (3.7%, n = 6) and Whites (1.2%, n = 2).

Measuring instruments

A) The MOS (Medical Outcomes Study) social support survey

This is a brief 19 item questionnaire which was developed by Sherbourne and Steward (1991) for patients in the Medical Outcomes Study (MOS), a two year study of patients with chronic conditions. The items are short, simple and easy to understand. It is also appropriate for use with other populations.

The MOS social support survey consists of four separate social support sub-scales; emotional/informational, tangible, affectionate and positive social interaction. Emotional/informational support contains 8 items, measuring the expression of positive affect, empathetic understanding, provisions of advice, information, guidance and feedback. Tangible support contains 3 items measuring the offering of material aid or behavioural

assistance. Affectionate support contains 3 items measuring the availably of love and affection. Positive social support consists of 4 items measuring the availability of persons with whom to do pleasurable things with. For each item the respondent is asked to indicate how often each support is available to them and if they needed them. Response options are: None of the time (1), a little of the time (2), some of the time (3), most of the time (4), and all of the time (5).

The MOS social support survey has good reliability and validity measures (Sherbourne & Steward, 1991). All sub-scales have shown strong reliability over time (all alphas > 0.91) with emotional/informational = 0.96, tangible = 0.92, affectionate = 0.94 and positive social interaction = 0.91. The MOS social support was also used in South Africa to assess the effects of social support on health, well-being and management of diabetes mellitus. The reliability of the survey used in South Africa is acceptable, with the coefficient alpha of 0.97 (emotional/informational), 0.95 (tangible support) and overall support = 0.97 (Westaway, Seager, Rheeder, & Van Zyl, 2005), suggesting that the items have relatively high internal consistency.

B) The Youth Risk Behaviour Survey (YRBS)

The Youth Risk Behaviour Survey was developed by the Centre for Disease Control and Prevention (CDC) in Atlanta, USA (CDC, 2009). The instrument monitors different categories of priority risk behaviours among adolescents: personal safety, violence related behaviour, attempted suicide, tobacco use, alcohol, use of dagga and other drugs, sexual behaviour, body weight, dietary behaviour as well as physical activity (CDC, 2009). A shorter version of the questionnaire was developed by Coetzee and Underhay (2003) and was

used for this study. The validity and reliability have been tested and the instrument is considered to be valid and reliable (Coetzee & Underhay, 2003).

The reliability estimated ranged from a kappa of 23.6% to 90.5% and stability of time was found to be adequate for most items (Brener et al., 2002). Validity was established as researchers continue to use the measure in the study of adolescent risk behaviour. For example, the YRBS was used to study the relationship between risk behaviour and ethic identity (Love, Yin, Codina & Zapata; 2006), physical dating violence (Howard, Wang & Yan, 2007), family structure (Paxton, Valois & Drae; 2007), sexual activity and alcohol abuse (Kulbok & Cox; 2002). The YRBS was also used in South African studies to assess South African youth risk behaviour (Reddy et al., 2002; Wegner & Flisher, 2009).

Data collection procedures

Prior to data collection, a written informed consent letter was send to parents of each adolescent in order to ask permission for their child to participate in the study. Permission was also obtained from school authorities before the data was collected. Only adolescents who had permission from their parents and who were randomly sampled completed a table of random numbers of "yes" and "no". All the participants who selected "yes" and after informed consent were then provided with information of the aim, objectives, and methods of the study in an understandable language. Data was collected in the form of questionnaires. The self-administered questionnaires were conducted during one morning. The researcher explained to the participants the purpose of the study and how the questionnaires should be completed. Participants were required to fill in two questionnaires in the presence of the researcher to assist and clarify any ambiguity or to answer any questions that may be raised by the participants. A qualified psychologist was available to deal with any emotional problems that may have surfaced. The administration of the questionnaires took place over a

period of four hours. The learners were divided into groups of six to ensure good rapport between researcher and learners. English is not the first language of most adolescents in this study. English was not the first language of most adolescents in this study. To reduce the possible impact of this limitation there was careful supervision during the administration of questionnaires. Clarification was given on the items in the questionnaire to respondents who asked for interpretation of information and questions.

Method of data analysis

Descriptive statistics were computed as means and frequencies (count and percentages). All analysis was done using the Statistical Package for Social Science for windows, version 17.0. To test the hypotheses, a factorial analysis of variance was used to tests effects of gender, alcohol use, social support on suicidal- behaviour and risky sexual behaviour.

