RACE AS A MODERATOR IN THE RELATIONSHIP BETWEEN TRAUMA EXPOSURE AND RESILIENCE AMONG SOUTH AFRICAN ADOLESCENTS

By

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DECLARATION

I (La-Toya Stone) declare that this dissertation (in article format) hereby submitted by me for the degree of Magister Artium (Clinical Psychology) at the University of the Free State is my own independent work and has not previously been submitted by me to another university/faculty. I furthermore cede copyright of this dissertation in favour of the University of the Free State.

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Statement by language editor

I hereby declare that I language edited a Master's dissertation authored by Ms La-Toya Stone with the title: "Race as a moderator in the relationship between trauma exposure and resilience among South African adolescents". The text was edited for matters of writing style and grammar.

Yours faithfully,

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Abstract

Resilience and trauma exposure are well researched topics. There is extensive knowledge about the nature of traumatic events that adolescents are exposed to, as well as how they have coped with these experiences. The role of race in the relationship between these two variables is not extensively researched and little is known about the exact influences it could or could not have on resilience. With South Africa's tainted past and the aftermath of the apartheid era, it is difficult to separate racial influences in both resilience and trauma exposure. In turn, race can seldom be separated from culture, and this has further influences on how individuals execute certain tasks or relate to situations. Racial influence is therefore an important area to research if differences in resilience exist among South African citizens, and especially adolescents. The results obtained from this study can therefore be used to add a new perspective to an already rich literature on resilience.

The aim of the study was to investigate the moderating influence of racial membership in trauma exposure and resilience among 862 South African adolescents. A non-experimental correlational design was used to describe the relationship between the variables. Correlational studies were further used to determine the extent to which the variables were related. The measuring instruments consisted of a biographical questionnaire, a shortened version of the Stressful Life Events Questionnaire (SLESQ) and the Resiliency Scales for Children and Adolescents (RSCA). The role of racial membership in the relationship between trauma exposure and resilience was investigated using a moderated hierarchical regression analysis.

Results from the study indicated that race did not exert a statistically significant moderator effect in the relationship between trauma exposure and resilience among adolescents. The interaction term was therefore dropped from the model and further investigation revealed that there was a statistically significant relationship between race and resilience, after the effects of trauma exposure were taken into account. The white participants in the study had statistically significantly higher levels of resilience compared to the black participants.

Key words: Resilience; trauma exposure; adolescents; race; culture; apartheid era; South Africa; moderating influence; relationship; participants

Opsomming

Veerkragtigheid en blootstelling aan trauma is onderwerpe wat al breedvoerig nagevors is. Daar is baie ingligting oor die natuur van trauma, die tipe traumatiese blootstelling wat adolessente ervaar, asook hoe adolessente hierdie trauma hanteer. Die rol van ras in die verhouding tussen hierdie twee veranderlikes is nie omvattend nagevors nie en daar is min bekend oor die presiese invloed wat dit kan hê op veerkragtigheid. Met Suid-Afrika se besmette geskiedenis en die nagevolge van die apartheids era, is dit moeilik om rasse invloed te skei in beide veerkragtigheid en blootstelling aan trauma. Op sy beurt, kan ras selde geskei word van kultuur, en dit het verdere invloed op hoe individue sekere take uitvoer of verband hou met situasies. Rasse invloed is dus ‘n belangrike gebied vir navorsing, indien die verskille in veerkragtigheid vlakke bestaan onder Suid-Afrikaners, en veral adolessente. Die studie resultate kan dus gebruik word om ‘n nuwe perspektief te voeg tot ‘n reeds ryk literatuur oor veerkragtigheid.

Die rol van hierdie studie was om die matigende invloed van rasse lidmaatskap in trauma blootstelling en veerkragtigheid onder 862 Suid-Afrikaanse adolessente te ondersoek. ’n Kwantitatiewe, nie-eksperimentele, korrelasionele ontwerp is gebruik in hierdie studie om die verhouding tussen die veranderlikes te beskryf. Die meetinstrumente bestaan uit 'n biografiese vraelys, ‘n verkorte weergawe van die ‘Stressful Life Events Questionnaire (SLESQ)’ en die ‘Resiliency Scales for Children and Adolescents (RSCA)’. Die rol van rasse lidmaatskap in die verhouding tussen trauma blootstelling en veerkragtigheid is ondersoek deur gebruik te maak van 'n hiërargiese regressie-analise.

Resultate van die studie dui daarop dat ras nie ‘n statistiese beduidende effek speel in die verhouding tussen trauma blootstelling en veerkragtigheid onder adolessente nie. Die interaksie term is dus gedaal van die model en daar is verdere ondersoek aan die lig gebring dat daar ‘n statistiese beduidende verband tussen ras en veerkragtigheid is, na die gevolge van blootstelling aan trauma in ag geneem is. Die blanke deelnemers in die studie het statisties beduidend hoër vlakke van veerkragtigheid in vergelyking met die swart deelnemers getoon.

Sleutelwoorde: Veerkragtigheid; traumatiese blootstelling; adolessente; ras; kultuur; apartheid era; Suid-Afrika; matigende invloed; verhouding; deelnemers

Introduction and literature review

Trauma exposure is on the increase globally, with the World Health Organization (WHO) (2013) reporting that more than 10% of participants from 21 countries witnessed or experienced a traumatic event in 2013. Of those exposed to traumatic events, 21.8% witnessed violence, 18.8% experienced interpersonal violence, 17.7% were involved in accidents, 16.2% were exposed to war and 12.5% suffered trauma as a result of the loss of a loved one (WHO, 2013). These estimations vary quite significantly, depending on the population group and country being studied (Seedat, Nyamai, Njenga, Vythilingum, & Stein, 2004). It is not surprising that youths live in fear of trauma exposure in their daily lives. In South Africa 28% of young people stated they are most afraid of murder and 21% stated they are most afraid of rape and sexual assault (UNICEF, 2015).

Estimates of trauma exposure rates and subsequent psychological sequelae, especially among children, depend on the type of sample, type of measure, informant source and other factors (American Psychological Association, 2015a). Race and ethnicity, poverty status and gender also affect children's risk for traumatic exposure (American Psychological Association, 2015a). For example, significantly more boys than girls are exposed to trauma in the context of community violence, and serious injury disproportionately affects boys and youths living in poverty (American Psychological Association, 2015a).

In the South African context, trauma exposure is regarded as the norm, with frequent reference being made to South Africa as having a 'culture of violence' or being 'the rape capital of the world', referring to the country's heightened rates of violent crime, sexual violence and domestic abuse (Kaminer, 2008; South African Police Services, 2014). The extant literature suggests that South Africa is characterised by high rates of trauma, specifically murder, assault and robbery and that these high rates of violence could stem from the historical context of political violence (Suliman, Kaminer, Seedat, & Stein, 2005; Ward et al., 2012; Williams et al., 2007). In addition, crime rates have also been on the increase for the period of April 2013 to March 2014: murder, robbery and hijacking incidents are increasing, while sexual offences and assault with the intent of grievous bodily harm are reported to have decreased (South African Police Services, 2014). With the increased rates of violence (South African Police Services, 2014), children and youths are exposed to more traumatic incidents both inside and outside their home environments.

Trauma exposure

Traumatic stressors, as defined by the American Psychiatric Association (2013), are "any event (or events) that may threaten death, serious injury, or sexual violence to an individual, a close family member or a close friend" (p. 830). Trauma is also defined by the American Psychiatric Association (2000), as "a direct personal experience of an event that involves actual or threatened death or serious injury, or other threats to one's physical integrity; or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about an unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate" (p. 463). In accordance with these definitions, individuals who experience these traumatic events are exposed to a wide range of stressful experiences and endure lasting emotional difficulties when their ability to cope is threatened (Bonanno & Mancini, 2012).

Williams et al. (2007) found that nearly 75% of South Africans have experienced at least one traumatic event in their lives. These researchers further found that the most frequent traumatic events reported by South Africans involved trauma of a close other (43%). The study explained that these high rates were most likely due to the unexpected deaths of loved ones. Other types of traumatic events reported in the study included witnessing trauma (27.9%), criminal victimization (25.1%), partner violence victimization (24.3%), having one's life threatened in the form of accidents or illnesses (24.9%) and intimate partner violence (18%).

Findings involving children suggest that at least one in four children may have been exposed to a potentially traumatic event or will be exposed to one by the age of 16 (Grasso, Ford, & Briggs-Gowan, 2013; Social Work Policy Institute, 2010). Among adolescents specifically, it was found that the events most frequently recorded constituted witnessing violence (58%), followed by physical assault by a family member (14%) and sexual assault (14%) (Seedat et al., 2004). A more recent study by Calitz, De Jongh, Horn, Nel and Joubert (2007) confirmed that the traumatic events reported by children and adolescents included witnessing the death of a loved one (32.7%), followed by sexual assault (25%), rape (25%) and physical attacks (10.2%).

Types of trauma

For the purpose of this study, some of the most common types of trauma, as previously researched by other authors, will be investigated. These include: sexual abuse or assault, physical abuse, domestic violence, emotional abuse or maltreatment, neglect, accidents or illness and natural disasters (Goodman, Corcoran, Turner, Yuan, & Green, 1998). Statistics show that in the 2011-2012 period, there were 25 862 sexual offences, 793 murders, 758 attempted murders and 10 630 assaults with the intent to cause grievous bodily harm, committed against children in South Africa (UNICEF, 2012).

Sexual violence or abuse. Sexual violence or abuse is defined by the WHO (2013) as 'any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person's sexuality using coercion'. This act is done by any person regardless of their relation to the victim, in any setting, including but not limited to work and home (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; Mossman, Jordan, MacGibbon, Kingi, & Moore, 2009). Victims of sexual abuse are therefore exposed to a range of behaviours from sexually abusive conduct to non-consensual sexual assaults (Wolff, Blitz, Shi, Bachman, & Siegel, 2006).

