

Personality Traits and Risk-Taking Behaviours of Adolescents in Ventersdorp: The
Moderating Roles of Self-Esteem and Gender.

N.E SEKANO

Student Number: 23144637

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Supervisor: Prof E.S. Idemudia

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Abstract:

Background: Risk-taking behaviours have been found to be highly prevalent worldwide and a major cause of increased risk of accidents and death among adolescents.

Objectives: This study investigated the relationship between each of the personality factors, Psychoticism, Extraversion and Neuroticism (PEN) and risk-taking behaviours and attempted to find out whether self-esteem and gender do moderate the relationship between each of the PEN personality factors and risk-taking behaviours.

Method: A cross-sectional research was conducted and four hundred and ninety one participants were selected through simple random sampling within Thuto-Boswa High School in Ventersdorp, South Africa. The sample consisted of 225 male and 239 female adolescents between 16 to 18 years. Data was collected using the EPQ-R short version scale, Youth Risk Taking Behaviours Questionnaire and Rosenberg Self-Esteem Questionnaire.

Results: The findings of the study indicated that there was a statistically significant relationship between personality factors, extraversion ($r = .14$), neuroticism ($r = .013$) and risk-taking behaviours. As predicted, self-esteem moderated the relationship between each of the PEN personality factor and risk-taking behaviours ($p < .040$, $\beta = -.121$). Therefore, as self-esteem increases, it lessens the probability of high neurotic scorers of engaging in risk-taking behaviours. Gender also moderated the relationship between each of the PEN personality factors and risk-taking behaviours ($p < .000$, $\beta = .342$), with females ($M = 165.68$) engaging more in risk-taking behaviours than males ($M = 145.96$).

Conclusion: Personality factors, extraversion and neuroticism, have a statistically significant positive relationship with risk-taking behaviours, and self-esteem and gender do moderate the relationship between each of the PEN personality factors and risk-taking behaviours.

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1. Introduction

Risk-taking behaviours have been defined in various ways, but most definitions include the possibility for potential gain or loss, followed by either short-term or long-term consequences (Neudecker, Pilarski, Pytlak & Skeel, 2007). As such, Cassidy, Daughters, Lejuez, MacPherson, Mayes, Reynolds and Wang (2010), conceptualised risk-taking behaviours as “behaviours that involve some potential for harm or negative consequences to the individual or others”. These behaviours are usually associated with activities that involve moderate to high short-term gain, followed by the potential for greater long-term loss (Leather, 2009). This indicates that, risk-taking behaviours involve temporary pleasure while resulting in long-term consequences for the individual or others involved.

Furthermore, Gullone and Moore (2000) defined risk-taking behaviours as “behaviours that involve potential negative consequences or loss but are balanced in some way by perceived positive consequences or gain”. These behaviours are defined as risky because they are usually volitional, their outcomes are uncertain and they entail negative consequences (Ben-zur & Michael, 2007).

Some of the examples of risk-taking behaviours that occur among high school adolescents include alcohol consumption, smoking cigarettes, sexual intercourse, binge drinking, smoking cannabis and engagement in physical fights (Leather, 2009). These behaviours usually have negative repercussions for adolescents, including an increased risk of accidents and death such as pedestrian accidents, motor vehicle accidents, falls, drowning, burns, injuries due to fights and other miscellaneous accidents (Boden & Fergusson, 2011).

The prevalence of risk-taking behaviours has been extensively researched worldwide (Khasakhala, Kokonya, Mutiso, Ndeti&Ongecha-Owuor, 2010), with statistics generally showing about 59% to 71% of adolescents engaging in risk-taking behaviours (Burstein, Case, Conway, Dierker, He, Merikangas&Swendsen, 2012). Specifically, the 2005 US National survey on drug use and health confirmed these reports by estimating that there were 11 million underage drinkers in the USA and nearly 7.2 million were involved in risk-taking behaviours (Korte, Mulder, Pieterse, Postel& Van Hoof, 2012). An alarming rate of 36% to 89% of adolescents engaging in risk-taking behaviours have been reported in the European countries as compared to the 15.3% in Canada (Cismaru, Lavack&Markewich, 2008). In South Africa, the 2002 National Youth Risk Behaviour survey also showed an increasing percentage of adolescents engaging in risk-taking behaviours to be ranging from 43% to 58% respectively (Akinboade&Mokwena, 2010).

Based on these statistics, there has been a rapid increase in studies focusing on understanding factors influencing adolescent risk-taking behaviours (Knust& Stewart, 2002; Essau, 2004; Hong &Paunonen, 2009; Barkus, Ciarrochi, Heaven & Leeson, 2013), and most researchers began focusing on personality factors such as sensation-seeking, impulsivity, extraversion and neuroticism; and found that it is these personality factors that differently predispose adolescents to taking risks, as they influence their thoughts and behaviours in different situations (Graham, Gross, Hayne, Pharo&Sim, 2011; Agocha, Cooper & Sheldon, 2000). For instance, Graham et al., (2011); Cyders, Flory, Rainer and Smith (2008) and Zimmermann (2010) found some of the personality traits such as extraversion, neuroticism, sensation seeking and impulsivity to be predictors of engagement in risk-taking behaviours in adolescence.

Caspi et al., cited in Engels, Kleinjan, Lammers, Malmberg, Monshouwer, Overbeek and Vermulst (2012) stated that, “Personality is defined as individual differences in the tendency to behave, think and feel in certain consistent ways and these behaviours are stable over time”. Personality is also conceptualised as enduring patterns of an individual’s unique psychological and behavioural characteristics, which can exert some degree of influence over thought and behaviour of the individual across time and in different situations (Martin, Preedy & Watson, 2011).

However, for the purpose of this study, the focus is on Eysenck’s three personality factors, which are psychoticism, neuroticism and extraversion, because understanding the significance of these personality factors when studying risk-taking behaviours may assist with the planning of effective intervention strategies. Buss and Larsen (2008), defined psychoticism as a dimension of personality characterized by “a constellation of narrower traits that include aggression, egocentricity, creativity, impulsivity, lack of empathy and antisocial behaviour”. Extraversion is a dimension of personality characterized by a large number of narrow traits such as sociable, active, lively, venturesome and dominance (Buss & Larsen, 2008). Neuroticism is a dimension of personality that consists of a cluster of more specific traits such as anxiousness, irritability, guilt, lack of self-esteem, tense, shy and moody (Campbell, Hall & Lindzey, 1998).

Furthermore, another possible antecedent of risk-taking behaviours in adolescence is low self-esteem (Bhana, Flisher, Lombard & Wild, 2004). Emler (2001) defined self-esteem as a generalized feeling about oneself and the totality of the individual’s thoughts and beliefs about who they are. Self-esteem is an individual’s evaluation of him or herself, including feelings of self-worth (Bhana et al., 2004).

This means, self-esteem is a global self-evaluation that combines various aspects of one's self concept built from a wide range of behaviours and experiences (Dunn, Hammer & Weiten, 2010). Basically, self-esteem is concerned with an individual's awareness of his or her own self, their own identity as well as how they think and feel about themselves, their abilities and hope for the future (Powell, 2004).

Another crucial factor to consider together with self-esteem on risk-taking behaviours is gender. Gender is often defined as the biological, hormonal and psychological differences between man and woman (Cockcroft, Duncan & Watts, 2009). Gender can also be referred to as socially produced differences between males and females which are created by the process of socialization (Holmes, 2007). Connell (2009) also views gender as "an expression of the natural differences between males and females that are brought by social relations within which individuals and groups act".

2. Literature Review

2.1 Predictors of risk-taking behaviours

There are several predictive factors that may influence risk-taking behaviours in adolescence and some of these factors have been documented in the literature (Megan & Schulenberg, 2008). Schooling environment is one of the factors that contribute to involvement in risk-taking behaviours, whereby poor school achievement and truancy have been found to correlate greatly with involvement in risk-taking behaviours (Megan & Schulenberg, 2008).

Cheng, Hsu, Lee, Lin and Wang (2009) also identified poor school performance as a risk factor for interpersonal violence, suicidal tendencies and the use of cigarettes and alcohol. This means, adolescents who are not performing well at school tend to be more at risk of engaging in risk-taking behaviour, probably because they have low motivation to success.

Another important factor contributing to involvement in risk-taking behaviours is peer pressure. According to Doremus-Fitzwater, Spear & Varlinskaya (2010), the adolescent's interactions with peers becomes more important during adolescence and these interactions begin to influence decision-making and behaviour by providing a significant source of positive or negative experiences. Furthermore, adolescents who engage in risk-taking behaviours have been found to often seek support from similar-minded peers, that is, for girls, these may be older boyfriends who may exacerbate risky sexual behaviours among other activities (McArdle, 2008).

In addition, Ben-Zur and Michael (2007) also found that, the relationship with a peer group functions both as a source of social support and a source of temptation and endangerment. As such, peer pressure by the adolescent's social group tends to encourage involvement in dangerous acts, with socialization in the peer group leading an adolescent towards risk-taking behaviours (Ben-Zur & Michael, 2007). Therefore, adolescents become involved in risk-taking behaviours because they seek to participate in experiences that appear relevant to the group identity and also attain accomplishments that establish a self-identity within the group (Ben-Zur & Michael, 2007).

2.2 Classification of risk-taking behaviours

According to Cok, Guney, Kloep and Simsek (2009), risk-taking behaviours can be classified into three categories, which are, irresponsible behaviours, audience-controlled behaviours and thrill-seeking behaviours. *Irresponsible risk-taking behaviours* are not performed because of the risks they imply but they are performed in order to achieve other desired or immediate goals. Irresponsible risk-taking behaviours usually demonstrate an individual's inability to see long-term consequences of their behaviours or the unwillingness to abstain from such activities because of the perceived short-term advantages (Coketal., 2009).

Audience-controlled risk-taking behaviours emerge out of a need for security, fear or concerns about losing social support or approval within a significant group, leading to lack of social security that requires social reinforcement (Coketal., 2009). In order to be accepted, to find a place in the peer group, establish a social position or to appear more adult than others, an adolescent has to demonstrate certain qualities and abilities that need an audience and this can be substance abuse or sexual behaviours (Coketal., 2009). *Thrill-seeking risk-taking behaviours* involve exciting, stimulating and sensation-seeking behaviours that usually test the limits of one's capabilities and they may predispose people to engaging in risk-taking behaviours (Coketal., 2009).