Ethical considerations

The following ethical issues were considered during the study. Prior to data collection, an ethical approval from the university as well as a written informed consent letter was send to parents of each adolescent in order to ask permission for their child to participate in the study. The participating subjects were each given a consent letter explaining the purpose of the study, the anonymity and confidential nature of the survey. Participants were also informed that participation in the research project was entirely voluntarily and that they could decline from the study at any time. Permission to conduct the study was obtained from the schools, parents of the participants and the participants. All the participants' information and responses shared during the study will be kept confidential and the results will be presented in an anonymous manner in order to protect the participants.

Results

The study was based on three hypotheses: Hypothesis one stated that a) there is a difference between gender and suicidal behaviour b) there is a difference between gender and risky sexual behaviour. Hypothesis two stated that a) alcohol use influence suicidal behaviour b) alcohol use influence risky sexual behaviour. Hypothesis three stated that a) social support influence suicidal behaviour and b) social support influence risky sexual behaviour.

To test the hypotheses, a factorial analysis of variance was used to test effects of gender, alcohol use, social support on 1) suicidal- behaviour and 2) risky sexual behaviour. Results are summarized in Table 1. These results confirmed the first hypothesis which stated that there is a difference between gender and suicidal- and risky sexual behaviour.

Table 1

Analysis of Variance Summary for Suicidal- and Risky Sexual Behaviour

Source	Sum of Squares	df	Mean Square	*E* F value	*P* P value
SB					
Gender	.30	1,53	.30	.27	.605
Alcohol	7.52	1,53	7.52	6.69	.011
Social Support	15.73	1,53	15.73	14.00	.000
Error	171.79	153	1.12		
RSB					
Gender	418.71	1,53	418.71	9.81	.002
Alcohol	1011.62	1,53	1011.62	23.69	.000
Social Support	337.90	1,53	337.90	7.91	.006
Error	6532.34	1,53	42.70		

Note: SB = Suicidal Behaviour
RSB = Risky Sexual Behaviour

Results indicates a significant main effect of alcohol use on suicidal behaviour, F (1, 171) = 6.69, $p < .05$. A significant main effect of alcohol use on risky sexual behaviour is also indicated in the results, F (1, 171) = 23.69, $p < .001$. These results confirm the hypothesis which states that alcohol use influence suicidal-and risky sexual behaviour. Estimated marginal means indicate that suicidal behaviour is more common among low alcohol use respondents (m = 8.77) than high alcohol use respondents (m = 8.30). With regard to risky sexual behaviour, participants who reported high on alcohol use (m = 17.22) tends to indulge

more in risky sexual behaviour suicidal than participants who reported low on alcohol use (*m* = 11.76).

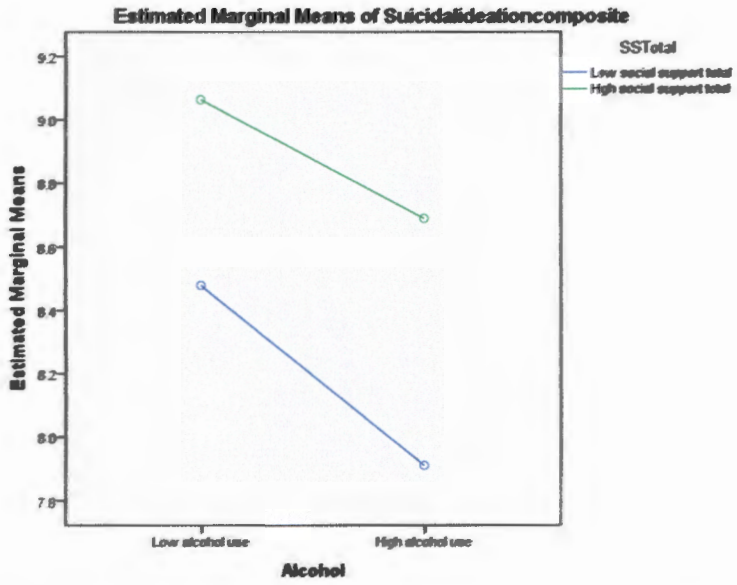

Figure1. Estimated Marginal Means of Suicidal Behaviour, Alcohol use, and Social Support