Many young people are especially vulnerable to sexual violence, with sexual abuse among children and adolescents affecting both boys and girls, although little is known about male sexual abuse in general (RSA Department of Health, 2012; Maikovich-Fong & Jaffee, 2010). Girls are particularly vulnerable as they are disproportionally affected and are far more likely to be the victims of sexual harassment and sexual assault (Beninger, 2013). There is, however, limited information about sexual assault among boys, although some studies have indicated that 5-10% of men reported a history of childhood sexual abuse (RSA Department of Health, 2012; Finkelhor, Turner, Ormrod, Hamby, & Kracke, 2009; Krug et al., 2002).

South African research on sexual abuse or assault amongst high school students indicate that an estimated one in five (21%) of all sexual assault cases in the country occur in the school setting (UNICEF, 2012). Reports indicate that a third of South African girls were likely to have experienced some form of sexual abuse before the age of 18 (King, Flisher, Noubary, Reece, Marais, & Lombard, 2004; UNICEF, 2012). Yearly, approximately 55 000 rapes of women and girls are reported to police, with a total of 28 128 sexual offences of children under 18 years reported in the 2010/2011 period (UNICEF, 2012).

Physical abuse. Physical abuse is defined as 'actions which result in actual or potential physical harm from an interaction or lack of an interaction, which is reasonably within the control of a parent or person in a position of responsibility, power or trust' (RSA Department of Social Development & RSA Department of Women, Children and People with Disabilities, 2011). Physical abuse is also prominent in South Africa and the UBS Optimus Foundation in conjunction with the Centre for Justice and Crime Prevention and the University of Cape Town (2015) found that in a representative sample of over 9000 adolescents, over one third of the participants suffered being hit, beaten or kicked by an adult caregiver. South African findings indicate that around 28% of all reported abuse cases against children are related to physical abuse and 42% to emotional abuse (RSA Department of Social Development, 2014).

Domestic violence. Domestic violence, which is highly correlated with unemployment and abuse, is also prevalent in South Africa (Tshiguvho, Bosilong, Mbecke, & Weideman, 2008; RSA Department of Social Development, 2014). Among a general sample of the South African population, Tshiguvho et al. (2008) state that 76% of respondents reported being victims of physical abuse in any given time in their lives. The South African College of Applied Psychology (2013) also found that 40% of men have hit their partners and one in four has raped their partner, while three quarters of these men who admit to having raped say they did so as adolescents.

Adolescence and early adulthood is an important period in laying the foundation for healthy and stable relationships, and especially the overall health and well-being of women (Sigelman & Rider, 2006; Stockl, March, Pallito, & Garcia-Moreno, 2014). Little is known about the prevalence rates of interpersonal violence and its associated factors among adolescents and younger women, but results from a study of nine countries showed that the lifetime prevalence of interpersonal violence range from 19 to 66% among women aged 15-24 (Stockl et al., 2014). It has further been found that 50% of head injuries in children occur when children were caught in the crossfire of adult violence (Diale, 2003; RSA Department of Social Development, 2014). Further statistics on domestic violence state that one in four children were said to suffer corporal punishment by means of sticks, belts and other objects at the hands of their parents. Furthermore, a physically abused child is said to have a 60% chance of recurrence of abuse and a 10% risk of an eventual fatality (RSA Department of Social Development, 2014). A South African study found that 42% of females aged 13-23 years reported experiencing physical dating violence (WHO, 2012).

Poverty and unemployment are widespread in South Africa and may increase the likelihood of violence against children in the home (UNICEF, 2012). Sanders and Schnabel (2004) state that fathers in particular may feel anger and frustration at not being able to provide for their family. Furthermore, economic dependence on men and the unequal economic power that exists in society may make it difficult for women to leave the abusive home (Sanders & Schnabel, 2004). Poverty also results in overcrowded living conditions, lack of adequate safety provisions and young children and adolescents being left unsupervised for large parts of the day while their parents are at low paying jobs (RSA Department of Social Development/RSA Department of Women, Children and People with Disabilities/UNICEF, 2012).

Neglect. South African children also suffer from neglect, which involves the failure to provide the child with basic requirements such as health, nutrition, shelter, safe living conditions and education (RSA Department of Social Development, 2014). Furthermore, Muela, Lopez de Arana, Barandiaran, Larrea & Vitoria (2012) define child abuse and neglect as all actions carried out by the caregivers which significantly interfere in the child's optimum development and do not adhere to social standards. Neglect is said to be the most common form of maltreatment across all ages, with more than 7.9% of young people who participated in a school interview (n=4095) reporting that they have experienced a form of neglect at some point in their lives (UBS Optimus Foundation, 2015). One in two children also reported being victims of emotional abuse or neglect, or witnessing violence against their mothers in the home (UNICEF, 2012). It has also been reported that in South Africa, Childline received 3883 negligence-related calls on their crisis line in 2008 (UNICEF, 2012). This neglect often leads to longer term problems for some. Children and adolescents who have been neglected may show developmental delays in language, which in turn affects intellectual development, attention, school readiness, academic achievement, socioeconomic development and may lead to behavioural problems (UNICEF, 2012).

Accidents or illness. It has been reported that more than 90% of global deaths from injuries occur in low and middle income countries (Norman, Matzopoulos Groenewald, & Bradshaw, 2015). In South Africa, there is a high proportion of deaths from injuries and children are especially susceptible (Norman et al., 2015; Pretorius & Van Niekerk, 2014).

Unintentional injuries account for the majority of deaths among children and youths aged 0-14 years (43%), with the most common injuries being falls (21%), transport-related injuries

(13%), burns (8%) and harm by foreign objects (4%) (UNICEF, 2012). Traffic-related injuries are also common with 72% of the children treated at the Red Cross Children's hospital in 2008 having been pedestrians involved in accidents (UNICEF, 2012). From 2008 to 2011 there was a reported total of 5404 fatal injuries among children in Gauteng (Pretorius & Van Niekerk, 2014). Pretorius and Van Niekerk (2014) further state that in adolescence, sharp force injuries and pedestrian injuries were the most common causes of fatalities.

Multiple traumas

It is common for children and adolescents to be exposed to more than a single traumatic event (American Psychological Association, 2015a; Seedat et al., 2004). The South African population is exposed to multiple types of trauma, e.g. interpersonal traumas like sexual assault or child abuse, unexpected death of a loved one, physical violence or witnessing or being involved in an accident (Atwoli et al., 2013; Williams et al., 2007).

The majority of South Africans experience multiple traumas and racial and income groups may be differentially exposed with regard to these traumatic experiences (Williams et al., 2007). These racial differences in trauma exposure are further fuelled by on-going socioeconomic disparities and therefore unequal distribution of resources (Atwoli et al., 2013). Williams et al. (2007) explain that trauma exposure may be especially problematic in urban areas because of high rates of crime and rapid urbanization in some parts of South Africa.

A distinction is therefore made between types I, II and III trauma. Type I trauma refers to a single event such as a car accident, fire or single episode of physical or sexual abuse and includes full detailed memories and misperceptions (Terr, 2003). The NHS' Fife Department of Psychology (2014) refers to Type II trauma as the experience of repeated traumatic events accompanied by feelings such as being overwhelmed, difficulties with focus and dissociation, difficulties in relationships and difficulties with the sense of self. Type III trauma occurs when an individual experiences multiple, pervasive, violent events beginning at an early age and continuing over a long period of time (Solomon & Heide, 1999). All of these events may place the traumatized child on a trajectory towards school failure as it impacts severely on learning, with children being exposed to prolonged traumatic events at a greater risk of developing long-term psychological difficulties (Kaminer & Eagle, 2012).

Responses to trauma exposure

Trauma in infancy and childhood have been related to changes in brain structure and may contribute to the development of mental health disturbances, somatic disturbances, substance use and abuse, sexual promiscuity, impaired memory of childhood, high perceived stress and difficulty regulating emotions (Anda et al., 2006). Therefore, trauma exposure is not only a phenomenon impacting children and youth at the time it happens, but it can also impact future quality of life, especially influencing the psychological well-being of the individual (Kaminer & Eagle, 2012).

Adolescents are especially vulnerable to the effects of trauma exposure. Trauma, coupled with other environmental factors, including poverty and economic distress, can have a significant impact on adolescent development (Peterson, 2005). Adolescents' responses to these traumatic events may depend not only on their developmental level, but also their ethnicity/cultural factors, previous trauma exposure, available resources and pre-existing child and family problems (American Psychological Association, 2015a; Peterson, 2005). The impact of this violence and trauma exposure in children and adolescents are often underestimated. Victims often feel they could have done something to prevent this traumatic event from occurring, thus causing their self-esteem to erode, and leading to social isolation and the inability to develop healthy relationships with others (UNICEF, 2015).

Normal responses. Individuals cope in different ways with trauma exposure, and experience a wide range of physical and emotional reactions (Sadock & Sadock, 2007). Normal responses after a traumatic event include fear, anxiety, numbness, sadness, depression, anger and rage (Dyer, 2005). Dyer (2005) states that other reactions include negative worldviews, moodiness, feeling startled or keyed up, concentration problems, wanting to be alone, avoidance behaviours and increased use of alcohol or drugs to assist with coping, among other things. Common physical responses also include dizziness, nausea, diarrhoea, rapid heart rate, allergies and rashes (Dyer, 2005). These responses are considered normal if they are limited to an acute, transient disturbance, lasting three days to one month after the traumatic event has occurred (American Psychiatric Association, 2013). Although symptoms experienced during Acute Stress Disorder may cause clinically significant impairment in social and occupational areas, these symptoms usually dissipate and the individual is able to continue with their daily living, activities and responsibilities (Sherin & Nemeroff, 2011; DSM V, 2013).