2.3 Risk-taking behaviours and personality

Personality factors such as extraversion, neuroticism and psychoticism have been implicated in the role they play in predisposing adolescents to engaging in risk-taking behaviours (Agochaetal., 2000). From these three dimensions of personality, the most consistent relationship to emerge is the association between psychoticism and the adolescent's risk-taking behaviours

(Connor, George, Gullo & Young, 2010). For instance, adolescents who scored high on psychoticism tend to be drinking alcohol frequently, in greater quantities and in a more harmful manner than low scorers (Connor et al., 2010). Other studies also suggest that, psychoticism among adolescents predicts deteriorating well-being over time as well as later criminal convictions and risk-taking behaviours (Barkus et al., 2013).

Interestingly, other studies found that, neuroticism and extraversion were also related to engagement in risk-taking behaviours such as alcohol-related problems, smoking and illicit substance use (Neudecker et al., 2007). For instance, neurotic adolescents were prone to engaging in risky behaviours as a way of coping with aversive mood states (Agocha et al., 2000), whereas, extraverts participated in a number of risky behaviours such as risky experiments, sports, vocations, antisocial activities, sexual behaviour, smoking, drug and alcohol abuse as well as reckless driving in order to get stimulation (Kuhlman & Zuckerman, 2000).

However, Bailey, Martin, Verweij, Wright and Zietsch (2010) also explored the influence of other personality factors such as impulsivity, extraversion, psychoticism and neuroticism and found that, these traits were significantly positively correlated to risky sexual behaviours. This implies that, adolescents who scored high on these traits were more likely to engage in risky sexual activities than lower scorers. Furthermore, conscientiousness and agreeableness were also implicated in risk-taking behaviours such as tobacco use, unsafe driving behaviour and risky sexual activities (Hong & Paunonen, 2009). This means being a low scorer on conscientiousness and agreeableness exposes adolescents to more risk-taking behaviours than higher scorers.

For the record, sensation seeking was another personality factor that may significantly influence risk-taking behaviours such as alcohol and drug abuse. These reports have been

documented by Breivik and Hansen (2001), who found that sensation seeking was significantly correlated with risk-taking behaviours among adolescents. This means, adolescents who are high scorers on sensation seeking tend to be more predisposed to engaging in risk taking behaviours than low scorers, and this is because they constantly need new experiences that are stimulating.

On that note, Butler and Montgomery (2004) found that venturesome and extraversion were also linked to risk-taking behaviours, in which adolescents were aware of the risk involved, but still engaged in risky activities for the thrill associated with them. Furthermore, it is not surprising that higher impulsivity scorers were less likely to use condoms, consumed more alcohol and smoked cigarettes, marijuana and other illicit drugs as compared to lower scorers, as their impulsivity hampers their judgement in most cases (Bryan & Robbins, 2004).

Additionally, impulsivity further received particular attention over the years and it has been hypothesized that risk-taking behaviours are often the result of deficits in impulse control (Zimmermann, 2010). Cyders et al. (2008) also documented that, adolescents who were found having impulsivity related traits also engaged in problematic risky behaviours. This may be mainly because impulsiveness has been subdivided as a form of risk-taking, non-planning or liveliness act that may be linked with extraversion (Eysenck & Eysenck, 1978).

2.4 Risk-taking behaviours and self-esteem

Janosz, Maiano, Marsh, Morin and Nagengast (2013) emphasised that, during the period of adolescence, adolescents evolve in a context where they implicitly and explicitly learn about themselves while experiencing major physical, cognitive, emotional and social changes that come with this turbulent developmental stage. For this reason, adolescents are more susceptible to negative affective states such as low self-esteem and depression which may expose them to

seeking out comfort and excitement through risk-taking behaviours (Guilamo-Ramos, Gonzalez, Jaccard, Lushin, Martinez & McCarthy, 2011).

Research on the relationship between self-esteem and risk-taking behaviours is inconclusive, with some researchers reporting that adolescents with low self-esteem are more likely to engage in risk-taking behaviours, while others have observed no relationship between risk-taking behaviours and self-esteem (Biesheuvel, Bos, Huijding, Muris & Vogel, 2010). For instance, Walker (2014) argued that, adolescents with low self-esteem face an increased risk of taking drugs and cannabis or engaging in unprotected sexual activities, as they seem to underestimate the consequences of their risky behaviours mainly because they do not see themselves as valuable.

Furthermore, Bhanaet al., (2004) also argued that, adolescents with low self-esteem are more predisposed to adopting risk-taking behaviours, especially if their experiences in their conventional, normative membership groups such as family, school or peers have led them to developing the feeling of rejection and low motivation to conform to the norms of these groups. This means, as the adolescents grow up, there is an increased feeling of rejection and low motivation, which, in turn increases the likelihood of them turning to delinquent peers and adopting risk-taking behaviours as a way of trying to feel more valuable.

Additionally, as an adolescent's sense of self diminishes, they tend to abuse drugs and alcohol as a way of coping with a diminished self-concept (Guilamo-Ramos et al., 2011). This has been supported by Bhanaet al.,(2004) who reported that, adolescents with low self-esteem may turn to risk-taking behaviours such as substance abuse as a way of coping with or escaping from the negative feelings associated with low self-worth.

Other studies also identified a relationship between self-esteem and risk-taking behaviours, and the findings have indicated that lower levels of self-esteem have been associated with higher levels of risk-taking behaviours (Buser, Peterson & Westburg, 2010). For instance, Mcatee (2010) argued that, lower levels of self-esteem can be predictors of risk-taking such as heavy alcohol consumption, because when adolescents with low self-esteem are thrust into social events, they may use alcohol to reduce social anxiety and lower inhibition.

However, Chenget al., (2009) have different views. They argue that, self-esteem appears to form a protective buffer against risk-taking behaviours and is one of the protective factors that can decrease the likelihood of engaging in risk-taking behaviours. This was based on the findings of their study conducted among 878 Taiwanese adolescents, in which they found self-esteem to be a statistically significant protective factor for risk-taking behaviours (Chenget al., 2009). This means, the higher the adolescent's self-esteem, the lesser the probability of engaging in risk-taking behaviours.

2.5 Risk-taking behaviours and gender

Gender differences have been the focus of much prior research in self-esteem and risk-taking behaviours (Brown, Ramo & Schulte, 2009; Morrongiello, Normand & Zdzieborski, 2010; Booth & Nolen, 2012). For instance, Erol and Orth (2011) found that, male adolescents had higher self-esteem than female adolescents and higher levels of risk-taking behaviours such as alcohol abuse with the consumption ratio of 2: 1; while other studies also found the regular use and misuse of beer to be high in boys than in girls (Batista- Foguet, Calmeiro, Matos & Simoes, 2008). Morrongiello and Sedore (2005) also documented that, boys generally engage in greater risk-taking behaviours and sustain more frequent and serious injuries than girls.

The influence of gender on risk-taking behaviours can be traced back to socialization in which boys and girls are socialized differently by society, where boys are associated with more hazardous and impulsive behaviours while girls are associated with more cautious behaviours (Derlega, Jones & Winstead, 2005). For example, in one study, mothers were found to be more encouraging of risky play activities by their sons than their daughters and they were more protective of their daughters in risky situations but less responsive to their sons (Morrongiello et al., 2010). These differences in socialization make boys more prone to engaging in more risk-taking behaviours than girls, as they are used to activities that are hazardous.

Furthermore, when boys and girls participate in competitive sports, boys are often pushed to take risks, while girls are encouraged to be more cautious (Booth & Nolen, 2011). It is for this reason that male adolescents were found to be consuming more alcohol than female adolescents and engaging in more risky behaviours (Cismaruet al., 2008). These gender differences may account for the reasons why male adolescents become more inclined to taking more risks that involve carrying a weapon, smoking cigarettes, drinking alcohol, using drugs and engaging in risky sexual activities than female adolescents (Essendrup, 2008).

However, we cannot ignore the role of hormones- testosterone when addressing gender differences, as they are also critical. According to Buss and Larsen (2008), boys and girls differ in their level of circulating testosterone, which affects their emotions and behaviours. The concentration of testosterone increases dramatically in adolescence in boys while it remains low in girls and this androgen is found to be associated with behaviours such as aggression, dominance, bravery and impulsivity that can exacerbate risk-taking behaviours (King, 2008).

From the above findings, it is evident that several researchers have been dedicated to understanding the influence of gender and self-esteem on risk-taking behaviours, but what is lacking is understanding whether gender can act as a buffer for engaging in risk-taking behaviours. The role of PEN personality factors on risk-taking behaviours has not been extensively researched in the literature. Another concern is the inconclusive findings in literature about whether self-esteem acts as a predisposing or protective factor against risk-taking behaviours and whether it can moderate personality and risk-taking behaviours. In order to resolve this shortfall in the literature, this study aims to investigate the moderating role of self-esteem and gender on the relationship between PEN personality factors and risk-taking behaviours in adolescence.

3. A Hypothesised Model

Independent variables (X): Moderating variables (M): Dependent variable (Y):

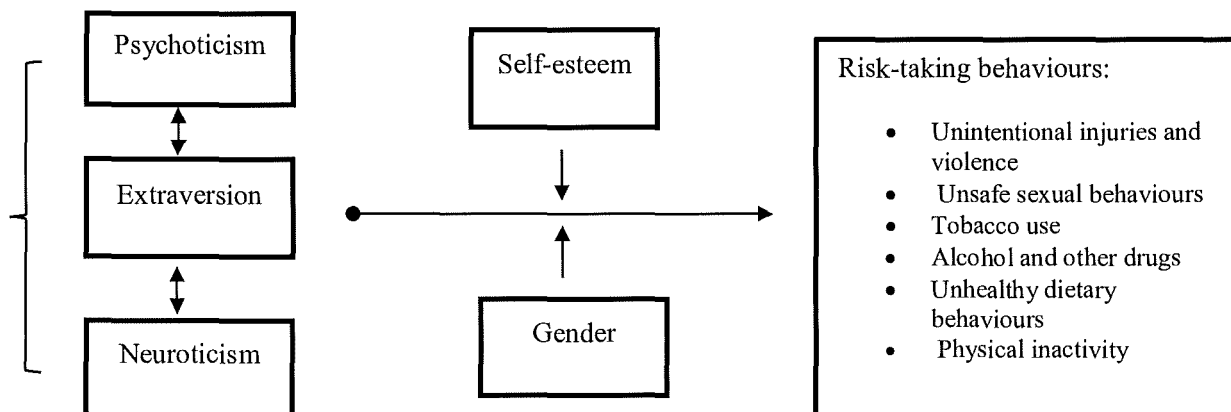


Figure 1.1

From the hypothesised model above, it is assumed that each of the PEN personality factors, i.e psychoticism, extraversion and neuroticism (X) will have significant influence on the probability of engaging in risk-taking behaviours (Y), thereby, forming a significant relationship between each of the PEN personality factors and risk-taking behaviours. When the moderator

variables, self-esteem and gender are introduced, there might be a significant change in the relationship between each of the PEN personality factors and risk-taking behaviours after these moderator variables have been added. For instance, self-esteem and gender may increase, decrease or change the strength and direction of the relationship between each of the PEN personality factors and risk-taking behaviours, if they have a moderating effect on this relationship.