The means and interaction in Figure 1 illustrates the average low social support as blue and the average high social support scores as green. The graph clearly shows that low alcohol use with high social support (m = 9.06), are associated with suicidal behaviour more than low social support (m = 8.48). In addition, high alcohol use with high social support scores (m = 8.69) is also more common among suicidal behaviour than low levels of social support (m = 7.91). With regard to alcohol use, social support and risky sexual behaviour, means and interaction in Figure 2 shows that low alcohol use with low social support scores (m = 12.83) are associated with risky sexual behaviour more than low alcohol use and with high social support (m = 10.69). High alcohol use with low social support (m = 19.31) indulges more in risky sexual behaviour than individuals who reported high on social support (m = 15.13). In addition, there was also a significant main effect of social support on suicidal behaviour,

$F(1, 171) = 5.21, p < .05$ and of social support on risky sexual behaviour, $F(1, 171) = 7.91, p < .05$. The results partially support the stated Hypothesis 2 that alcohol has an influence on suicidal behaviour, but it did support alcohol influence on risky sexual behaviour. Hypothesis 3 was also partially supported, the influence of social support on suicidal behaviour was not supported by the results, but the influence of social support on risky sexual behaviour was supported by the results.

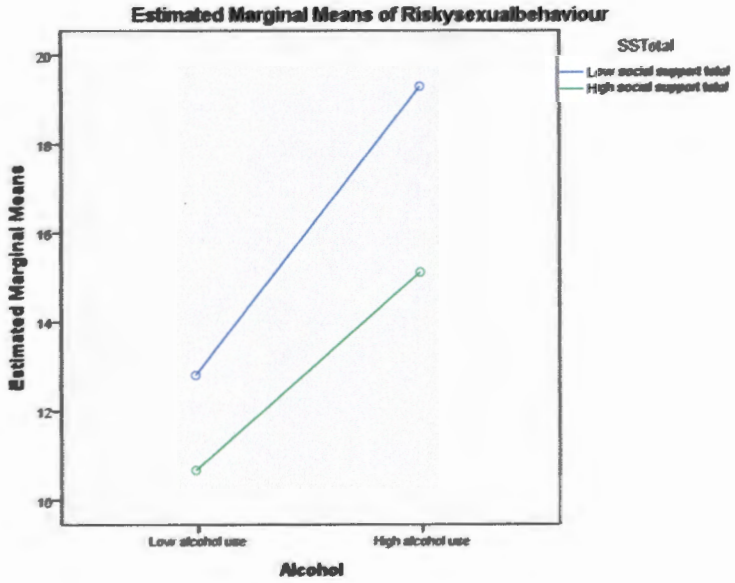

Figure 2. Estimated Marginal Means of Risky Sexual Behaviour, Alcohol Use and Social Support

Figure 3 illustrates the gender difference of suicidal behaviour and alcohol use. Results indicate that females (m = 8.85) who scored low on alcohol use are more suicidal than males (m = 8.69). Males, on the other hand, are more suicidal than females who scored high on alcohol use (m = 8.48 versus m = 8.13). Thus, males are more suicidal than females when they consume alcohol. In addition, results also indicate a significant interaction between gender, alcohol and suicidal behaviour, $F(1.171) = 5.22, P < .05$.

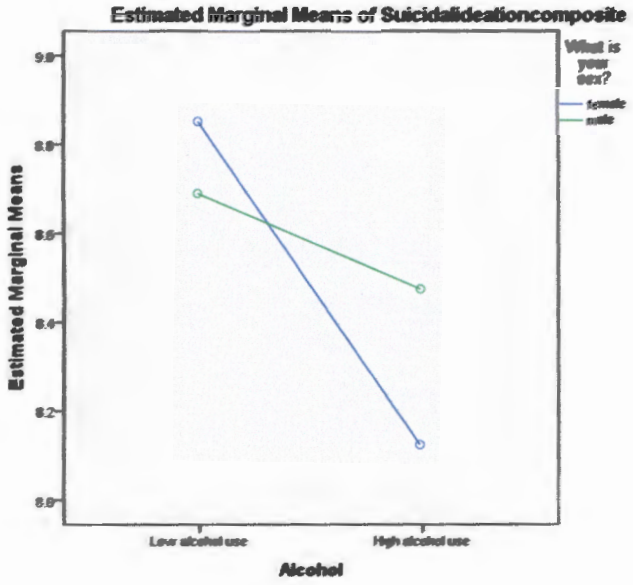

Figure 3. Estimated Marginal Means of Gender Difference of Alcohol Use and Suicidal behaviour