Adolescence is a time of cognitive, emotional, physical, behavioural and social development (Peterson, 2005). Peterson (2005) states that an adolescent struggling with economic distressing events, which may include traumatic experiences, may struggle with social isolation, declining school performance, behavioural problems and other issues that can impact both their quality of life and future functioning. Adolescents may also develop new fears, loss of interest in normal activities, reduced concentration, anger and irritability and somatic complaints (American Psychological Association, 2015a).

It is also common among adolescents to experiment with alcohol and drugs, even more so after a traumatic event and for those with a history of early traumatic experience, in the hopes of escaping or numbing the pain experienced by this trauma (Gerson & Rappaport, 2012). Gerson and Rappaport (2012) further state that, in doing so, a vicious cycle of alcohol or substance abuse and other risk taking behaviours develops, which may put the adolescent at even greater risk of experiencing further trauma such as sexual assaults or relationship violence. Over time, especially those children and youths that were exposed to single traumatic events, manifest resilience and return to their prior level of functioning (American Psychological Association, 2015a). Those children and adolescents who were exposed to multiple traumatic events have a past history of anxiety or have experienced family adversity, are at greater risk of developing Post-Traumatic Stress Disorder (PTSD) (American Psychological Association, 2015a).

Pathological responses. Pathological responses to trauma occur when the psychological trauma suffered leads to a longer-term disorder such as PTSD and is often accompanied by functional impairment (Sherin & Nemeroff, 2011). PTSD seems to be a common outcome after a traumatic event but is also debilitating and requires extensive psychotherapy in order for the individual to feel alleviated, at least partially (Beck & Coffey, 2007; Jaffe, Segal, & Dumke, 2005). Research has indicated that 20-30% of persons who are directly affected by major traumatic events will require some type of long-term emotional support, e.g. counselling (Dyer, 2005).

PTSD is a common aftermath of traumatic life events, recognized in the medical and psychological fields, where an individual reacts with fear and helplessness, persistently relives the event and tries to avoid being reminded of the traumatic event (Sadock & Sadock, 2007). Adolescents suffering from PTSD may experience difficulty in school, become isolated from others and develop phobias (American Psychological Association, 2004).

Studies have shown that trauma exposure and PTSD among South African adolescents are prevalent, with some findings indicating that 91% of youths reporting having been exposed to a traumatic event and 38% of these adolescents reporting symptoms severe enough to be classified as PTSD (Suliman et al., 2005).

In America, studies involving juvenile youth suggest that these youths have high levels of trauma exposure and that trauma correlates with psychiatric disorders (Rosenberg et al., 2014). The Ohio based study goes on to show that 94% of the juveniles reported exposure to at least one traumatic event, whereas 45.7% of the screening was positive for PTSD, 49.4% for depression, 61.2% for substance abuse and 26.3% positive for all three disorders (Rosenberg et al., 2014). For these reasons, trauma exposure and PTSD among the youth cannot be ignored, especially in the South African context. Centres such as the Bathuthuzele Youth Stress Clinic and many similar facilities have been set up to assist the youth who have been affected by extreme violence and trauma (Mental Health Information Centre of South Africa, 2015).

Despite exposure to traumatic events and experiencing distress, most children and adolescents return to their previous levels of functioning, indicating that resilience is a common outcome of traumatic experiences (American Psychological Association, 2015a).

Resilience

Research in the aftermath of potentially traumatic life events is still evolving, although it has been shown that it is a normal or common outcome and human response following exposure to traumatic events (Bonanno, 2005; Pietrantoni & Prati, 2008). Resilience was once considered an extraordinary invincibility in the face of adversity, but is now deemed a basic human adaptive system (Winders, 2014). Thus, for many years, research on resilience was solely focused on children growing up in poverty stricken environments or looked only at psychological or behavioural variables, but the focus has recently shifted to the investigation of isolated and potentially traumatic life events in adults and also includes many biological and genetic factors (Bonanno & Diminich, 2013; Cicchetti, 2010; Luthar, Sawyer, & Brown, 2006).

Masten (2011) defines resilience from a normal developmental perspective as ‘the capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development.’ Resilience is also defined by the American Psychological Association

(2015b) as 'the process of adapting well in the face of adversity, trauma, tragedy, threats or significant sources of stress – such as family and relationship problems, serious health problems or workplace and financial stressors.' Resilient individuals are thus those that are seen as individuals who are able to recover from negative emotions, are flexible, and adapt to the changing demands of stressful experiences. Furthermore, they are optimistic, zestful, they proactively cultivate positive emotionality and are optimistic thinkers (Tugade & Fredrickson, 2004).

Resilience research in children specifically has flourished and currently focuses on the differences between resilience in children and resilience in adults (Australian Psychological Society, 2015; Luthar et al., 2006). In children, their behavioural competence, or the degree to which they meet society's expectations in noticeable tasks is indicative of resilience (Luthar et al., 2006).

An adolescent who is resilient has an advantage when it comes to facing the challenges and responsibilities of adulthood, even when the adolescent has experienced circumstances such as poverty, health problems or strained family relationships (Murphey, Barry, & Vaughn, 2013). Murphey et al. (2013) further state that resilience in adolescence can also be viewed as the product of the stressors an adolescent is currently bearing, in conjunction with their genetic temperament, their competence both for independence and for seeking help when appropriate, and the social support provided by family members and others. From this viewpoint it is clear that both innate abilities and how an adolescent copes with stress, as well as their environmental support structures are important in building resilience.

A developmental perspective on resilience

As research on resilience has evolved, it has become clear that despite adversity, positive adaptation involves a developmental progression, where new vulnerabilities and/or strengths often emerge with changing life circumstances and at different stages of development (Luthar, Cicchetti, & Becker, 2000; Masten & Gerwitz, 2006).

Resilience research indicates that children might have different vulnerabilities and protective systems at different times in the course of their development (Masten & Gerwitz, 2006). In older adolescents increased independence from the protection of their caregivers but also adequate social support in order to facilitate positive development of cognitive, social and self-

regulation skills may contribute to resilience (Masten & Gerwitz, 2006). There are a number of characteristics of adolescents who are resilient, as identified by researchers. These characteristics include one or more adults providing caring support, an appealing, sociable disposition, good thinking skills, one or more talents, belief in oneself and trust in one's ability to make decisions, religiosity or spirituality, setting reasonable goals and achieving them, being able to communicate with others, having an internal locus of control, assertiveness, a sense of coherence, autonomy and competence (Mampane & Bouwer, 2006; Murphey et al., 2013; Steyn, 2006; Women and Children's Health Network, 2014).

Prince-Embury (2006) also conceptualises resilience according to a normal developmental perspective as consisting of three developmental tasks: a sense of mastery; a sense of relatedness; and emotional reactivity.

Mastery is defined as a sense of having control over the forces that affect one's life, and is regarded as an important component of psychological health and well-being across the lifespan (Conger, Williams, Little, Masyn, & Shebloski, 2009). According to Prince-Embury (2006), a sense of mastery consists of optimism, self-efficacy and adaptability. Optimism and self-efficacy or competence is at the core of self-mastery and children who display these traits are able to interact with and enjoy cause and effect relationships, and are driven by curiosity which is intrinsically rewarding and ultimately contributes to problem solving skills (Prince-Embury, 2013). When adolescents learn that their efforts will affect the course of events and may resolve difficulties in interpersonal relationships, their sense of mastery should increase; thus mastery has the potential to increase across time and with age (Conger et al., 2009).

Resilience also depends on a child's relatedness to others (Prince-Embury, 2006). Relatedness refers to a sense of trust, perceived access to support, comfort with others and tolerance (Goldstein & Brooks, 2012). Trust is referred to as the extent to which others are perceived as reliable (Goldstein & Brooks, 2012). Goldstein and Brooks (2012) further define support and comfort with others as the extent to which the youth believe that there are others who care and to whom they can go in the face of adversity, and being at ease with others (Goldstein & Brooks, 2012). A sense of relatedness refers to comfort with others, trust in others, access to support by others when in need of support and tolerance of differences (Prince-Embury, 2013).

A child's ability to manage their reactivity is also a predictor of resilience (Prince-Embury, 2006). Prince-Embury (2006) conceptualises emotional reactivity as an indication of sensitivity, recovery and impairment. Children who are able to regulate their emotions and redirect emotional arousal function more adaptively in emotionally challenging situations (Prince-Embury, 2013).

The concept of resilience has been refined in recent years (Luthar & Zelazo, 2003) and Richardson (2002) states that it should also be examined more holistically. Thus, resilience is now being studied psychologically, biologically and socially and involves an interaction of individual and environmental characteristics (Almedom & Glandon, 2007; Kim-Cohen, 2007; Luthar & Zelazo, 2003; Smolka et al., 2007). South African researchers have now started to conceptualise resilience as the product of individual traits, protective resources and the person-context transaction (Theron & Theron, 2010).

In the past forty years, resilience has shed light on human development, identifying complex, multi-systemic interactions that might shape both positive and pathological outcomes following adversity (O'Dougherty Wright, Masten, & Narayan, 2013). Studies have also shown that resilience can and does operate at the community level and that this communal view on resilience indicates that adversity is not only an individual issue but a shared one, requiring a cooperative, collective response in order to foster resilience (Mosavel, Ahmed, Ports, & Simon, 2013).