This means, as self-esteem and gender increase or decrease, they may increase or decrease the likelihood of engaging in risk-taking behaviours by high or low scorers on PEN personality factors. It should be noted that, the moderator variables are variables that may affect the strength or direction of the relationship between two variables, by either enhancing, reducing or changing the influence of the independent variable on the dependent variable (Fairchild & MacKinnon, 2009).

4.Theoretical background:

.1 Personality theory

This study adopted Eysenck's personality theory to give an explanation of how personality traits may play a role in the proneness of engaging in risk-taking behaviours. Eysenck's approach to personality was unique in that it specified that biological factors are responsible for individual differences in dimensions of personality (Derlega, Jones & Winstead, 2005). In fact, this theory is one of the few theories that explicitly relate personality to deviant behaviours, which, in this case, is risk-taking behaviours (Idemudia, 2013). As such, Eysenck proposed three personality dimensions and emphasised that these traits tend to remain stable

throughout a lifespan; these dimensions are psychoticism, extraversion and neuroticism (Derlega et al., 2005).

This theory was originally developed to study criminal behaviour and Eysenck argued that personality factors are the principal cause of criminal behaviour (Jackson & Levine, 2004). Eysenck further stated that through heredity, there are variations between individuals in the functioning of the cortical and autonomic nervous system (Hollin, 2013) and these variations influence an individual's ability to learn from or condition to environmental stimuli and also account for whether an individual can conform to social rules or not (Brewer, 2000).

For this reason, Eysenck posits that, personality traits are determined primarily by heredity but can also be influenced by environmental factors such as socialization (Derlega et al., 2005). The socialization process is based on conditioning of stimulus responses, by either reinforcement or punishment, that is, if the stimulus is reinforced, the behaviour increases but if the stimulus is punished, the behaviour decreases (Idemudia & Ojedokun, 2013). Eventually, when conditioning runs into a social path, then an individual develops what Eysenck referred to as "conscience" (Colom, Herrero & Rebollo, 2002), which will determine whether an individual will engage in risk-taking behaviours or not.

Eysenck was also interested in how extraverts and introverts differ biologically and genetically. He found that extraverts have a lower base level of cortical arousal than introverts and because the cortical arousal levels for extraverts are low, they need and actively seek excitement and stimulation (Derlega et al., 2005). According to Eysenck, extraverts are typically outgoing, have many friends and seem to require having people around them to talk to. Furthermore, many extraverts love playing jokes on people, they display a carefree, easy manner

and they also tend to be sociable, active, lively, venturesome and dominant (Buss & Larsen, 2008).

In contrast, introverts shy away from excitement and stimulation because their cortical arousal levels are already high, so they like to spend more time alone and prefer quiet time and pursuits such as reading (Schultz & Schultz, 2009). Additionally, introverts tend to be well organized and prefer a routine and predictable lifestyle (Buss & Larsen, 2008). For Hans, these differences in arousal levels were causal in producing behaviour that is characteristically associated with extraversion and introversion (Derlegaetal., 2005).

Eysenck argued that neuroticism is largely inherited and is a product of genetics rather than learning or experiences. People high in neuroticism seem to have greater activity in the brain areas that control the sympathetic branch of the autonomic nervous system. Eysenck further proposed that, in neurotics, the sympathetic nervous system overacts even to mild stressors, resulting in chronic hypersensitivity (Derlegaet al., 2005). For Eysenck, the trait of neuroticism consists of a cluster of more specific traits, including anxious, irritable, guilty, lacking self-esteem, tense, shy and moody. This means that the typical high scorer on neuroticism tends to be a worrier, frequently anxious and depressed (Campbelletal., 1998).

Additionally, a high neuroticism scorer also experiences greater degree of emotional arousal than the lower neuroticism scorer in response to normal stresses and strains of everyday life. That is, the lower scorer on neuroticism tends to be emotionally stable, even-tempered, calm and slower to react to stressful events and such an individual returns to his or her normal self quickly after an upsetting event (Buss & Larsen, 2008). According to Eysenck, the differences in

biological reactivity on neuroticism dimension are innate, that is, people are genetically predisposed either to neuroticism or emotional stability (Derlega et al., 2005).

Moreover, Eysenck proposed the third large trait in his model of personality as psychoticism. For Eysenck, psychoticism consists of the constellation of narrower traits that include aggressive, egocentric, creative, impulsive, lacking empathy and antisocial behaviour (Buss & Larsen, 2008). According to Eysenck, psychotics are aggressive, anti-social, tough-minded, cold and egocentric and may also be cruel, hostile and insensitive to the needs and feelings of others (Schultz & Schultz, 2009). That is, people who score high in psychoticism tend to act without thinking and they lack the ability to see situations from other people's perspectives (Buss & Larsen, 2008). Eysenck predicted that higher scores on psychoticism, extraversion and neuroticism are likely to cause delinquency and criminal activities (Jackson & Levine, 2004), which may be the result of the traits associated with these personality factors.

.2 Risk-taking behaviours theory

This study also applied Jessor's (1977) Problem Behaviour Theory (PBT), which stated that, all behaviour is the result of person-environmental interactions (Milkman, Timken & Wanberg, 2010). According to Jessor (1977), problem behaviour is any behaviour that is socially defined as a problem or as undesirable by the social or legal norms of the conventional society and its institutions of authority (Milkman et al., 2010). These behaviours usually bring about some form of social control to individuals through statements of disapproval or even incarceration (Thombs, 2006). This means, risk-taking behaviours may be viewed as problem behaviour as they deviate from the expected behaviour of adolescent and intervention from institutions of authority in a society can either reinforce or eliminate the behaviour.

Jessor argued that, all behaviours emerge out of the structure and interaction of three systems, which are, perceived-environment, personality and behaviour system (Milkman et al., 2010).

- *The perceived-environmental system* consists of variables such as social control, models and social support.
- *The personality system* consists of variables such as achievement, motivation, affiliation, alienation, self-esteem and mental health.
- *The behaviour system* consists of variables such as substance abuse, low academic achievement and aggression.

Each of these systems comprises variables that serve as either instigation for engaging in problem behaviour or control against involvement in problem behaviour (Thombs, 2006). For instance, having peers that participate in risk-taking behaviours, a poorly developed self-image, low value on academic achievement and poor parental support may instigate engagement in risk-taking behaviours.

Therefore, it is the balance between instigation and control that determines the degree of proneness for problem behaviour within each system, as well as the degree of conventionality or unconventionality to social norms and values (Thomb, 2006). In other words, the more an adolescent is able to balance variables that control against involvement in risk-taking behaviours among all three systems, the lesser the chance of partaking in risk-taking behaviours.

.3 Self-esteem theory

According to Janosz et al. (2013), secondary school plays a crucial role in the development of an adolescent's self-esteem because during this period, adolescents learn about themselves, while experiencing major physical, cognitive and emotional changes. In his theory of self-esteem, Rosenberg (1979) conceptualized self-esteem as a positive or negative attitude towards the self and an evaluation of one's self-worth. Rosenberg also emphasized that, self-esteem is a phenomenon created by social and cultural forces that play a particular role in the attitude that people have about their worth (Mruk, 2006). According to Rosenberg, the development of self-esteem is based on four principles which are, reflected appraisals, social comparisons, self-attributions and psychological centrality. These four principles influence how people view themselves and their level of self-esteem (Delamater, 2006).

- **Reflected Appraisals-** reflected appraisals are central to the symbolic interactionist's insistence that the self is a social product derived from the attitudes that others have towards one's self and that one eventually comes to see him or herself as others do (Delamater, 2006).
- **Social Comparisons-** people often judge and evaluate themselves in comparison to particular individuals, groups or social categories. This means, people compare themselves to others in terms of superiority or inferiority and better or worse on some criteria of interest (Owens, 2000).
- **Self-attributions-** individuals draw conclusions about themselves by observing their own actions and their outcomes (Owens, 2000).
- **Psychological Centrality-** psychological centrality helps protect people's self-esteem by pushing potentially damaging self-attribution and identities to the periphery of the self-system, while holding enhancing attributes closer to the centre (Delamater, 2006).

It is through the evaluation of these principles that people draw conclusions about their self-worth that will lead to either the development of high or low self-esteem. Furthermore, Rosenberg emphasized that people with high self-esteem possess respect for themselves and enjoy feelings of worthiness, pride and satisfaction while they acknowledge their faults and weaknesses (Mruk, 2006). On the other hand, people with low self-esteem lack self-respect, tend to acknowledge only their faults and weaknesses and define themselves as seriously flawed and unworthy (Delamater, 2006). Therefore, engaging in risk-taking behaviours can be one of the several ways that adolescents use to protect themselves from negative feelings that may potentially threaten their self-worth (Paradise, 2001).

4.4 Gender theory

As adolescents continue striving to boost their self-esteem, the role of socialization should be taken into consideration when looking at risk-taking behaviours. According to social constructionism theory, gender is socially defined and is influenced by the individual's culture and social context (Blades, Cowie & Smith, 2011). Social constructionists argue that, gender is not something that exists inside of people, rather, they view gender as created by social beliefs, social structures and social interactions. Social constructionists also reject biological explanations to gender differences and focus on cultural factors, social learning and social beliefs as explanations for why boys and girls behave as they do (Derlega et al., 2005).

Furthermore, social constructionists assert that, we do gender, by this they imply that, the behaviours of boys and girls or masculine and feminine individuals are performances that we have learned from significant people in our early interactions (Derlega et al., 2005). That is, the construction of gender starts from the very beginning when children are born and continues to

adulthood or even old age (Westen, 1999). Additionally, social constructionists propose that, gender is socially defined and enforced and that masculinity and femininity are social concepts or constructs that may readily change or even disappear when society changes (Derlega et al., 2005).