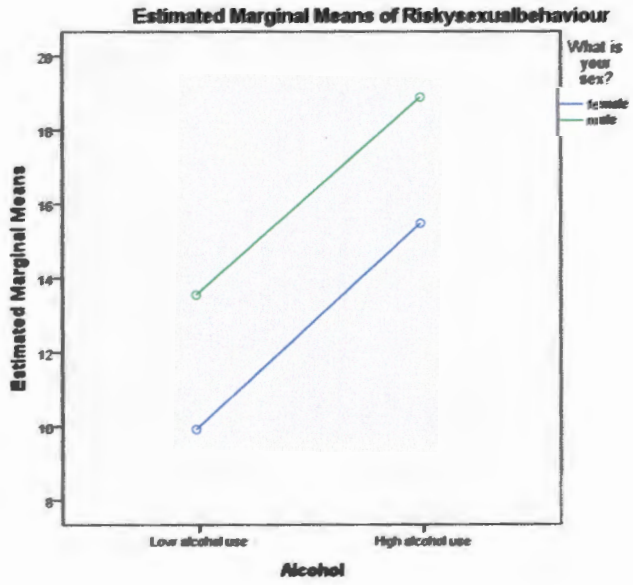

Figure 4. Estimated Marginal Means of Gender Difference of Alcohol, and Risky Sexual Behaviour

Results indicate no significant interaction between gender, alcohol use and risky sexual behaviour, F (1, 171) = .01, p >.05. Estimated marginal means (figure 4) indicate that males with high alcohol use (m = 18.93) tend to engage more in risky sexual behaviour than do females (m = 15.52). In addition, in the low alcohol use category, risky sexual behaviour is more common among males (m = 13.57) than females (m = 9.95).

The profile plot in Figure 5 shows clearly that males, with average high social support scores, engage more in suicidal behaviour than females (m = 9.13 versus m = 8.62). While females with average low social support (m = 8.36) engage more in suicidal behaviour than males (m = 8.04). The interaction effect was significant, F (1, 171) = 5.22, p <.05.

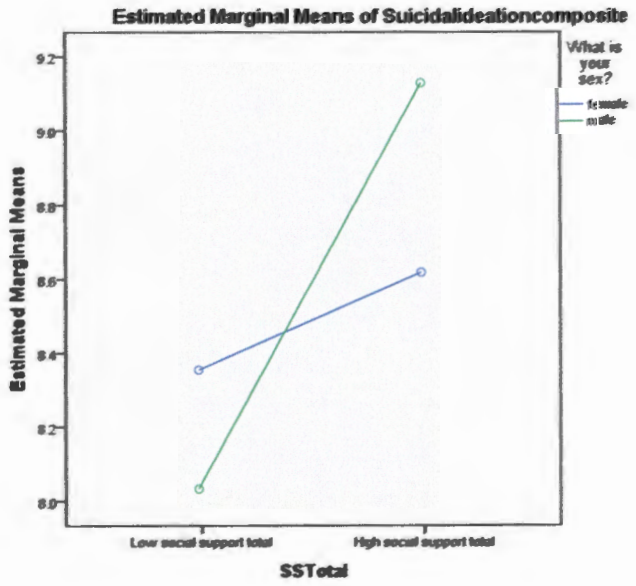

Figure 5. Estimated Marginal Means of Social Support, Gender and Suicidal Behaviour

The profile plot in Figure 6 illustrates that males with average high social support scores engage more in risky sexual behaviour than females (m = 15.17 versus m = 10.17). In the low social support total males also engage more in risky sexual behaviour (m = 17.33) than females (m = 14.81).

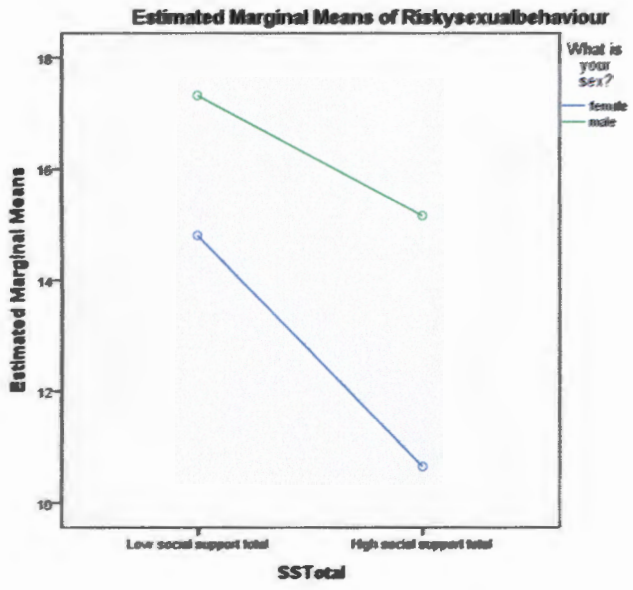

Figure 6. Estimated Marginal Means of Social Support, Gender and Risky Sexual Behaviour