Poverty, deprivation and violence are characteristics of low-income South African communities and are factors that can influence the health and well-being of the youth (Murphey et al., 2013). However, resiliency can provide the necessary avenues for these youths to transcend adversity and its negative outcomes and these youths possess the ability to become resilient (Mampane & Bouwer, 2006; Murphey et al., 2013). Therefore, as seen with the characteristics identified by researchers (Murphey et al., 2013; Steyn, 2006; Mampane & Bouwer, 2006), resilience does not merely depend on the adolescent's context.

Race as moderator in the process of trauma exposure

It has been assumed that traumatic events present with demanding circumstances and challenges and that resilience plays a role in trauma and these challenging events facing individuals (Veenendaal, 2008). Veenendaal (2008) states that race may also have a particular influence as

different racial groups may be exposed to different kinds of traumatic events which range in severity. However, there is little information regarding the exact influence of race or whether it may play a moderating role in the relationship between traumatic exposure and resilience.

In the past, race not only referred to similar or distinct physical characteristics in South Africa, but was also used to define geographical boundaries by segregating racial groups according to their skin colour (Encyclopedia Britannica, 2015). The Group Areas Act of 1950 restricted ownership and occupation of land by specific statutory groups and established residential and business sections in urban areas for each race, where thousands of coloured, black and Indian citizens were removed from areas classified for white occupation (Encyclopedia Britannica, 2015; Jackson et al., 2010).

Racial and income groups are differently exposed to trauma in South Africa (Williams et al., 2007). Williams et al. (2007) state that the high rates of violence in South Africa could stem in part from the country's history of political violence. Trauma exposure may thus be problematic in urban areas because of rapid urbanisation and these income disparities, leading to higher rates of crime (Williams et al., 2007; Cooley-Strickland et al., 2009). Although exposure to violence and trauma transcends socioeconomic status, studies have shown that there is increased exposure to and severity of violence among lower socioeconomic groups (American Psychological Association, 2015c).

Present-day South Africa is seen as a continually emerging anti-apartheid state (Jackson et al., 2010) which may be a source of frustration for many. There is also a great deal of 'continuous traumatic stress' which may be a result of the residuals of apartheid (Jackson et al., 2010). In present-day South Africa racial terms are still being used, partly due to the African National Congress government's affirmative action programmes (Conway-Smith, 2014). These programmes promote representation of previously oppressed non-white groups in management positions, previously dominated by white males. This is further testament to the fact that there is an inability to move past the issue of race (Conway-Smith, 2014; Jackson et al., 2010). In the current study racial groups were categorised based on the self-report measures the participants completed.

Racial differences in the allocation of and access to resources

Poverty in South Africa has racial, gender and spatial dimensions, directly resulting from the policies of successive colonial, segregationist and apartheid regimes (Padayachee & Desai, 2013). South Africa's apartheid past still shapes health, services and resource inequities in the current economy (Harris et al., 2011) and this unequal access to resources, in turn, influences resilience, as it drives people further into crisis and poverty. This discrimination and marginalisation are sometimes barriers for ethnic and racial minorities seeking to escape poverty (Lewis & Kelman, 2012; American Psychological Association, 2015d).

Several historical events and regulations negatively tainted group classification and determined how the members of the group would be treated (Encyclopedia Britannica, 2015; Henrard, 2002). With the races allocated to certain areas and only being allowed to live or roam in designated areas, access to certain privileges and even necessities were limited (Henrard, 2002; Jackson et al., 2010). This implied unequal distribution of resources amongst different racial groups - this inequality is still evident from the results of recent studies (e.g. George, 2009; Mokate et al., 2011). Unequal access to resources extended across a broad sphere, including education, lack of resources and facilities to develop cultural expression, economic power and deprivation of their human rights (Kon & Lackan, 2008; Harris et al., 2011; American Psychological Association, 2015d).

Access to physical and psychological health services were also dependent on race in the apartheid era; this remaining a problem in present-day South Africa (American Psychological Association, 2015d). A total of 40.8% of black citizens and 22.9% of coloured citizens reported going without medical aid at some point, compared to 10.9% of white and 6.9% of Asian citizens respectively (Kon & Lackan, 2008). Similarly, these disparities were not only found in health but also in education, income and basic public health infrastructure (Kon & Lackan, 2008). More than 18 years after apartheid, black and coloured citizens are still disadvantaged in terms of health care and in the labour market, compared to their white and Asian counterparts (Kon & Lackan, 2008; Jones, 2013). Jones (2013) states that poverty and inequality remain entrenched in present-day South Africa.

According to the America Psychological Association (2015d), communities are often segregated by socioeconomic status, race and ethnicity and these communities often share similar

characteristics such as low economic development, poor health conditions and low levels of educational attainment. Low socioeconomic status is often also a risk factor for many problems that plague the community (American Psychological Association, 2015c).

More than a billion people, mainly in low and middle income countries, are unable to access needed health services because of the unaffordability of these services (Harris et al., 2011). When asked how the government was handling the gap between rich and poor, all ethnic groups reported that it was doing poorly (blacks, 73%; whites, 85%; coloureds, 80% and Asians 86%) (Harris et al., 2011). Until these disparities, and especially income disparities, are addressed, there will be higher rates of crime or violence in certain communities, especially those of lower socioeconomic status (Williams et al., 2007; Harris & Vermaak, 2015). Income inequality can thus be said to have a positive and significant effect on crime rates (Harris & Vermaak, 2015), indicating that the lack of resources in certain communities is of grave concern in South Africa.

Racial and cultural differences

In addition, racial divides also often imply cultural divides in the South African context. Culture in South Africa is defined as a set of (often nationally shared) values, which include but are not limited to conservatism, tightness/looseness, industry and individualism/collectivism (Theron & Liebenberg, 2015). Individualism and collectivism are probably the most common approaches to explaining culture. In individualism the individual is paramount, whereas in collectivism, the collective is emphasised and given precedence over how obligations are negotiated (Theron & Liebenberg, 2015). Black individuals tend to adhere to a collectivistic culture, depending on group harmony and consensus (Valchev et al., 2012). White individuals adhere to an individualistic culture, valuing individuality and personal achievement, freedom and independence, while Indian and Asian persons adhere to an intermediate culture (Valchev et al., 2012). These cultural differences may influence the experiences of trauma exposure and resilience in the South African population.

Race and cultural practices shape not only behaviour but also interactions with other people. For this reason it should be kept in mind that these factors can both be used to identify and enhance culturally shaped resilience processes (Theron & Liebenberg, 2015). Although international resilience research has begun to match the antecedents of resilience to specific contexts and/or cultures, it has been found that South African research hardly does so (Theron &

Theron, 2010). Theron and Theron (2010) state that it is only once the gaps in youth resilience have been addressed, that psychologists, teachers, service providers and communities will be suitably equipped to enable South African youth towards sustained resilience.

Methodology

Although there is extensive research on trauma exposure and resilience among adolescents, research on the moderating influence of racial membership is limited. The present study is thus aimed at determining if racial membership moderates the relationship between trauma exposure and resilience among a group of South African adolescents.

The following section describes the research hypotheses, research design, participants, the data-gathering procedure, as well as the measuring instruments used. This is followed by a brief discussion on the statistical analysis applied and the ethical considerations relevant to this study.

Research questions

The following research questions were investigated:

1. Is there a relationship between trauma exposure and resilience?
2. Does race moderate the relationship between trauma exposure and resilience?

Research design

A non-experimental correlational design was used to describe the relationship between the variables (Johnson, 2001). Correlational studies are used to determine the extent to which two or more variables are related (Lomax & Li, 2013; De Vos, Strydom, Fouche, & Delport, 2003). Although correlational studies are frequently used to describe associations between variables (Cohen, Manion, & Morrison, 2005), it does not imply causation and further research will have to be done to prove causal relationships (Lomax & Li, 2013). The predictor variable in the current study is trauma exposure, the moderator is racial membership, and the outcome variable is resilience.

Research participants

The current study forms part of a larger research project (Risk and Resilience of Adolescents in the Free State Province) that was conducted in the Free State province of South Africa in 2012. Two schools from each of the five districts in the Free State province were randomly drawn to participate in the study. One of these schools withdrew from the study prior to the data collection phase. The entire grade 10 class in the remaining nine schools participated in the survey. In total, 862 students participated in the study (N=862), with males accounting for 40.8% of the sample and females accounting for 58.4%. The remaining 0.8% accounts for missing gender information.

Compared to South African statistics, this sample is not entirely representative of the gender distribution in South Africa, as females constitute about 51% of the population (Statistics South Africa, 2013). Thus, females are slightly over-represented in the current group of participants. The mean age of the group of participants was 16.35. This is in accordance with the life stage of middle adolescence.