For social constructionists, boys and girls behave differently because boys are reinforced by parents, teachers and the media to display masculine traits and girls to display feminine traits (Derlega et al., 2005). This socialized differential treatment between boys and girls influences the process by which children acquire personality traits, emotional responses, skills, behaviour and preferences in adolescence as well as the probability of engaging in risky behaviours (Westen, 1999).

4.5 Theory of adolescence

Adolescent years are a turbulent developmental period characterised by a high potential for risk-taking behaviours compared to other developmental stages and Erickson's theory of development is used to explain the nature of this developmental stage. Erickson developed the first developmental theory that addressed development across the entire life span and broke down the developmental process into eight stages, namely, trust versus mistrust; autonomy versus shame; initiation versus guilt; industry versus inferiority; identity versus role confusion; intimacy versus isolation; generativity versus stagnation; and integrity versus despair (Louw, 2007).

According to Erickson, development results from the interaction between maturational processes, biological needs, societal demands and the social forces encountered in everyday life (Salkind, 2004). In Erickson's view, each stage is associated with conflicts that an individual has

to resolve before they move to another stage, failure to resolve these conflicts will result in a developmental crisis (Louw, 2007). Additionally, Erickson stressed the importance of the ego and stated that, it is through the ego that certain developmental crises are experienced and resolved, however, if the ego cannot deal with the crises, development is altered (Salkind, 2004).

For this study, the focus is on identity versus role confusion stage and the main task in this stage is to achieve a state of identity and avoid role confusion (Canavaugh, Kalis& Roberts, 2012). The physical changes of puberty, the onset of sexual maturity and social expectations that adolescents are faced with influence the individual to re-examine earlier certainties and search for an identity (Meyer, Moore & Viljoen, 2008). During this stage, adolescents sometimes go back to earlier identifications from new identifications, incline to a hero worship or rebel against societal norms and values (Louw, 2007).

The uncertainties in this stage produce role confusion and the adolescent may withdraw, run away or turn to drugs (Canavaugh et al., 2012). As emphasized by Erickson, the danger of this stage is that, failure to develop an identity may result in adolescents becoming confused in their search for identities and this may lead to engagement in risk-taking behaviours (Meyer et al., 2008). For instance, in this stage, adolescents become vulnerable to experiment with minor delinquency, substance abuse and risk-taking behaviours, making them a more “at-risk group” (Mcatee, 2010).

5. Aim of the study

The aim of this study was to investigate the relationship between PEN personality factors and risk-taking behaviours and the moderating role of self-esteem and gender among adolescents in Ventersdorp.

6. Objectives of the study

The specific objectives of this study were as follows:

- To investigate the relationship between each of the PEN personality factors and risk-taking behaviours.
- To find out whether self-esteem moderates the relationship between each of the PEN personality factors and risk-taking behaviours.
- To determine whether gender moderates the relationship between each of the PEN personality factors and risk-taking behaviours.
- To identify gender differences on each of the PEN personality factors and risk-taking behaviours.
- To investigate the influence of grade level on risk-taking behaviours of adolescents.

7. Significance of the study

The outcomes of this study will have practical significance to the school, the community and adolescents who engage in risk-taking behaviours by increasing awareness of how each of the PEN personality factors may predispose adolescents to engage in risk-taking behaviours, as well as the influence of self-esteem and gender. This may lead to a better understanding of the influence of the adolescent's personality traits, gender and level of self-esteem, and assist the school, community and adolescents to identify "at-risk groups" of adolescents who are likely to engage in risk-taking behaviours. The study will also be beneficial to the school, community and adolescents by giving insight as to whether or not self-esteem and gender can act as moderators of each of the PEN personality factors and risk-taking behaviours. By doing so, the study will

contribute towards the planning of future intervention strategies that focus more on strengthening self-esteem.

Theoretically, this study will add on to the available literature on risk-taking behaviours by introducing the role of self-esteem and gender as moderators of the relationship between personality factors and risk-taking behaviours, as many researchers have not yet explored this area. The limitations of this study will give direction to future researchers by identifying other gaps that still need to be researched. The study will also expand the applicability of Eysenck's theory of personality and its adaptation to adolescents, as the theory was originally developed to study criminal offenders and their behaviours.

Methodologically, this study will increase the knowledge and the use of moderation approach in the methodology of future studies by demonstrating the relevance and applicability of moderation analysis when studying personality factors and risk-taking behaviours. By so doing, researchers will not only focus on the influence of one variable on another, but will also look at variables that are likely to act as moderators between two variables. As noted earlier, moderator variables are variables that affect the strength or direction of the relationship between two variables, by either enhancing, reducing or changing the influence of the independent variable on the dependent variable.

8. Hypotheses:

- There will be a significant relationship between each of the PEN personality factors and risk-taking behaviours.
- Self-esteem will moderate the relationship between each of the PEN personality factors and risk-taking behaviours.

- Gender will moderate the relationship between each of the PEN personality factors and risk-taking behaviours.
- Male adolescents will score higher on each of the PEN personality factors and risk-taking behaviours than female adolescents.
- There will be a significant influence of grade level on adolescents' risk-taking behaviours.

9. Methodology

9.1 Design

The study adopted a cross-sectional survey in a quantitative research approach. This design focuses more on using numerical data and statistics from only a selected sample of the population to generalize the findings to the whole population being studied and the data is collected at a specific point in time. The independent variables in this study were each of the PEN personality factors and the dependent variable was risk-taking behaviours. The moderating variables were self-esteem and gender.

9.2 Participants

A total sample of 491 learners (252 Males and 239 Females) attending Thuto-Boswa High School were selected to participate in the study. Thuto-Boswa High School is situated in Ching Township near Ventersdorp Town, in the North West Province, South Africa. The sample consisted of learners between the ages of 16 to 18 years, from grade 10, 11 and 12. The participants were randomly selected using simple random sampling, in which a list of all the school's grades was compiled and each grade was assigned a random number, then every n th

number including seventh, ninth and eleventh were selected for participation. The demographic characteristics of the participants are presented in Table 1 below.

Table 1: Demographic characteristics of respondents			(N=491)
Demographic variables	No of respondents	%	
Age:			
14 years	2	(0.4)	
15 years	35	(7.1)	
16 years	90	(18.3)	
17 years	154	(31.4)	
18 years	210	(42.8)	
Gender:			
Male	252	(51.3)	
Female	239	(48.7)	
Grade:			
10	322	(65.6)	
11	107	(21.8)	
12	62	(12.6)	
Language:			
English	15	(3.1)	
Afrikaans	27	(5.5)	
Setswana	390	(79.4)	
Others	59	(12.0)	
Race:			
Black	445	(92.7)	
White	1	(0.2)	
Coloured	34	(6.9)	
Indian	1	(0.2)	
Pmarital status:			
Married	147	(29.9)	
Divorced	18	(3.7)	
Separated	60	(12.2)	
Never married	76	(15.5)	
Living with guardian not parents	65	(13.2)	
Mother passed away	26	(5.3)	
Father passed away	47	(9.6)	
Both parents deceased	42	(8.6)	
Grepetition:			
Yes	298	(60.7)	
No	181	(36.9)	
Total = 491			

Age Range= 16 - 18 years

KEY:

Pmarital status: Parental Marital Status

Grepetition: Grade Repetition

9.3 Instruments and psychometric properties

Questionnaires that were used to measure variables of interest were the Eysenck Personality Questionnaire (EPQ-R), Rosenberg Self-Esteem Questionnaire and Youth Risk-Taking Behaviour Questionnaire.

9.3.1 Eysenck Personality Questionnaire- Revised(1984)

The Eysenck Personality Questionnaire is a self-administered questionnaire that is designed to measure and assess personality dimensions of psychoticism, extraversion and neuroticism in participants between the ages of 16 to 69. This study used the EPQ-R short version scale consisting of 48 items and each item was assessed on a two-point scale of Yes and No, in which Yes was scored 1 and No was scored 0. The EPQ-R has been revised and new scales were added to the Psychoticism scale, thereby increasing the reliability and validity of the scale (Eysenck, Eysenck & Barrett, 1985).

Neuroticism and extraversion scales also showed very good internal consistency of 0.68 to 0.74 (Craighead & Weiner, 2010). The EPQ-R has been used by Barisic et al. (2011) who examined the reliability of this scale using coefficients of internal consistency and they also confirmed the reliability coefficient ranging from 0.58 to 0.73 for all the scales. The EPQ has also

been adapted for the South African context and it was extensively used in several studies (Idemudia & Ojedokun, 2013; Ngidi, 2013; Connor, Heaven & Stones, 1994).

9.3.2 Rosenberg Self-Esteem Questionnaire

The Rosenberg Self-Esteem Questionnaire is a 10 item scale that was developed by Rosenberg (1965). This scale is used to measure and evaluate individual self-esteem. This scale is believed to be uni-dimensional, and all items are answered using a 4-point likert scale format ranging from strongly agree to strongly disagree. Items 2, 5, 6, 8, 9 are reverse items and when scoring this scale, give 1 point for “Strongly Disagree”, 2 points for “Disagree”, 3 points for “Agree”, and 4 points for “Strongly Agree”. Sum the scores for all ten items and keep scores on a continuous scale. Scores range from 0 to 30, with 30 showing highest score and higher scores indicate high self-esteem. The psychometric properties of this scale indicate alpha reliability ranging from 0.72 to 0.88 and 0.88 to 0.90 on other studies, and the construct validity of 0.46 to 0.71. This scale has been applied to the South African context and used by several studies (Bornman, 1999; Sipsma & Visser, 2013; Idemudia, 2013; Borne, Bos, James, Reddy, Ruiter & Shilubane, 2014).

9.3.3 Youth Risk Taking Behaviour Questionnaire (YRBQ)

The Youth Risk Taking Behaviour Questionnaire is a self-administered measure containing 85 items which was developed to assess six categories of health-risk behaviours, namely, unintentional injuries and violence; unsafe sexual behaviours; tobacco use; alcohol and other drugs; unhealthy dietary behaviours and physical inactivity among youth from grade 9 to 12. Test-retest reliability studies of YRBQ in 1992 and 2000 indicated that three fourths of the questions were rated as having a substantial or higher reliability (Kappa= 61% to 100%) and no

statistical significant differences were observed. In the 2000 study, five questions had significantly different prevalence, indicating that the reliability of these questions was questionable and they were revised or deleted from the latest version of the scale (Center for Disease Control and Prevention, 2013). Brener, Kann, Kinchen, McManus, Roos and Sundberg (2002) also found that, 47.2% of items in the YRBQ had at least substantial reliability (Kappa= 61%) and 93.1% had atleast moderate reliability (Kappa= 41%). This scale has been widely used among the South African population (Maticka-Tyndale, Rajulton&Tenkorang, 2011; Chalton, Flisher, Leger, Robertson & Ziervogel, 1993; Flisher, Liang & Lombard, 2007; Caldwell, Flisher, Mpofu, Palen& Smith, 2006) and thereby justifying the applicability of the scale in the South African context.