Discussion

Results indicated a significant main effect of gender on risky sexual behaviour, $F(1, 171) = p < .05$, but non-significant effect of gender on suicidal behaviour. However, a gender difference was indicated with males having higher mean scores ($m = 8.58$) than females ($m = 8.49$) on suicidal behaviour and risky sexual behaviour (m = 16.25 versus m = 12.74). Results indicates a significant main effect of alcohol use on suicidal behaviour, $F(1, 171) = 6.69, p < .05$. A significant main effect of alcohol use on risky sexual behaviour is also indicated in the results, $F(1, 171) = 23.69, p < .001$.

Results of Hypothesis 1 showed that there is gender difference in a) suicidal behaviour and b) risky sexual behaviour. The findings are in line with Bradley et al., 2004; Hawton et al., 2000; Kaess et al., 2011; Madu & Matla, 2003; Martin et al., 2010 who found that suicidal behaviour is more common among females than males. This significance of gender difference with regard to suicidal behaviour can be explained by method of lethality, with females who engage in more non-fatal suicidal behaviour while males use more violent ways (Andriessen, 2006). Females are thus more likely to engage in non-fatal suicidal behaviour, while males are more likely to use lethal methods to end their lives. Theoretically, the findings also support the theory of cultural scripts of gender and suicidal behaviour (Canetto & Sakinofsky, 1998). In general, this theory stipulates that is considered unmasculine for males to admit to suicidal thoughts.

Gender difference with regard to risky sexual behaviour was also supported by the results. The results suggest that males engage significantly more in risky sexual behaviour than females. This study corroborates findings that reported significant gender difference in risky sexual behaviour (Frank et al., 2008; Puente et al., 2011). The involvement of risky sexual behaviour is mostly common among males and females who socialize and lives in communities in which collective moralities and cultural norms are open-minded towards risky sexual behaviour (Ntseane & Preece, 2005). Another explanation for the difference in risky sexual behaviour might be the result of males that are more prone to risk-taking as a form of display for acceptance which makes adolescents susceptible to risky sexual behaviour (Searle, 2009). Poor impulse control are associated with risky sexual behaviour, such as early onset of sexual intercourse and involvement with multiple partners (Crockett, Raffaelli, & Shen; 2006). Men engage in impulsive and risky behaviour more frequently than women.

Results of Hypothesis 2 showed a) that alcohol use influences suicidal behaviour and b) that alcohol use influences risky sexual behaviour. This corroborates findings from Conason, et al., (2006) and Mehlenbech, et al., (2003) who reported a significant correlation between substance use and suicide in adolescent suicidality. In addition, Nishimura, et al., (2005) also found that adolescents who frequently consume alcohol tend to have higher rates of suicidal behaviour compared with non–drinkers. Similarly, Park, et al., (2006) found that alcohol abuse is a significant predictor of suicidal ideation.

When adolescents are intoxicated they tend to engage in risky sexual behaviours increasing risk for unwanted teenage pregnancy or sexually transmitted diseases (Marshal, et al., 2003). Similarly, Morojele, et al., (2006) found that alcohol consumption and risky sexual behaviour

are positively related. When under the influence of alcohol, individuals tend to engage in unprotected sex in casual relationships. This suggests that substance use could facilitate the transition from suicidal ideation to suicidal attempts, and possible suicide itself (Bridge, et al., 2006). The reason is because alcohol influences sexual risk behaviors through direct psychoactive effects on cognitive processes, including reasoning skills, sexual arousal and desire, inhabitations, judgment, and sense of responsibility (Morojele, Kachieng'a, Mokoko; 2006).