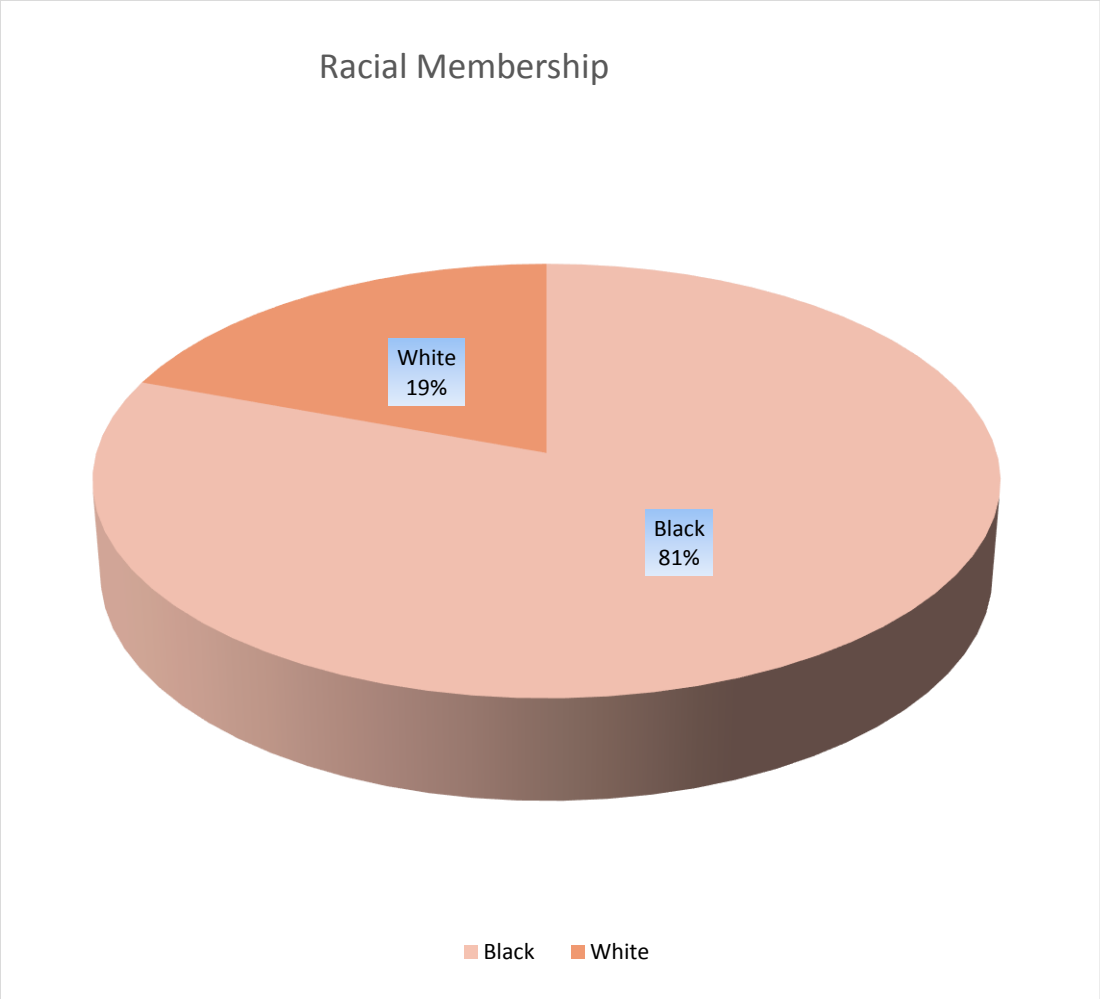

Figure 1: Description of the racial membership of participants

The Free State province constitutes approximately 5.2% of the total population of South Africa (Statistics South Africa, 2014). The population of the Free State province consists of 88.0% black Africans, 8.8% white, 3.1% coloured and 0.1% Indian citizens (Bradshaw et al., 2000). Compared to these statistics, white citizens are over-represented in the current group of participants.

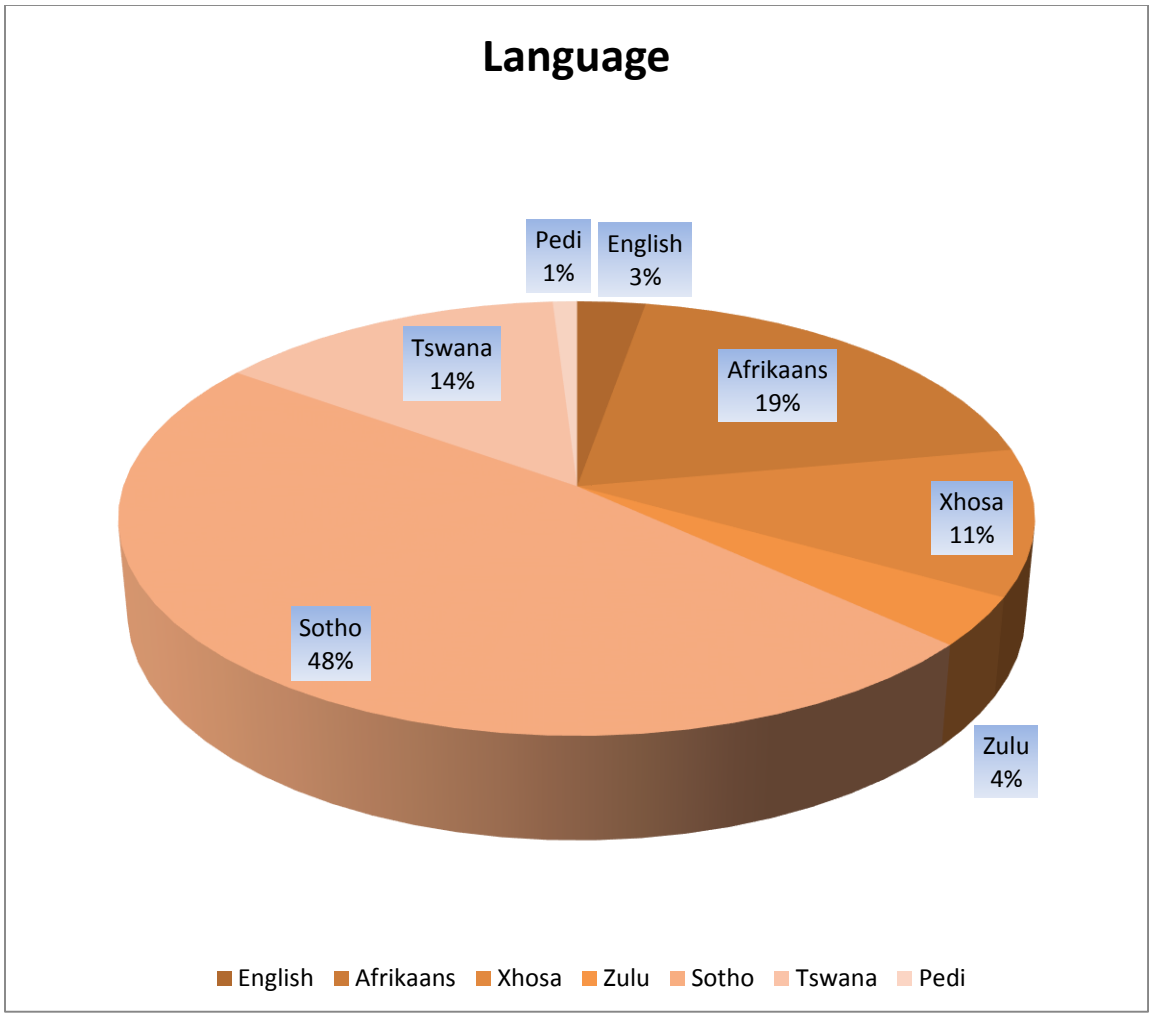

Figure 2: Descriptive statistics of the languages spoken by the participants

The language distribution gives an indication of ethnic distribution in the sample. From the graph it is evident that the majority of the participants were of a Sesotho ethnic background. This information correlates with findings from Statistics South Africa (2011) which indicate that among the black residents in the Free State province, 51.9% speak Sesotho and are of Sesotho decent. Thus, it is no surprise that almost half of the participants in the current group of participants are Sesotho speaking.

Data gathering procedure

The data set was collected at nine schools in the Free State province during the first term of the 2012 academic year. All questionnaires were administered at the schools in groups of about 30 learners under the supervision of registered psychologists and psychometrists. The time taken to complete the questionnaires was approximately two hours. However, the participants were given a break halfway through the administration of the questionnaires. The questionnaires were made available in English, Afrikaans and Sesotho and translators were also available if needed.

Rapport was established between the test administrators and the participants before the questionnaires were handed out. Participants were also given the opportunity to ask questions if they were unsure about the meaning of certain questions or what was required of them.

Fairness was ensured by treating all participants in the same manner and giving them the same set of instructions, ensuring that the researchers were unable to deliberately influence the results. Experimenter bias was thus decreased in this manner (Strickland & Suben, 2012).

Measuring instruments

The following section is dedicated to explaining the psychometric properties of the three questionnaires included in the current study. The alpha coefficients of the respective questionnaires were calculated in order to determine the internal consistency of the data obtained from the participants.

The following scales were used:

A ***biographical questionnaire*** was compiled in order to obtain information on age, gender and race. Thus, the classification of participants in race groups were based on their own reports. The categories included for racial membership was as follows: black, white, coloured, Asian, other.

A shortened version of the ***Stressful Life Events Questionnaire*** (SLESQ) (Goodman et al., 1998) was administered to identify lifetime exposure to trauma. The questionnaire consisted of 12 dyad items of 'yes' and 'no', covering 12 types of traumatic events, such as exposure to natural disasters; exposure to illness, accidents and injury; exposure to family-related trauma; and exposure to crime and violence. If a participant answered 'yes', further questioning determined the frequency and duration of these incidents.

Given that exposure to each of these events is considered independent from the other, the researcher did not expect the learners' responses to show consistency among items. Therefore, in order to determine the instrument's reliability, test-retest correlations can be considered.

The results of exposure to traumatic events indicate that, on average, the participant groups were exposed to 2.8 traumatic events in their lifetime (SD=1.93). An earlier South African study indicated that adolescents are exposed to an average of 3.7 traumatic events (Suliman et al., 2005), while a more recent South African study amongst grade 10 pupils in the Western Cape indicated an average of 3.5 traumatic events in childhood (Calitz et al., 2014). The mean score obtained for the current group of participants is therefore not surprising.