9.4 Procedure

After ethical approval was granted by the North-West University Ethics Committee (NWU-00015-14-A9) and a written approval was obtained from the Provincial Department of Education, the school was contacted first telephonically, then physically for permission to conduct the study. After consent was obtained from the school principal, the date and time of data collection were arranged. On the day of data collection, all the learners were in their respective classrooms and the school principal appointed one teacher to assist with data collection. The data was collected by the researcher, with the help of two student Clinical Psychologists and a team of volunteers. Initially the learners were thoroughly informed of the study as well as ethical considerations of the study, and then they were given the chance to ask questions before they gave verbal consent to participate. Specifically, participants were informed that the study was voluntary and that they may withdraw anytime they wanted to. The researcher also informed participants that the study was not a test and that their information would be treated

with confidentiality.

After learners had consented to participate, the researcher randomly selected a sample by using simple random sampling technique, in which every grade was given a random number between 1 and 20, and every grade with an even number was selected for participation. The selected sample was asked to complete a set of questionnaires, including Youth Risk-Taking Behaviour Questionnaire, Eysenck Personality Questionnaire and Rosenberg Self-Esteem Questionnaire. There were no time limits in the completion of the questionnaires and the administration of the questionnaires took place during regular class times (10:00 to 11:30) under the supervision of the researcher, teacher and volunteers to avoid any discussions or interruptions. After the questionnaires were answered, the participants placed them in a box that was provided by the researcher and they were thanked for their participation.

9.5 Data analysis

In this study, the data was analyzed using Statistical Package of Social Sciences Software (SPSS) Version 9.5. Hypotheses one, two and three were analyzed using a moderated hierarchical multiple regression. For hypothesis four, an independent t-test was used to show means and standard deviations. Hypotheses five was tested using multiple comparison of ANOVA.

9.6 Ethical Considerations

Ethical approval was granted by the North-West University Ethics Committee (NWU-00015-14-A9), Mafikeng Campus and a written approval was obtained from the Provincial Department of Education and the school. The researcher informed participants of the purpose, risks and importance of the study. Participants were also informed about the voluntary nature of their participation and that they would not be paid for their participation. Furthermore,

participants were assured that the information they provided would be treated with confidentiality and that they may not disclose their identity anywhere in the questionnaires. Participants were informed that they could withdraw from the study anytime if they wanted to and they would not be penalized in any way. As a means of protecting participants from harm, there was a debriefing session arranged for participants who might have been emotionally provoked by the completion of the questionnaires in order to deal with any emotional reactions that could arise (if needed).

10. Results

This study was intended to investigate the relationship between each of the PEN personality factors and risk-taking behaviours and the moderating role of self-esteem and gender among adolescents in Ventersdorp. A correlational analysis (Table 2) was conducted to test hypothesis one and the results are presented below.

Hypothesis 1: There will be a significant relationship between each of the PEN personality factors and risk-taking behaviours.

TABLE 2: Correlational analysis of variables of study (n=491)

Variables	1	2	3	4	5	6	7	8	<i>M</i>	<i>SD</i>
1. R.Beh	—								154.9	28.75
2. Psycho	.09	—							11.25	2.94
3. Extra	.14*	.33**	—						9.36	2.53
4. Neuro	.13*	.21**	.23**	—					5.55	2.50
5. Lie	.25**	.33**	.25**	.36**	—				9.29	4.18
6. SE	-.11	.10	.20**	-.08	-.09	—			29.12	3.75
7. Age	.12*	.06	.01	.06	.04	-.08	—		17.08	.96
8. Gender	.34**	.00	.05	-.19**	.18**	-.03	.01	—		

KEY:

R.Beh= Risk-Taking Behaviours; Psych= Psychoticism; Extra= Extraversion; Neuro= Neuroticism; Lie= Lie Scale; SE= Self-Esteem.

The results in Table 2 above showed that there was a significant positive relationship between personality factors [extraversion, ($r = .14$, $p = .05$); neuroticism ($r = .013$, $p = .05$); lie scale, ($r = .25$, $p < .01$)] and risk-taking behaviours. This means, as extraversion increases, risk-

taking behaviours also increase and as neuroticism increases, risk-taking behaviours also increase. However, personality factor psychoticism ($r = .09$), showed no significant relationship with risk-taking behaviours, meaning that, being a high or low scorer on psychoticism does not increase risk-taking behaviours. The analysis also highlighted a positive relationship between age ($r = .12$, $p < .05$); gender ($r = .34$, $p < .01$) and risk-taking behaviours. This means, risk-taking behaviours increase with age and being male or female also influences risk-taking behaviours.

Hypothesis 2: hypothesis two predicted that, self-esteem will moderate the relationship between each of the PEN personality factors and risk-taking behaviours. First, a correlational analysis was conducted (Table 2), then a hierarchical multiple regression was carried out to test these hypotheses. The variables were entered step wise and the results generated nine models. The results are presented in Table 3 below.

Hypothesis 3: hypothesis three expected gender to moderate the relationship between each of the PEN personality factors and risk-taking behaviours. As with hypothesis two, a correlational analysis was firstly conducted (Table 2), then a hierarchical multiple regression was carried out to test these hypotheses. The variables were entered step wise and the results generated nine models. The results are presented in Table 3 below.

TABLE 3: Summary of hierarchical multiple regression of moderator variables between each of the PEN personality factors and risk-taking behaviours.

Models	R	R ²	Adj R ²	AR ²	F	B	SE	β	P
Model 1	.458	.210	.187	.210	9.433				
P						.269	.592	.029	ns
E						1.25	.709	.112	ns
N						1.24	.763	.108	ns
SE						-.931	.450	-.121	.040*
Gender						19.16	3.44	.342	.000*
Age						2.13	1.61	.075	ns
Model 2	.459	.210	.185	.001	.238				
P x SE						-.073	.150	-.256	ns
Model 3	.468	.219	.191	.009	2.74				
E x SE						-.295	.178	-.916	ns
Model 4	.470	.221	.189	.002	.603				
N x SE						-.146	.188	-.382	.05*
Model 5	.472	.223	.188	.002	.591				
L x SE						.092	.120	.409	ns
Model 6	.473	.224	.186	.001	.407				
P x Gender						.756	1.19	.188	.000*
Model 7	.475	.225	.184	.001	.359				
E x Gender						.853	1.42	.193	.022*
Model 8	.481	.231	.187	.006	1.95				
N x Gender						2.09	1.49	.285	.000*
Model 9	.490	.241	.193	.009	2.88				
L x Gender						1.52	.896	.439	ns

KEY: P= Psychoticism, E=Extraversion, N= Neuroticism, L= Lie Scale, SE= Self-Esteem

In model 1, the results indicated that self-esteem ($p < .05$, $\beta = -.121$) and gender ($p < .000$, $\beta = .342$) showed significant interaction when entered together with each of the PEN personality factors on risk-taking behaviours. This implies that, self-esteem and gender moderate the relationship between each of the PEN personality factors and risk-taking behaviours by lessening the influence of each of the PEN personality factors on the probability of engaging in risk-taking

behaviours. This means, as self-esteem and gender increase, the influence of PEN personality factors on risk-taking behaviours decreases.

Model 4 indicated that, there was a significant interaction between personality factor neuroticism and self-esteem ($p < .05$, $\beta = -.382$), and this explains that the relationship between neuroticism and risk-taking behaviours is minimized by increased levels of self-esteem.

In model 6, there was a significant interaction between personality factor psychoticism and gender ($p < .000$, $\beta = .188$). This means, the relationship between psychoticism and risk-taking behaviours is lessened by gender.

Model 7 showed that, there was a significant interaction between personality factor extraversion and gender ($p < .022$, $\beta = .193$). This implies that, the relationship between extraversion and risk-taking behaviours is moderated by gender.

In model 8, there was a significant interaction between personality factor neuroticism and gender ($p < .000$, $\beta = .285$), meaning that the relationship between neuroticism and risk-taking behaviours is weakened by gender.

Hypothesis 4: hypothesis four predicted that male adolescents will more likely score higher in each of the PEN personality factors and engage in risk-taking behaviours than female adolescents. To test this hypothesis, a t-test was used to show means, standard deviation and degrees of freedom for male and female adolescents on personality, risk-taking behaviours and self-esteem. The results are presented below in Table 4.

TABLE 4: Independent T-test showing means, standard deviations, degrees of freedom of male and female adolescents on personality, risk-taking behaviours and self-esteem.

Males				Females					
Variables	N	<i>M</i>	<i>SD</i>	df	N	<i>M</i>	<i>SD</i>	t	P
P	231	11.25	3.11	443	214	11.26	2.74	-.038	ns
E	228	9.25	2.62	439	213	9.47	2.43	-.949	ns
N	231	6.00	2.42	443	214	5.06	2.50	4.059	.0001**
L	231	8.56	4.18	444	215	10.07	4.04	-3.874	.0001**
R. Beh	175	145.96	22.76	318	145	165.68	31.48	-6.489	.0001**
SE	209	29.2	3.58	389	182	29.0	3.94	.522	ns

* $p < .005$, ** $p < .01$, *** $p < .0001$

KEY: P- Psychoticism, E- Extraversion, N- Neuroticism, L- Lie Scale, R. Beh- Risk-taking behaviours, SE- Self-esteem

The results in Table 4 indicated that there was a significance for Neuroticism, $t(443) = 4.06$, $p < .000$ with male adolescents scoring higher than female adolescents (X-bar 6.00 versus X-bar 5.06). The results also showed that there was a significance for Lie Scale, $t(443) = -3.88$, $p < .000$ with female adolescents scoring higher than male adolescents (X-bar 10.07 versus X-bar 8.56). The t-test further revealed that there was a significance for risk-taking behaviours, $t(256) = -6.30$, $p < .000$ with female adolescents scoring higher than male adolescents (X-bar 145.96 versus X-bar 165.68). However, there was no significance for personality factors (psychoticism and extraversion) as well as self-esteem in both male and female adolescents. These results partially confirmed and rejected the hypothesis.

Hypothesis 5: hypothesis five expected that grade level will have an influence on risk-taking behaviours of adolescents and a One Way Anova was conducted to test this hypothesis.