The findings of the study do not support Hypothesis 3 which states that, a) social support influence suicidal behaviour. However, it supports the influence of social support on risky sexual behaviour. Contrary to this findings, Eskin et al., (2007); Heo (2007); Lyon, et al., (2000); and Park et al., (2006) found that a lack of social support is a significant predictor for suicidal behaviour. As stated in the literature review, social support has been acknowledged to be a protective factor against adolescent suicide (Bearman & Moody, 2004; Rutter & Behrendt, 2004). Despite the use of a well validated social support measurement tool in this study, it is important to note that people differ in their views on the extent to which social support contributes to or influence individual behaviour. For example, individuals may have social support, but social circumstances (poverty, separation or death of a loved one) of some individuals may expose them to more destructive behaviour.

The findings of the study, with regard to social support and risky sexual behaviour, are in line with Elkington et al., (2011) and Ford (2009) who found that those participants presenting with low social support to be more prone to risky sexual behaviour than those who reported high social support. The study also supports the view of Brady et al., (2009) that when lower levels of social support are presented, high levels of risky sexual behaviour occur. According

to Lovell (2006), adolescents revealing risky sexual behaviour are those whose lives are characterized by inadequate social support. Peer socialization may cause adolescents to engage in more risk taking behaviour that are pleasurable (Seiving et al., 2006).

Recommendations and conclusion

Risk factors associated with adolescent suicidal behaviour are broad, most of the literature focus on substance use, gender difference, social support of suicidal- and risky sexual behaviour. Therefore, there is a need to investigate other factors associated with suicidal behaviour. Further studies can investigate the influence of biological, psychological, social and cultural factors on suicidal behaviour in different social or school settings to develop a more holistic understanding of adolescent suicidal behaviour. To address these risk factors impacting on suicidal behaviour, longitudinal designs can be used whereby the same group of participants can be assessed over different time frames, as this study among adolescents was based on cross-sectional data.

Extensive research is needed to determine effective methods of teaching students, school personnel and family members to recognize and respond to suicidal behaviour, as it may possibly inhibit prevention. Community awareness of suicide risk factors and prevention strategies should be promoted to educate the public. The implementation of such intervention, by means of which adolescents that are at risk of suicidal behaviour, can be taught in order to reduce suicidal behaviour.

Declarations

The author has no financial disclosures or conflicts of interest to report

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APPENDIX A
Permission letter to principal: Danville High School

Zainub Davids
8 Gazania Street
Danville
Mafikeng
2745
Cell. no. 072 437 2196
20/03/2011

The Principal

Re: Research with students from Danville Secondary School

I am a registered Masters (M.Soc.Sc in Clinical Psychology) student at the North-West University, Mafikeng Campus. I would like to approach your school for conducting research on the topic of my dissertation: "Influence of gender, alcohol use, and social support on suicidal- and risky sexual behaviour".

The research will be conducted in terms of questionnaires with your grade 8-12 learners, all the responses gathered from these questionnaires will be treated with anonymity and confidentiality. Your permission will be highly appreciated.

Thanking you.

Yours sincerely.

Research (Zainub Davids)

APPENDIX B

Permission letter from school: Danville High School

KONDÊRE SKOOL DANVILLE SECONDARY SCH

HOOL STREET
VILLE
IKENG

018 381 4737
NO. 467

P. O. BC
MAFI

FAX: 018 38
NORTH WEST PROV

13 April 2011

TO WHOM IT MAY CONCERN

Permission was granted to Ms. Z. Davids to conduct her survey/questionnaire on Child Psychology at the institution.

The survey was conducted today, Wednesday 13 April 2011.

Yours in Education.

S. Rosenberg (Principal)

APPENDIX C
Permission letter to principal: Mafikeng High School

Zainub Davids
8 Gazania Street
Danville
Mafikeng
2745
Cell. no. 072 437 2196
20/03/2011

The Principal

Re: Research with students from Mafikeng Secondary School

I am a registered Masters (M.Soc.Sc in Clinical Psychology) student at the North-West University, Mafikeng Campus. I would like to approach your school for conducting research on the topic of my dissertation: "Influence of gender, alcohol use, and social support on suicidal- and risky sexual behaviour".

The research will be conducted in terms of questionnaires with your grade 8-12 learners, all the responses gathered from these questionnaires will be treated with anonymity and confidentiality. Your permission will be highly appreciated.

Thanking you.

Yours sincerely.