Table 1

List of Traumatic Events Experienced by Participants

Traumatic Event	Frequency	Percent	Valid Percent
Robbery	271	31.4	31.6
Physical assault	145	16.8	17
Sexual assault	72	8.4	8.5
Domestic violence	89	10.3	10.4
Lost loved ones due to trauma	362	42	42.3
Been seriously injured	245	28.4	29
Feared serious injury or death	242	28.1	28.3
Witnessed violence	152	17.6	17.8
Natural disasters	84	9.7	9.8
Life threatening injury	288	33.4	33.6
Exposure to corpses	304	35.3	35.5
Involuntary separation from loved one	153	17.7	17.8

It is evident that the most common traumatic experiences reported by participants are loss of a loved one due to trauma (41%), exposure to corpses (35.3%) and life-threatening injuries (33.4%). Sexual assault was reported by a mere 8.4% of participants, but this statistic may not be reliable since sexual assault is under-reported in South Africa due to societal attitudes and perceptions about this offence, with individuals often placing the blame on the victim and victims feeling ashamed (Louw, 2013). In addition, the sensitive nature of this question may result in adolescents not answering it truthfully (Botha, 2014).

The ***Resiliency Scale for Children and Adolescents*** (RSCA) were developed by Prince-Embury (2006) to determine children's resilience levels. The scale consists of 64 items (Prince-Embury, 2006). Response options are based on a 5-point Likert scale. These five options ranged from 'never true' to 'almost always true'. The minimum score on the scale is 0 and the maximum score 256. The scale consists of three subscales, namely: *sense of mastery*, *sense of relatedness*, and *emotional reactivity*. In order to obtain an estimate of personal resilience, the scores on the *sense of mastery* and *sense of relatedness* subscales were combined. These two constructs seem to be highly correlated although they have individual developmental pathways (Prince-Embury, 2006). The score obtained on the *emotional reactivity* subscale indicates vulnerability and was not used in the current study.

A South African study by De Villiers (2009) recorded alpha coefficients ranging from 0.9 to 0.93 for a middle childhood population. Alpha coefficients were calculated for the current group of participants, with a coefficient of 0.924 reported, indicating a high internal consistency. Important and valid conclusions can thus be deduced from the results, based on the high internal consistency (Panayides, 2013).

Table 2

The Resiliency Scales for Children and Adolescents – Combined Scale

			Statistic	**Std. Error**
Combined scale Sense of mastery and Sense of relatedness	**95% Confidence Interval for Mean**	Mean	115.729	.799
		Lower Bound	114.161	
		Upper Bound	117.296	
		Std. Deviation	23.444	
		Minimum	0.00	
		Maximum	176.00	
		Skewness	-8.17	.083
		Kurtosis	1.995	.166

The results indicate a mean score of 115.729 (SD=23). The mean score correlates with a T-score of 45 which indicates a low level of resilience (Prince-Embury, 2006). The skewness is a measure of the degree to which a distribution is asymmetrical (Kim, 2013; Howell, 2011). The value of -0.817 is considered acceptable (Brown, 2011) and indicates that the data is relatively normally distributed.

Ethical considerations

As the study forms part of an existing research study at the University of the Free State, permission for the study had already been obtained from the Free State province's Department of Education. Permission was also obtained from the principals of the schools involved. The learners and their parents were fully informed of the nature of the study and a consent form was signed by both the learners (participants) and their parents/guardians. Participation in the study was voluntary and participants could withdraw at any stage during the survey.

All the information obtained was handled with confidentiality. The principle of beneficence requires that psychologists, and therefore the test administrators, should anticipate and handle participants' emotional reactions during the study (Allan, 2011). This is also in line with the 2008 guidelines of the Health Professions Council of South Africa (HPCSA) which state that the dignity of research participants should be respected at all times. It was therefore important for the administrators to be accessible to the participants throughout the entire process and to address any questions as promptly and constructively as possible. Participants with a high risk profile were given the opportunity to access the appropriate mental health services free of charge on completion of the data collection process.

Statistical analysis

The role of racial membership in the relationship between trauma exposure and resilience was investigated with a moderated hierarchical regression analysis (Whisman & McClelland, 2005) using SPSS 22.0 (Bennet, Allen, & Heritage, 2014). The variables are entered in steps, with each predictor variable being assessed in terms of what it adds to the prediction of the criterion variable. This moderated hierarchical regression analysis is an appropriate technique for identifying moderator variables, accompanied by procedures for clarifying relationships (Anderson, 1986). Race was the moderator variable, trauma exposure was the predictor variable, and resilience was the outcome variable.

Results

The aim of the study was to examine the role of race as moderator in the relationship between trauma exposure and resilience among South African adolescents. The results of the hierarchical regression analysis will be discussed below.

Hierarchical regression analysis results

Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity.

Table 3

Model Summary

					Change Statistics				
Model	***r***	***r*²**	**Adjusted *r*²**	**Std. Error of the Estimate**	***r*² Change**	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.103[a]	.011	.008	23.348	.011	4.567	2	859	.011
2	.116[b]	.013	.010	23.328	.003	2.487	1	858	.115

a. Predictors: (Constant), Race, Trauma

b. Predictors: (Constant), Race, Trauma, Trauma_x_Race

c. Dependent Variable: Resilience

As seen from the row highlighted in the table above, the addition of the interaction term between trauma exposure and race did not result in a significant increase in r^2, only explaining an additional 0.3% of the variance in resilience (r^2 Change = 0.003; F(1,858) = 2.487; p = 0.115). Thus, race does not seem to be a significant moderator of the relationship between trauma exposure and resilience. This result will be explored further.

Table 4

Relationship between Trauma Exposure and Resilience for Individuals in the White Racial Group

	Unstandardised Coefficients		Standardised Coefficients				
Model	***B***	**Std. Error**	**Beta**	***t***	**Sig**	**Tolerance**	**VIF**
1. (Constant)	121.130	2.095		57.832	.000		
Trauma	-.226	.413	-.019	-.546	.585	.997	1.003
Race	-5.917	2.016	-.100	-2.936	.003	.997	1.003
2. (Constant)	124.293	2.898		42.883	.000		
Trauma	-1.460	.885	-.120	-1.650	.099	.217	4.603
Race	-10.059	3.310	-.170	-3.039	.002	.369	2.710
Trauma_x_Race	1.578	1.001	.137	1.577	.152	.152	6.596

a. Dependent Variable: Resilience

From the row highlighted in the table above, it can be seen that the relationship between trauma exposure and resilience for participants in the white racial group was not statistically significant (t=-1.650; p=0.099).

Table 5

Relationship between Trauma Exposure and Resilience for Individuals in the Black Racial Group

	Unstandardised Coefficients		Standardised Coefficients				
Model	***B***	**Std. Error**	**Beta**	***t***	**Sig**	**Tolerance**	**VIF**
1. (Constant)	115.213	1.473		78.205	.000		
Trauma	-.226	.413	-.019	-.546	.585	.997	1.003
Race	5.917	2.016	.100	2.936	.003	.997	1.003
2. (Constant)	114.234	1.598		71.504	.000		
Trauma	.118	.467	.010	.253	.801	.779	1.283
Race	10.059	3.310	.170	3.039	.002	.369	2.710
Trauma_x_Race	-1.578	1.001	-.091	-1.577	.115	.344	2.906

a. Dependent Variable: Resilience

From the row highlighted in the table above, it can be seen that the relationship between trauma exposure and resilience for participants in the black racial group was also not statistically significant (t=0.253; p=0.801).

It thus seems clear that race does not play a moderating role in the relationship between trauma exposure and resilience. To further investigate these variables, it was decided to determine the extent to which both trauma exposure and race predict levels of resilience by means of a main effects regression analysis. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity.

Table 6

Model summary

Model	*R*	r^2	Adjusted r^2	Std. Error of the Estimate	Durbin-Watson
1	.103[a]	.011	.008	23.3478	1.666

a. Predictors: (Constant), Trauma, Race

b. Dependent Variable: Resilience

From this table it can be seen that the model explained 1.1% of the variance in resilience, (r^2=0.011).

Table 7

Analysis of Variance (ANOVA) Results

Model	Sum of Squares	df	Mean Square	F	Sig
1. Regression	4979.533	2	2489.766	4.567	.011[b]
Residual	468254.945	859	545.116		
Total	473234.478	861			

a. Dependent variable: Resilience

b. Predictors: (Constant), Trauma, Race

The regression model is statistically significant at the 5% level [$F(2.589)=4.567; p=0.011$].

Table 8

Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero order	Partial	Part	Tolerance	VIF
1. Constant	115.213	1.473		78.205	0.000	112.322	118.105					
Race	5.917	2.016	.100	2.936	.003	1.961	9.873	.101	.100	.100	.997	1.003
Trauma	-.226	.413	-.019	-.546	.585	-1.037	.586	-.024	-.019	-.019	.997	1.003

a. Dependent variable: Resilience

From the table above it can be seen that only race made a statistically significant contribution to the prediction of resilience, after the effects of trauma exposure were controlled for (t=2.936; p=0.003). Trauma exposure, on the other hand, did not significantly influence resilience after the effects of race were taken into account (t=-.0546; p=0.585). The B value for race in the unstandardised coefficients column indicates that white participants scored 5.917 units higher in resilience compared to the black participants, after the effects of trauma exposure were taken into account.

In summary, a regression analysis was conducted to assess whether race moderates the relationship between trauma exposures on resilience. Race was not a significant moderator of the relationship, as evidenced by the addition of the interaction term only explaining an additional 0.3% of the variance in resilience. As such, the interaction term was dropped from the model. The new model revealed that there was a statistically significant relationship between race and resilience after the effects of trauma exposure were taken into account. The white participants showed statistically significantly higher levels of resilience compared to the black participants.

Discussion

The results from the present study showed that adolescents are exposed to a wide range of traumatic events, with the loss of a loved one due to trauma, exposure to corpses, life-threatening injury and robbery listed as the most common types of traumatic exposures. The results further indicate that South African children have experienced on average more than two traumatic events by the time they reach middle adolescence.