TABLE 5: One way Anova showing the effect of grade level on risk-taking behaviours.

Source	Sum of squares	Df	Mean Square	F	P
Between groups	4403.640	2	2201.820	2.690	.069
Within groups	259432.356	317	818.399		
Total	263835.997	319			

TABLE 6: One way Anova showing the effect of grade level on risk-taking behaviours.

Grade	N	Mean	SD	1	2	3
10	220	156.85	31.49	—		
11	59	147.15	19.91	9.70*	—	
12	41	155.90	21.92	1.30	-8.41	—

The results showed that adolescents in grade 10 ($M=156.85$, $SD= 31.49$) and grade 12 ($M=155.90$, $SD= 21.92$) averagely engaged in more risk-taking behaviours than those in grade 11 ($M=147.15$, $SD= 19.91$). However, adolescents in grade 10 were shown to be engaging in more risk-taking behaviours than adolescents in both grade 11 and 12. This means, adolescents in grade 10 are more at-risk of engaging in risk-taking behaviours.

11. Discussion

The aim of this study was to investigate the relationship between each of the PEN personality factors and risk-taking behaviours and the moderating role of self-esteem and gender among adolescents in Ventersdorp and the findings are summarized as follows:

Hypothesis 1: *There will be a significant relationship between each of the PEN personality factors and risk-taking behaviours.*

The results of this study indicated that there was a significant positive relationship between extraversion and risk-taking behaviours. These findings are consistent with the study by Gullone and Moore (2000), who found that extraversion was positively associated with risk-taking behaviours, specifically thrill-seeking behaviours. These findings are not surprising, as they are in line with Eysenck's description of the trait extraversion in his theory of personality, in which he stated that because extraverts tend to be having a lower base level of cortical arousal than introverts, it makes them need and actively seek excitement and stimulation (Derlega et al., 2005). Neudecker et al. (2007) also confirmed these findings based on the results of their study indicating that risk-taking behaviours were significantly related to extraversion. Similar findings were also reported in a study of Buckhalt, Ehrler, McGhee and Phillips (2012), who documented that extraversion was found to be positively correlated with high levels of risk-taking behaviours.

The results further revealed that there was a significant positive relationship between neuroticism and risk-taking behaviours. These results are in line with the findings of Kulhman and Zuckerman (2000), who found that neuroticism played a major role in risk-taking behaviours such as alcohol and drug abuse, which are widely used for self-medication by neurotics. These

results theoretically support Eysenck's theory of personality, which states that people who score higher on three personality dimensions are more predisposed to engaging in deviant behaviours than lower scorers (Jackson & Levine, 2004). For instance, higher neuroticism scorers tend to experience greater degree of emotional arousal than the lower neuroticism scorers in response to normal stresses and strains of everyday life (Buss & Larsen, 2008). Given the emotional instability associated with neuroticism, it is understandable that the higher scorers in this trait will more likely engage in risk-taking behaviours than lower scorers. The results partially confirmed the hypothesis.

Hypothesis 2: *Self-esteem will moderate the relationship between each of the PEN personality factors and risk-taking behaviours.*

As predicted, self-esteem moderated the relationship between personality factor, neuroticism and risk-taking behaviours. This means, as self-esteem increases, it decreases the chances of engaging in risk-taking behaviours for high neurotic scorers. These findings may be so because people high in neuroticism experience greater emotional arousal and lack of self-esteem, therefore they tend to be more exposed to risk-taking behaviours than lower scorers (Buss & Larsen, 2010). This may be accounted for by the anxious and emotionally unstable characteristics associated with this trait that makes adolescents more prone to engaging in risk-taking behaviours.

The results are in line with Rosenberg's theory of self-esteem, in which he stated that adolescents who have a low self-esteem tend to engage more in risk-taking behaviours in order to protect themselves from negative feelings that threaten their self-worth (Delamater, 2006).

Therefore, as an adolescent's self-esteem increases, it moderates the likelihood of engaging in risk-taking behaviours. The results partially confirmed the hypothesis.

The results also showed that self-esteem did not moderate the relationship between personality factor, extraversion and risk-taking behaviours. These results may be influenced by the fact that most extraverts tend to be care free, sociable, outgoing, venturesome and lively (Buss & Larsen, 2008) and may not experience problems with the way they perceive themselves, as well as their self-worth. Therefore, the level of one's self-esteem does not influence the likelihood of engaging in risk-taking behaviours in extraverted adolescents. In this regard, the results rejected the hypothesis.

Hypothesis 3: *Gender will moderate the relationship between each of the PEN personality factors and risk-taking behaviours.*

The results revealed that gender moderated the relationship between each of the personality factors (i.e. psychoticism, extraversion and neuroticism) and risk-taking behaviours. This significant effect of gender implies that, being male or female minimizes the probability of engaging in risk-taking behaviours across all three PEN personality factors. These results are in line with those of Jones, Kincaid, McKee and Sterrette (2012), who documented that gender, was a moderator between parenting and sexual risky behaviours, which means, as the parental involvement increased, participation in sexual risky behaviour decreased. Baker and Yardley (2012) also found a buffering effect of gender on risk-taking behaviours and stressed that gender does lessen risk-taking behaviours.

However, Kharchenko, Knyazev, Slobodskaya and Wilson (2004) found that the moderation effect between gender and Eysenckian personality dimensions on predicting risk-taking behaviours such as substance use were non-significant, which means, gender and personality did not moderate engaging in risk-taking behaviours. The results of this study proved that indeed gender can moderate between each of the PEN personality factors and risk-taking behaviours in adolescence and confirmed the hypothesis.

Hypothesis 4: *Male adolescents are more likely to score higher on PEN personality factors and engage in risk-taking behaviours than female adolescents.*

For personality, adolescent males scored higher than females in neuroticism. Unfortunately, there is no documented evidence in the literature that confirms or rejects these findings, and therefore the findings have implication for future studies. With regard to risk-taking behaviours, the results showed that female adolescents engaged in more risk-taking behaviours than male adolescents. These results are contrary to that of Essau (2007), who found female adolescents to be engaging less frequently in different risk-taking behaviours than male adolescents. Morrongiello and Sedore (2005) also had different views from the results of this study, and they found that boys engaged in greater risk-taking behaviours and sustained more frequent and serious injuries than girls. The inconsistencies brought by the results of this study may be accounted for by the high scores on the Lie Scale of female adolescents, which might have compromised the validity of the results. These results rejected the hypothesis.

Hypothesis 5: *There will be a significant effect of grade level on adolescents' risk-taking behaviours.*

Finally, the results of the multiple comparison of Anova showed that adolescents in grade 10 engaged in more risk-taking behaviours than those in grade 11 and grade 12. This may be because, adolescents in grade 11 and grade 12 are more future-oriented and are pressured to do well in their schoolwork in order to go to university and have probably developed autonomy and independence as they get into early adulthood years. While adolescents in grade 10 are still playful and impulsive due to early adolescence, and this makes them want to explore more and try out new things. Adolescents in grade 10 are also more exposed to peer-pressure, as they strive to be part of a group and develop their identities.

12. Conclusion

The following conclusions can be drawn from this study:

- Personality factors, extraversion and neuroticism, have a significant positive relationship with risk-taking behaviours.
- Self-esteem and gender do moderate the relationship between some PEN personality factors and risk-taking behaviours.
- Risk-taking behaviours are more prevalent among female adolescents who are in grade 10 as compared to their peers.

This study had its own limitations, one of them was the length of the questionnaire, which might have influenced the high scores on the Lie Scale of the EPQ-R. Another limitation was that some of the learners were absent on the day of data collection, therefore some parts of the questionnaires were unanswered, reducing the desired population size. The results of this study

cannot be generalized to adolescents who are out-of-school, as the study was centred on 16 to 18 year old learners who are currently in school. Lastly, this study used complex analytical procedure to analyse its data.

13. Recommendations

From this study, the following recommendations are made:

- The school should consider incorporating self-esteem and emotion regulation programmes with subjects such as life orientation to help strengthen the self-esteem of “at-risk” adolescents.
- The school and parents should encourage adolescents to take part in legitimate sports that are stimulating in order to satisfy the extraverted adolescents’ need for excitement and stimulation without being involved in risk-taking behaviours.
- Parents are expected to discipline adolescents who already engage in risk-taking behaviours in a constructive way to prevent further risk-taking and be educated about the different personality traits that may contribute to risk-taking behaviours.

14. Implications of the study

- The results of this study have implications for preventing risk-taking behaviours in school, and the Department of Education together with the school should consider forming an alliance with local Social Workers and Professional Counsellors to help with debriefing of overwhelming emotions that may lead adolescents to turn from risk-taking behaviours.
- This study has implication for research, as it gives insight into how PEN personality factors influence the probability of engaging in risk-taking behaviours and also

provide evidence that self-esteem and gender can moderate the relationship between PEN personality factors and risk-taking behaviours.

- The results of the study revealed that parental marital status and race had an effect on adolescents' risk-taking behaviours, and that has implication for future studies.

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16. Appendixes



education

Lefapha la Thuto
Onderwys Departement
Department of Education
NORTH WEST PROVINCE

Quality Assurance Building,
No.: 861 Modiri Molema Drive, Montshiwa
Private Bag X2044, Mmabatho 2735
Tel.: (018) 397-3000
Tel.: (018) 397-3090
Fax: (018) 384-1598 / 9249
e:mail: skgositau@nwp.gov.za

CHIEF DIRECTORATE: QUALITY ASSURANCE

Enq : Motshidisi Monoametsi
Tel : 018 397 3016
Email : mmonoametsi@nwp.gov.za

DATE: 07 October 2013

TO: The District Manager

Area Managers

Circuit Managers

ATTENTION: Principal (Thuto Boswa secondary school)

SIR

SUBJECT : PERMISSION TO CONDUCT RESEARCH

This serves to inform you that that Ms Sekano NE rom North West University (Mafikeng campus registered Masters Student) has requested and has been granted permission to conduct research at Thuto Boswa secondary school in Dr Kenneth Kaunda District.

The collection of data is subject to the following conditions:

- that it should not interfere with teaching and learning at the school; and
- that the Department will receive a final copy of the research and summary of the research findings be made available.

Your cooperation in this regard will be appreciated.

Thanking you in anticipation.