Research (Zainub Davids)

APPENDIX D

Permission letter from school: Mafikeng High School

E-POS: mafikenghighschool@intekom.co.za E-MAIL: mafikenghighschool@intekom.co.za

ONS VISIE	ONS WAARDES	OUR VISION	OUR VALUES
uitnodigende skool sal ons 'n eeld vir die wêreld wees hoe lende kulture saam kan leef, n speel en as 'n eenheid sukses haal.	Toewyding Respek Integriteit Beeld Prestasie	In our inviting school we shall be an example to the world how different cultures can live, work and play together peacefully and successfully as one.	Commitment Respect Integrity Image Achievement
VANUIT DIE KANTOOR VAN HOOF		FROM THE OFFICE OF THE HEADMASTER	

To whom it may concern

I the undersigned, hereby confirm that
I gave permission to
ZAINUB DAVIDS
to do research on
RISK FACTORS ON SUICIDAL BEHAVIOUR
on 2013-04-18
at Mafikeng High School.

T.A. Landman		2013-04-19
T.A. LANDMAN HEADMASTER		DATE

APPENDIX E
Permission letter to principal: Golfview Combined School

Zainub Davids
8 Gazania Street
Danville
Mafikeng
2745
Cell. no. 072 437 2196
20/03/2011

The Principal

Re: Research with students from Golfview Combined Secondary School

I am a registered Masters (M.Soc.Sc in Clinical Psychology) student at the North-West University, Mafikeng Campus. I would like to approach your school for conducting research on the topic of my dissertation: "Influence of gender, alcohol use, and social support on suicidal- and risky sexual behaviour".

The research will be conducted in terms of questionnaires with your grade 8-12 learners, all the responses gathered from these questionnaires will be treated with anonymity and confidentiality. Your permission will be highly appreciated.

Thanking you.

Yours sincerely

Research (Zainub Davids)

APPENDIX F

Participants consent form

Dear Participant

Thank you for considering participation in this study. The purpose of this study is to assess suicidal behaviour and risk factors among adolescents. Participation in this study is voluntary and any possible identifying data will be held in the strictest confidence. The data obtained from the questionnaires will be completed anonymously.

Your participation in this study will serve to provide a better understanding about suicidal behaviour and risk factors associated to such behaviour. As previously stated, participation is entirely voluntary and should you feel the need, you may withdraw from the study at any time.

Please complete the following part if you are willing to participate in this study.

_____

Signature of participant

APPENDIX G

Parents' permission letter to complete questionnaires

I am a registered Masters (M.Soc.Sc in Clinical Psychology) student at the North-West University, Mafikeng Campus and I am presently busy in the completion of my dissertation. The participation of your child in this study is very important and will serve to provide a better understanding about suicidal behaviour and risk factors associated to such behaviour.

The purpose of this study is to assess suicidal behaviour and risk factors among adolescents. Participation in this study is voluntary and any possible identifying data will be held in the strictest confidence. The data obtained from the questionnaires will be completed anonymously.

I hereby request permission to conduct the abovementioned research by requesting your child to complete the questionnaire. Your permission will be highly appreciated. Please sign the attached form and return to the school.

Thanking you.

Yours sincerely.

Research (Zainub Davids)
Contact numbers: 018 – 3814683/ 0724372196
e-mail: zainub.davids@yahoo.com

APPENDIX H

Parents' consent form

I hereby state that I have read the research study information sheet and have understood the content.

I..... hereby consent for my son/daughter to take part in this research study and to complete the questionnaire.

In respect of my son/daughter's participating in the research study, as conducted by the North-West University Psychology Masters student, I understand that the study is intended as a student learning project, and that his/her participation is entirely voluntary in which confidentiality and anonymity will be protected.

....

(Signature of parent/ guardian) (Date)

APPENDIX I

Ethics Approval Letter

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: (018) 299-4900
Faks: (018) 299-4910
Web: http://www.nwu.ac.za

Ethics Committee
Tel +27 18 299 4850
Fax +27 18 293 5329
Email Ethics@nwu.ac.za

ETHICS APPROVAL OF PROJECT

This is to certify that the next project was approved by the NWU Ethics Committee:

Project title : An assessment of the prevalence and frequency of suicidal behaviour among adolescents in a rural area in the North West Province

Project leader: Zainub Davids

Ethics number: NWU-00121-11-A9

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

Expiry date: 30 July 2017

The Ethics Committee would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the Ethics Committee for any further enquiries or requests for assistance.

The formal Ethics approval certificate will be sent to you as soon as possible.

Yours sincerely

Me.Marietjie Halgryn
NWU Ethics Secretariate