These findings confirm those of a previous study indicating that most South Africans are exposed to at least one traumatic event in their lives with the most common traumatic events shown to be death or unexpected loss of a loved one due to trauma and witnessing trauma (Williams et al., 2007). Globally, there are great variations in the estimates of traumatic exposure among the youth, but it has been found that most children and adolescents are exposed to more than a single traumatic event (Seedat et al., 2004; American Psychological Association, 2015a).

The results further indicated that race does indeed have a direct relationship with resilience, with white adolescents demonstrating significantly higher levels of resilience compared to black adolescents. From the literature review it was determined that racial classification resulting from the apartheid era determined how resources would be allocated

among the different racial groups, thus adding racial and spatial dimensions to poverty (Padayachee & Desai, 2013). For this reason, South Africa's apartheid past still shapes resource inequalities in the current economy (Harris et al., 2011). Marginalisation thus makes it difficult for ethnic and racial minorities – or those previously disadvantaged - to gain access to resources that may aid in building resilience (Lewis & Kelman, 2012; American Psychological Association, 2015b).

In view of the high rates of trauma exposure in South Africa and the disparity in the distribution of and access to resources in certain areas, it is therefore conceivable that environmental factors could play a significant role in the fact that white participants reported higher levels of resilience compared to black participants.

In South Africa, racial divides also often imply cultural divides and differences (Theron & Liebenberg, 2015) which in turn shape many aspects of human behaviour, including interactions with others. These interactions, in turn, could potentially influence culturally shaped resilience (Theron et al., 2015). White individuals tend to adhere to individualistic cultural practices, where personal achievement is paramount, whereas black individuals practice collectivism with its focus on group harmony (Valchev et al., 2012). These cultural differences may influence the experiences of trauma exposure and resilience in the South African population.

Some black communities have a communal view of resilience, emphasising connectedness and shared hardships, and they have views on resilience that are culturally and contextually based (Ahmed, Seedat, Van Niekerk, & Bulbulia, 2004; Kimhi & Shamai, 2004; Theron, 2015). The black adolescents in the present study could be so dependent on the community and the social cohesion within the community, that if there is a lack of group cohesion, resilience could suffer too. White individuals can therefore attribute their higher levels of resilience to their individualistic culture and self-reliant, autonomous and independent traits (Valchev et al., 2012). It would therefore be easier for individuals who adhere to the above-mentioned principles to be resilient and depend on themselves to restore any imbalances that may occur after a traumatic exposure.

Finally, racial membership did not seem to be a significant moderator of the relationship between trauma exposure and resilience, according to the current findings. In fact, there was no statistically significant relationship between trauma exposure and resilience for either the white or the black participants. Depending on the resources and individual abilities of each

adolescent (Bonanno, 2005; Zimmerman et al., 2013), the adolescent should have the potential to become resilient after exposure to a traumatic event. In the South African context, however, access to health care and other resources are limited (Harris, Goudge, Ataguba, McIntyre, Nxumalo, Jikwana & Chersich et al., 2011). Limited access to resources could influence resilience, as it drives people further into crisis and poverty. Therefore, after exposure to trauma, it might be more difficult for adolescents to develop resilience and thus achieve an optimal level of functioning without the necessary resources, access to services and general external support.

Also, individuals may achieve different outcomes after exposure to a traumatic event, which may not simply be seen as resilience or pathology, as multiple factors play a role in the resilience process. In fact, the concept of multifinality proposes that various outcomes are possible after experiencing a traumatic event, depending on multiple individual and environmental factors (Kaplan, 2006). This then implies that the participants in the current study may display different outcomes (including signs of PTSD, internalising or externalising disorders or a range of adaptive responses) to the traumatic events.

Finally, it should be kept in mind that resilience is usually influenced by the presence of multiple risk and protective factors. Therefore, adolescents may be resilient in some domains but not in others (Lynch, 2003; O'Donnell, Schwab-Stone, & Muyeed, 2002). From the studies it is evident that resilience is a complex process. In light of these findings, it is therefore not unusual that trauma exposure does not necessarily translate to resilience amongst the present participants.

Conclusion

The findings of the present study have highlighted the fact that racial disparity has persisted well into the post-apartheid era. The findings are also a reminder that individuals function within other systems and that it is therefore important to first address the inequalities that exist on systemic levels before individuals are expected to be resilient (Mampane & Bouwer, 2006). If individuals have limited access to resources, continue living in overcrowded areas, or have little influence over policies that govern their access to these resources, learners in these lower socioeconomic status communities require a great deal of protection and resilience to overcome these obstacles (Mampane & Bouwer, 2006). These systemic influences not only underlie vulnerabilities and exposure to trauma, but may also restrict the ability of an individual to become resilient (Mampane & Bouwer, 2006), emphasising the importance of ecological conceptualisations of resilience (Van Rensburg, Theron, & Rothman, 2015). Contextual and cultural influences of resilience acknowledge the complexity and cultural relativity processes that are involved in positive adaptation (Van Rensburg et al., 2015). Addressing the inequalities within these systems will therefore potentially have an influence on the individual's resilience.

The findings of this study have also created awareness and highlighted the fact that trauma exposure does not increase or decrease resilience among South African adolescents. There may be many other factors contributing to resilience. This has paved the way for future research and contributions aimed at understanding South African children's experiences of trauma as well as their recovery processes.

The first limitation of the study relates to the over-representation of white participants in the sample. Referring back to the concept of collectivistic versus individualistic cultures, the autonomy and independence of the white adolescents in the sample, given that they adhere to an individualistic culture, could have influenced the results of the study.

Another limitation concerns the overrepresentation of females in the sample. With the random selection of schools, one school that was selected was an all-girls school. Gender bias results in a systematically erroneous gender-dependent approach related to social constructs, implying that there may be differences in the way that the male and female participants may have viewed any of the variables measured (Ruiz-Cantero et al., 2007).

Home language constituted a further limitation of the study. Although the questionnaires were made available in English, Afrikaans and Sesotho, South Africa has eleven (11) official languages. Of the participants involved, 70.6% were afforded the opportunity to answer the questionnaires in their first language, whereas 29.4% of the participants answered the questionnaires in a language that was not their mother tongue. Although trained individuals were available to answer any questions, this could still have placed some individuals at a disadvantage and could thus have tainted the study's results.

The assessments used in the study were self-report measures and thus the participants were required to give an account of their experiences. Researchers thus rely on the honesty of the participants. Given the sensitive nature of some of the traumatic experiences mentioned in the study, some participants may not have been as truthful as expected, and might rather have provided socially desirable responses (Van de Mortel, 2008).

The study aimed to add to the limited number of resilience studies in the racially diverse South African landscape. Theron and Theron (2010) stated that psychologists, service providers, teachers and communities will only be suitably equipped to enable South African youth towards sustained resilience when cultural and contextual issues have been addressed. Furthermore, Utsey, Bolden, Lanier and Williams (2007) stated there is a gap in research pertaining to resilience and demographic variables. For these reasons, this study and its findings are valuable as they contribute to a limited body of research in this field and pave the way for similar studies to be conducted. Race and cultural practices shape not only behaviour but also interactions with other people, and for this reason it should be kept in mind that these factors can be used to identify and enhance culturally shaped resilience processes (Theron & Liebenberg, 2015). The results from this study can therefore be used to further understand the significant contributions that race brings to resilience, which will ultimately also add value in practice.

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APPENDICES

Appendix A: Biographical Questionnaire

Appendix B: The Stressful Life Events Questionnaire (SLEQ)

Please indicate whether any of these events have happened to you. If you have experienced any of these events, please also indicate the frequency and how long ago these events occurred.

				If Yes,			
				How many times did this happen? (e.g., 1, 6, 10, etc.)		How long ago did this happen? (e.g., 6 months, 2 years 2 months, etc.)	
		Yes	No				*For Office use only*
1	Has anyone ever tried to take property away from you by force or a threat of force?						
2	Have you ever been the victim of physical assault?						
3	Have you ever been the victim of sexual assault?						
4	Have you ever been the victim of domestic violence?						
5	Have you ever lost a loved one through an accident, homicide, or suicide?						
6	Have you ever been seriously injured?						
7	Have you ever been in a situation where you feared being killed or seriously injured?						
8	Have you ever witnessed someone being mutilated, seriously injured, or violently killed?						
9	Have you ever been confronted with a natural disaster that threatened your life and property, or the lives and property of your loved ones?						
10	Have you or any of your loved ones ever been diagnosed with a life-threatening illness?						
11	Have you ever seen or handled dead bodies?						
12	Were you ever separated from your loved ones against your will?						

Appendix C: The Resiliency Scales for Children and Adolescents (RSCA)

Here is a list of things that happen to people and that people think, feel or do. Read each sentence carefully and mark the answer that best describes you.