.....
Dr MC Teu
Director-WSD



education

Lefapha la Thuto la Bokone Bophirima
Noordwes Departement van Onderwys
North West Department of Education
NORTH WEST PROVINCE

Quality Assurance Building
No.: 861 Modiri Molema Drive, Montshiwa
Private Bag X2044
Mmabatho 2730
Tel.: (018) 397-3016
Fax: (018) 397-3047
e:mail: mmonoametsi@nwpg.gov.za

DIRECTORATE: WHOLE SCHOOL DEVELOPMENT

Eng : Motshidisi Monoametsi
Tel : 018 397 3016
Email : mmonoametsi@nwpg.gov.za

07 October 2013

Ms Sekano NE

Madam

RE: PERMISSION TO CONDUCT RESEARCH

This serves to inform you that permission to conduct research is herewith granted, subject to the following conditions:

- that it should not interfere with teaching and learning at schools; and
- that the Department will receive a final copy of the research and summary of the research findings be made available.

Your cooperation in this regard will be appreciated.

We wish you all the best in your research study.

.....
Dr MC Teu
Director-WSD

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This survey is about health behaviour. It has been developed so you can tell us what you do that may affect your health. The information you give will be used to improve health education for young people like yourself.

DO NOT write your name on this survey. The answers you give will be kept private. No one will know what you write. Answer the questions based on what you really do.

Completing the survey is voluntary. Whether or not you answer the questions will not affect your grade in this class. If you are not comfortable answering a question, just leave it blank.

The questions that ask about your background will be used only to describe the types of students completing this survey. The information will not be used to find out your name. No names will ever be reported.

Make sure to read every question. When you are finished, you can just put your questionnaire in the box provided.

Thank you very much for your help.

DIRECTIONS

* Fill in a response by circling your response - like this: A B C D

* If you change your answer, draw a cross through the answer and circle your new answer. A B C D

1. How old are you?
 - A. 12 years old or younger
 - B. 13 years old
 - C. 14 years old
 - D. 15 years old
 - E. 16 years old
 - F. 17 years old
 - G. 18 years old or older
 2. What is your sex?
 - A. Female
 - B. Male
 3. In what grade are you?
 - A. Grade 8
 - B. Grade 9
 - C. Grade 10
 - D. Grade 11
 - E. Grade 12
 4. Which languages do you speak at home?
 - A. English
 - B. Afrikaans
 - C. Setswana
 - D. Other – Please name them:
-
5. What is your race? (Select one or more responses.)
 - A. Black
 - B. Asian
 - C. White
 - D. Coloured
 - E. Indian
 6. Are your parents:
 - A. Married

- B. Divorced
- C. Separated
- D. Never been married
- E. Living with a guardian or family member other than my parents
- F. My mother passed away
- G. My father passed away
- H. Both my parents are deceased

7. Have you ever repeated a grade?
- A. Yes – (Which grade/s) _____
 - B. No

The next 4 questions ask about safety.

8. When you rode a bicycle during the past 12 months, how often did you wear a helmet?
- A. I did not ride a bicycle during the past 12 months
 - B. Never wore a helmet
 - C. Rarely wore a helmet
 - D. Sometimes wore a helmet
 - E. Most of the time wore a helmet
 - F. Always wore a helmet

9. How often do you wear a seat belt when riding in a car driven by someone else?
- A. Never
 - B. Rarely
 - C. Sometimes
 - D. Most of the time
 - E. Always

10. During the past year, how many times did you ride in a car or other vehicle driven by someone who had been drinking alcohol?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or more times

11. During the past year, how many times did you drive a car or other vehicle when you had been drinking alcohol?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or more times

The next 10 questions ask about violence-related behaviours.

12. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club?
- A. 0 days
 - B. 1 day
 - C. 2 or 3 days
 - D. 4 or 5 days
 - E. 6 or more days

13. During the past six months, on how many days did you carry a gun?
- A. 0 days
 - B. 1 day
 - C. 2 or 3 days
 - D. 4 or 5 days
 - E. 6 or more days

14. During the six months, on how many days did you carry a weapon such as a gun, knife, or club on school property?
- A. 0 days
 - B. 1 day
 - C. 2 or 3 days
 - D. 4 or 5 days
 - E. 6 or more days
15. During the past year, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?
- A. 0 days
 - B. 1 day
 - C. 2 or 3 days
 - D. 4 or 5 days
 - E. 6 or more days
16. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or 7 times
 - F. 8 or 9 times
 - G. 10 or 11 times
 - H. 12 or more times
17. During the past 12 months, how many times were you in a physical fight?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or 7 times
 - F. 8 or 9 times
 - G. 10 or 11 times
 - H. 12 or more times
18. During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or more times
19. During the past 12 months, how many times were you in a physical fight on school property?
- A. 0 times
 - B. 1 time
 - C. 2 or 3 times
 - D. 4 or 5 times
 - E. 6 or 7 times
 - F. 8 or 9 times
 - G. 10 or 11 times
 - H. 12 or more times
20. During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?
- A. Yes
 - B. No

21. Have you ever been physically forced to have sexual intercourse when you did not want to?
- A. Yes
- B. No

The next 2 questions ask about bullying. Bullying is when 1 or more students tease, threaten, spread rumours about, hit, shove, or hurt another student over and over again. It is not bullying when 2 students of about the same strength or power argue or fight or tease each other in a friendly way.

22. During the past 12 months, have you ever been bullied on school property?
- A. Yes
- B. No
23. During the past 12 months, have you ever been electronically bullied? (Include being bullied through e-mail, chat rooms, instant messaging, Web sites, or texting.)
- A. Yes
- B. No

The next 5 questions ask about sad feelings and attempted suicide. Sometimes people feel so depressed about the future that they may consider attempting suicide, that is, taking some action to end their own life.

24. During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?
- A. Yes
- B. No
25. During the past 12 months, did you ever seriously consider attempting suicide?
- A. Yes
- B. No
26. During the past 12 months, did you make a plan about how you would attempt suicide?
- A. Yes
- B. No
27. During the past 12 months, how many times did you actually attempt suicide?
- A. 0 times
- B. 1 time
- C. 2 or 3 times
- D. 4 or 5 times
- E. 6 or more times
28. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?
- A. I did not attempt suicide during the past 12 months
- B. Yes
- C. No

The next 11 questions ask about tobacco use.

29. Have you ever tried cigarette smoking, even one or two puffs?
- A. Yes
- B. No
30. How old were you when you smoked a whole cigarette for the first time?
- A. I have never smoked a cigarette or taken a puff of a cigarette.
- B. 8 years old or younger
- C. 9 or 10 years old
- D. 11 or 12 years old
- E. 13 or 14 years old
- F. 15 or 16 years old
- G. 17 years old or older

31. During the past 30 days, on how many days did you smoke cigarettes?
- A. 0 days
 - B. 1 or 2 days
 - C. 3 to 5 days
 - D. 6 to 9 days
 - E. 10 to 19 days
 - F. 20 to 29 days
 - G. All 30 days
32. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?
- A. I did not smoke cigarettes during the past 30 days
 - B. Less than 1 cigarette per day
 - C. 1 cigarette per day
 - D. 2 to 5 cigarettes per day
 - E. 6 to 10 cigarettes per day
 - F. 11 to 20 cigarettes per day
 - G. More than 20 cigarettes per day
33. During the past 30 days, how did you usually get your own cigarettes? (Select only one response.)
- A. I did not smoke cigarettes during the past 30 days
 - B. I bought them in a store such as a convenience store, supermarket, discount store, or petrol station
 - C. I bought them from a vending machine
 - D. I gave someone else money to buy them for me
 - E. I borrowed (or bummed) them from someone else
 - F. A person 18 years old or older gave them to me
 - G. I took them from a store or family member
 - H. I got them some other way
34. During the past 30 days, on how many days did you smoke cigarettes on school property?
- A. 0 days
 - B. 1 or 2 days
 - C. 3 to 5 days
 - D. 6 to 9 days
 - E. 10 to 19 days
 - F. 20 to 29 days
 - G. All 30 days
35. Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?
- A. Yes
 - B. No
36. During the past 12 months, did you ever try to quit smoking cigarettes?
- A. I did not smoke during the past 12 months
 - B. Yes
 - C. No
37. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?
- A. 0 days
 - B. 1 or 2 days
 - C. 3 to 5 days
 - D. 6 to 9 days
 - E. 10 to 19 days
 - F. 20 to 29 days
 - G. All 30 days

38. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip on school property?

- A. 0 days
- B. 1 or 2 days
- C. 3 to 5 days
- D. 6 to 9 days
- E. 10 to 19 days
- F. 20 to 29 days
- G. All 30 days

39. During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?

- A. 0 days
- B. 1 or 2 days
- C. 3 to 5 days
- D. 6 to 9 days
- E. 10 to 19 days
- F. 20 to 29 days
- G. All 30 days

The next 6 questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

40. During your life, on how many days have you had at least one drink of alcohol?

- A. 0 days
- B. 1 or 2 days
- C. 3 to 9 days
- D. 10 to 19 days
- E. 20 to 39 days
- F. 40 to 99 days
- G. 100 or more days

41. How old were you when you had your first drink of alcohol other than a few sips?

- A. I have never had a drink of alcohol other than a few sips
- B. 8 years old or younger
- C. 9 or 10 years old
- D. 11 or 12 years old
- E. 13 or 14 years old
- F. 15 or 16 years old
- G. 17 years old or older

42. During the past 30 days, on how many days did you have at least one drink of alcohol?

- A. 0 days
- B. 1 or 2 days
- C. 3 to 5 days
- D. 6 to 9 days
- E. 10 to 19 days
- F. 20 to 29 days
- G. All 30 days

43. 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?

- A. 0 days
- B. 1 day
- C. 2 days
- D. 3 to 5 days
- E. 6 to 9 days
- F. 10 to 19 days
- G. 20 or more days

44. During the past 30 days, how did you usually get the alcohol you drank?
- A. I did not drink alcohol during the past 30 days
 - B. I bought it in a store such as a liquor store, convenience store, supermarket, discount store, or petrol station
 - C. I bought it at a restaurant, bar, or club
 - D. I bought it at a public event such as a concert or sporting event
 - E. I gave someone else money to buy it for me
 - F. Someone gave it to me
 - G. I took it from a store or family member
 - H. I got it some other way

45. During the past 30 days, on how many days did you have at least one drink of alcohol on school property?

- A. 0 days
- B. 1 or 2 days
- C. 3 to 5 days
- D. 6 to 9 days
- E. 10 to 19 days
- F. 20 to 29 days
- G. All 30 days

The next 4 questions ask about marijuana use. Marijuana also is called grass or pot.

46. During your life, how many times have you used marijuana?

- A. 0 times
- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 to 99 times
- G. 100 or more times

47. How old were you when you tried marijuana for the first time?

- A. I have never tried marijuana
- B. 8 years old or younger
- C. 9 or 10 years old
- D. 11 or 12 years old
- E. 13 or 14 years old
- F. 15 or 16 years old
- G. 17 years old or older

48. During the past 30 days, how many times did you use marijuana?

- A. 0 times
- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

49. During the past 30 days, how many times did you use marijuana on school property?

- A. 0 times
- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

The next 10 questions ask about other drugs.

50. During your life, how many times have you used any form of cocaine, including powder, crack, or freebase?

- A. 0 times

- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

51. During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase?

- A. 0 times
- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

52. During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?

- A. 0 times
- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

53. During your life, how many times have you used heroin (also called smack, junk, or China White)?

- A. 0 times
- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

54. During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?

- A. 0 times
- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

55. During your life, how many times have you used ecstasy (also called MDMA)?

- A. 0 times
- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

56. During your life, how many times have you taken steroid pills or shots without a doctor's prescription?

- A. 0 times
- B. 1 or 2 times
- C. 3 to 9 times
- D. 10 to 19 times
- E. 20 to 39 times
- F. 40 or more times

57. During your life, how many times have you taken a prescription drug (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?
- A. 0 times
 - B. 1 or 2 times
 - C. 3 to 9 times
 - D. 10 to 19 times
 - E. 20 to 39 times
 - F. 40 or more times
58. During your life, how many times have you used a needle to inject any illegal drug into your body?
- A. 0 times
 - B. 1 time
 - C. 2 or more times
59. During the past 12 months, has anyone offered, sold, or given you an illegal drug on school property?
- A. Yes
 - B. No

The next 7 questions ask about sexual behaviour.

60. Have you ever had sexual intercourse?
- A. Yes
 - B. No
61. How old were you when you had sexual intercourse for the first time?
- A. I have never had sexual intercourse
 - B. 11 years old or younger
 - C. 12 years old
 - D. 13 years old
 - E. 14 years old
 - F. 15 years old
 - G. 16 years old
 - H. 17 years old or older
62. During your life, with how many people have you had sexual intercourse?
- A. I have never had sexual intercourse
 - B. 1 person
 - C. 2 people
 - D. 3 people
 - E. 4 people
 - F. 5 people
 - G. 6 or more people
63. During the past 3 months, with how many people did you have sexual intercourse?
- A. I have never had sexual intercourse
 - B. I have had sexual intercourse, but not during the past 3 months
 - C. 1 person
 - D. 2 people
 - E. 3 people
 - F. 4 people
 - G. 5 people
 - H. 6 or more people
64. Did you drink alcohol or use drugs before you had sexual intercourse the last time?
- A. I have never had sexual intercourse
 - B. Yes
 - C. No

65. The last time you had sexual intercourse; did you or your partner use a condom?
- A. I have never had sexual intercourse
 - B. Yes
 - C. No
66. The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy? (Select only one response.)
- A. I have never had sexual intercourse
 - B. No method was used to prevent pregnancy
 - C. Birth control pills
 - D. Condoms
 - E. Depo-Provera (or any injectable birth control), Nuva Ring (or any birth control ring), Implanon (or any implant), or any IUD
 - F. Withdrawal
 - G. Some other method
 - H. Not sure

The next 5 questions ask about body weight.

67. How do you describe your weight?
- A. Very underweight
 - B. Slightly underweight
 - C. About the right weight
 - D. Slightly overweight
 - E. Very overweight
68. Which of the following are you trying to do about your weight?
- A. Lose weight
 - B. Gain weight
 - C. Stay the same weight
 - D. I am not trying to do anything about my weight
69. During the past 30 days, did you go without eating for 24 hours or more (also called fasting) to lose weight or to keep from gaining weight?
- A. Yes
 - B. No
70. During the past 30 days, did you take any diet pills, powders, or liquids without a doctor's advice to lose weight or to keep from gaining weight? (Do not include meal replacement products such as Slim Fast.)
- A. Yes
 - B. No
71. During the past 30 days, did you vomit or take laxatives to lose weight or to keep from gaining weight?
- A. Yes
 - B. No

The next 7 questions ask about food you ate or drank during the past 7 days. Think about all the meals and snacks you had from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

72. During the past 7 days, how many times did you drink 100% fruit juices such as orange juice, apple juice, or grape juice? (Do not count punch, Kool-Aid, sports drinks, or other fruit-flavoured drinks.)
- A. I did not drink 100% fruit juice during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day

73. During the past 7 days, how many times did you eat fruit? (Do not count fruit juice.)
- A. I did not eat fruit during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day
74. During the past 7 days, how many times did you eat green salad?
- A. I did not eat green salad during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day
75. During the past 7 days, how many times did you eat potatoes? (Do not count French fries, fried potatoes, or potato chips.)
- A. I did not eat potatoes during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day
76. During the past 7 days, how many times did you eat carrots?
- A. I did not eat carrots during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day
77. During the past 7 days, how many times did you eat other vegetables? (Do not count green salad, potatoes, or carrots.)
- A. I did not eat other vegetables during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day
78. During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (Do not count diet soda or diet pop.)
- A. I did not drink soda or pop during the past 7 days
 - B. 1 to 3 times during the past 7 days
 - C. 4 to 6 times during the past 7 days
 - D. 1 time per day
 - E. 2 times per day
 - F. 3 times per day
 - G. 4 or more times per day

The next 5 questions ask about physical activity.

79. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)

- A. 0 days
- B. 1 day
- C. 2 days
- D. 3 days
- E. 4 days
- F. 5 days
- G. 6 days
- H. 7 days

80. On an average school day, how many hours do you watch TV?

- A. I do not watch TV on an average school day
- B. Less than 1 hour per day
- C. 1 hour per day
- D. 2 hours per day
- E. 3 hours per day
- F. 4 hours per day
- G. 5 or more hours per day

81. On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Include activities such as Xbox, PlayStation, Nintendo DS, iPod touch, Facebook, and the Internet.)

- A. I do not play video or computer games or use a computer for something that is not school work
- B. Less than 1 hour per day
- C. 1 hour per day
- D. 2 hours per day
- E. 3 hours per day
- F. 4 hours per day
- G. 5 or more hours per day

82. In an average week when you are in school, on how many days do you go to physical education (PE) classes?

- A. 0 days
- B. 1 day
- C. 2 days
- D. 3 days
- E. 4 days
- F. 5 days

83. During the past 12 months, on how many sports teams did you play? (Count any teams run by your school or community groups.)

- A. 0 teams
- B. 1 team
- C. 2 teams
- D. 3 or more teams

The next 2 questions ask about other health-related topics.

84. Have you ever been taught about AIDS or HIV infection in school?

- A. Yes
- B. No
- C. Not sure

85. Has a doctor or nurse ever told you that you have asthma?

- A. Yes
- B. No
- C. Not sure

*This is the end of the survey.
Thank you very much for your help*

Items	Yes	No
Does your mood often go up and down?		
Do you take much notice of what people think?		
Are you a talkative person?		
If you say you will do something, do you always keep your promise no matter how inconvenient it might be?		
Do you ever feel 'just miserable' for no reason?		
Would being in debt worry you?		
Are you rather lively?		
Were you ever greedy by helping yourself to more than your share of anything?		
Are you an irritable person?		
Would you take drugs which may have strange or dangerous effects?		
Do you enjoy meeting new people?		
Have you ever blamed someone for doing something you knew was really your fault?		
Are your feelings easily hurt?		
Do you prefer to go your own way rather than act by the rules?		
Can you usually let yourself go and enjoy yourself at a lively party?		
Are all your habits good and desirable ones?		
Do you often feel 'fed-up'?		
Do good manners and cleanliness matter much to you?		
Do you usually take the initiative in making new friends?		
Have you ever taken anything (even a pin or button) that belonged to someone else?		
Would you call yourself a nervous person?		
Do you think marriage is old-fashioned and should be done away with?		
Can you easily get some life into a rather dull party?		
Have you ever broken or lost something belonging to someone else?		
Are you a worrier?		
Do you enjoy co-operating with others?		
Do you tend to keep in the background on social occasions?		
Does it worry you if you know there are mistakes in your work?		
Have you ever said anything bad or nasty about anyone?		
Would you call yourself tense or 'highly-strung'?		
Do you think people spend too much time safeguarding their future with savings and insurances?		
Do you like mixing with people?		
As a child were you ever cheeky to your parents?		
Do you worry too long after an embarrassing experience?		
Do you try not to be rude to people?		
Do you like plenty of bustle and excitement around you?		
Have you ever cheated at a game?		
Do you suffer from 'nerves'?		
Would you like other people to be afraid of you?		

Have you ever taken advantage of someone?		
Are you mostly quiet when you are with other people?.		
Do you often feel lonely?		
Is it better to follow society's rules than go your own way?.		
Do other people think of you as being very lively?.		
Do you always practice what you preach?		
Are you often troubled about feelings of guilt?.		
Do you sometimes put off until tomorrow what you ought to do today?		
Can you get a party going?		

Rosenberg Self-Esteem Scale

Instructions

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On the whole, I am satisfied with myself.

Strongly Agree	Agree	Disagree	Strongly Disagree
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2. At times I think I am no good at all.

Strongly Agree	Agree	Disagree	Strongly Disagree
----------------	-------	----------	-------------------

3. I feel that I have a number of good qualities.

Strongly Agree	Agree	Disagree	Strongly Disagree
----------------	-------	----------	-------------------

4. I am able to do things as well as most other people.

Strongly Agree	Agree	Disagree	Strongly Disagree
----------------	-------	----------	-------------------

5. I feel I do not have much to be proud of.

Strongly Agree	Agree	Disagree	Strongly Disagree
----------------	-------	----------	-------------------

6. I certainly feel useless at times.

Strongly Agree	Agree	Disagree	Strongly Disagree
----------------	-------	----------	-------------------

7. I feel that I'm a person of worth, at least on an equal plane with others.

Strongly Agree	Agree	Disagree	Strongly Disagree
----------------	-------	----------	-------------------

8. I wish I could have more respect for myself.

Strongly Agree	Agree	Disagree	Strongly Disagree
----------------	-------	----------	-------------------

9. All in all, I am inclined to feel that I am a failure.

Strongly Agree	Agree	Disagree	Strongly Disagree
----------------	-------	----------	-------------------

10. I take a positive attitude toward myself.

Strongly Agree	Agree	Disagree	Strongly Disagree
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