		Never	Rarely	Sometimes	Often	Almost always	*For Office use only*
1	Life is fair.	☐	☐	☐	☐	☐	☐
2	I can make good things happen.	☐	☐	☐	☐	☐	☐
3	I can get the things I need.	☐	☐	☐	☐	☐	☐
4	I can control what happens to me.	☐	☐	☐	☐	☐	☐
5	I do things well.	☐	☐	☐	☐	☐	☐
6	I am good at fixing things.	☐	☐	☐	☐	☐	☐
7	I am good at figuring things out.	☐	☐	☐	☐	☐	☐
8	I make decisions.	☐	☐	☐	☐	☐	☐
9	I can adjust when plans change.	☐	☐	☐	☐	☐	☐
10	I can get past problems in my way.	☐	☐	☐	☐	☐	☐
11	If I have a problem, I can solve it.	☐	☐	☐	☐	☐	☐
12	If I try hard, it makes a difference.	☐	☐	☐	☐	☐	☐
13	If at first I don't succeed, I will keep on trying.	☐	☐	☐	☐	☐	☐
14	I can think of more than one way to solve a problem.	☐	☐	☐	☐	☐	☐
15	I can learn from my mistakes.	☐	☐	☐	☐	☐	☐
16	I can ask for help when I need to.	☐	☐	☐	☐	☐	☐
17	I can let others help me when I need to.	☐	☐	☐	☐	☐	☐
18	Good thing will happen to me.	☐	☐	☐	☐	☐	☐
19	My life will be happy.	☐	☐	☐	☐	☐	☐
20	No matter what happens, things will be all right.	☐	☐	☐	☐	☐	☐
21	I can meet new people easily.	☐	☐	☐	☐	☐	☐
22	I can make friends easily.	☐	☐	☐	☐	☐	☐
23	People like me.	☐	☐	☐	☐	☐	☐
24	I feel calm with people.	☐	☐	☐	☐	☐	☐
25	I have a good friend.	☐	☐	☐	☐	☐	☐
26	I like people.	☐	☐	☐	☐	☐	☐
27	I spend time with my friends.	☐	☐	☐	☐	☐	☐
28	Other people treat me well.	☐	☐	☐	☐	☐	☐
29	I can trust others.	☐	☐	☐	☐	☐	☐
30	I can let others see my real feelings.	☐	☐	☐	☐	☐	☐

31	I can calmly tell others that I don't agree with them.						
32	I can make up with friends after a fight.						
33	I can forgive my parent(s) if they upset me.						
34	If people let me down, I can forgive them.						
35	I can depend on people to treat me fairly.						
36	I can depend on those closest to me to do the right thing.						
37	I can calmly tell a friend if he or she does something that hurts me.						
38	If something bad happens, I can ask my friends for help.						
39	If something bad happens, I can ask my parent(s) for help.						
40	There are people who will help me if something bad happens.						
41	If I get upset or angry, there is someone I can talk to.						
42	There are people who love and care about me.						
43	People know who I really am.						
44	People accept me for who I really am.						
45	It is easy for me to get upset.						
46	People say that I am easy to upset.						
47	I strike back when someone upsets me.						
48	I get very upset when things don't go my way.						
49	I get very upset when people don't like me.						
50	I can get so upset that I can't stand how I feel.						
51	I get so upset that I lose control.						
52	When I get upset, I don't think clearly.						
53	When I get upset, I react without thinking.						
54	When I get upset, I stay upset for about one hour.						
55	When I get upset, I stay upset for several hours.						
56	When I get upset, I stay upset for the whole day.						
57	When I get upset, I stay upset for several days.						
58	When I am upset, I make mistakes.						
59	When I am upset, I do the wrong thing.						
60	When I am upset, I get into trouble.						
61	When I am upset, I do things that I later feel bad about.						
62	When I am upset, I hurt myself.						
63	When I am upset, I hurt someone.						
64	When I am upset, I get mixed-up.						

Biographical questionnaire

Appendix A: Biographical Questionnaire

1 Name of school _____

2 Grade ☐☐ 1 - 2

3 Age ☐☐ 3 - 4

4 Gender 5

- Male ☐
- Female ☐

5 Race 6 - 7

- Asian ☐
- Black ☐
- Coloured ☐
- White ☐
- Other ☐ Specify: _____

6 Indicate the place where you live (please write places' name):

a) town/village _____ ☐☐☐ 8 - 10

b) suburb/township _____ ☐☐☐ 11 - 13

c) farm district (if you live on a farm) _____ ☐☐☐ 14 - 16

7 Home language (mark the one your family uses most at home): ☐☐ 17 - 18

- English ☐
- Afrikaans ☐
- IsiXhosa ☐
- IsiZulu ☐
- Sesotho ☐
- Setswana ☐
- Sepedi ☐
- Other ☐ Specify: _____

8 Are your parents still alive?

a) Mother: 19

- Alive ☐
- Deceased ☐

b) Father: 20

- Alive ☐
- Deceased ☐

9 Parents' Education. Write down the highest grade or university degree completed.

a) Mother: _____ ☐☐ 21 - 22

b) Father: _____ ☐☐ 23 - 24

10 Marital status of parents: 25

- Married ☐
- Separated ☐
- Divorced ☐
- Divorced and remarried ☐
- Common law marriage ☐
- Single parent ☐

Appendix A: Biographical Questionnaire

11 Current living arrangements:

Living with both parents		26 - 27
Living with one parent		
Living with grandparent(s)		
Living with extended family(uncles, aunts)		
Living with siblings only		
Living alone		
Living in youth centre/children's home		
Other		Specify: _____

12 Employment status of primary breadwinner of family:

Permanent employment			28
Temporary employment			
Self employed		→ Indicate Formal sector	29
		Informal sector	
Unemployed		→ State previous occupation:	
			30 - 31

13 How often do you:

	Never	Once or	Three to four	Five to seven	
Eat regular meals					32
Eat fast foods (hamburgers, KFC etc)					33
Go to bed hungry due to lack of money to buy food					34

14 Does your family receive any social grant (e.g., child grant, disability grant etc.)

Yes		35
No		

15 Have you ever cut or mutilated yourself?

Yes		36
No		

If **YES**, a) At what age did you start? ____ ____ 37 - 38

b) How frequently did you do it:

____ ____ times per Day ____ 39 - 40

Week ____ 41

Month ____

c) Are you: Still doing it ____ 42

Stopped ____

d) If you have stopped:

At what age did you stop? ____ ____ 43 - 44

What made you stop?

_____ 45 - 46

Appendix A: Biographical Questionnaire

16 What is your favourite music that you listen to? 47 - 48

- Hip-hop
- Pop
- Afrikaans rock music
- Heavy Metal
- Rave music
- Rap
- Country
- Other Specify: _____

17 Have you ever been actively involved with any of these subcultures? 49 - 53

(more than one option can be marked)

- Goths
- Satanism
- Paganism
- Gangsterism
- Emo
- Other Specify: _____ 54 - 55

18 Do you know anybody who has committed suicide

- Yes 1
- No

If **YES**, what was your relationship with the person? 2 - 3

(more than one option can be marked)

If marked, please specify the year

Brother		4 - 9
Sister		10 - 15
Father		16 - 21
Mother		22 - 27
Uncle/Aunt		28 - 33
Cousin		34 - 39
Grandparent		40 - 45
Boyfriend/Girlfriend		46 - 51
Friend		52 - 57
Other		58 - 63
Specify: _____		64 - 65

Appendix A: Biographical Questionnaire

19 Do you know anybody who has attempted suicide unsuccessfully?

Yes ☐ 1
No ☐

If **YES**, what was your relationship with the person? (more than one option can be marked) 2 - 3

If marked, please specify the year

Brother	☐	4 - 9
Sister	☐	10 - 15
Father	☐	16 - 21
Mother	☐	22 - 27
Uncle/Aunt	☐	28 - 33
Cousin	☐	34 - 39
Grandparent	☐	40 - 45
Boyfriend/Girlfriend	☐	46 - 51
Friend	☐	52 - 57
Other	☐	58 - 63
Specify: _____		64 - 65

20 Have you ever attempted suicide?

Yes ☐ 66
No ☐

If **YES**, please specify the year ☐☐☐☐ 67 - 70

21 State your religious affiliation

Christian ☐ 71 - 72
Muslim ☐
Hindu ☐
Buddhist ☐
African Traditional ☐
None ☐
Other ☐ Specify: _____

If **CHRISTIAN**, please specify the denomination

_____ 73 - 74

22 If applicable, how often do you attend religious ceremonies

Weekly or more ☐ 75
Monthly ☐
Occasionally ☐
Not at all ☐

Appendix A: Biographical Questionnaire

23 In a few sentences: Describe the factors that make you feel positive/good about yourself, your life and your future.

1 - 2
3 - 4
5 - 6

24 In a few sentences: Describe those factors that cause you frustration and may contribute towards you being personally dissatisfied.

7 - 8
9 - 10
11 - 12

25 What do you do to make yourself feel better when you are upset?

13 - 14
15 - 16
17 - 18

26 Do you own a cell phone?

Yes ☐
No ☐

19

27 Which of the following electronic social communication systems do you use?
(more than one option can be marked)

MXit ☐
Facebook ☐
MySpace ☐
Other ☐ Specify: _____

20 - 22
23 - 24

Appendix A: Biographical Questionnaire

28 How many hours do you spend communicating with other people on all of the abovementioned electronic social communication systems combined?

a) During weekdays (write approximate hours per day) ☐☐ 25 - 26

b) During weekends (write approximate hours per day) ☐☐ 27 - 28

29 Describe shortly what you think are the potential <u>positive</u> effects of communication via the abovementioned electronic social communication systems

29 - 30
31 - 32
33 - 34

30 Describe shortly what you think are the potential <u>negative</u> effects of communication via the abovementioned electronic social communication systems

35 - 36
37 - 38
39 - 40

31 Have you ever been the victim of any form of cyber bullying?

Yes ☐
No ☐ 41

32 How often do you play computer games?

Never ☐
Seldom ☐
A few times a month ☐
A few times a week ☐
Daily ☐ 42

Appendix A: Biographical Questionnaire

33 Which computer games do you play most often

_____ 43 - 44
_____ 45 - 46
_____ 47 - 48
_____
_____
_____

34 How much time do you spend daily with your parents/guardians
(include time spent together watching TV, playing sport/games, sharing meals, etc.)
Please write the approximate no of hours per day (e.g., 1.25=1¼ hours)

[ ][ ].[ ][ ] 49 - 53

35 Have you been exposed to pornography in any of these ways?
(more than one option can be marked)

On the internet [ ] 54 - 59
In print media (magazines, etc.) [ ]
In theatre movies [ ]
In rental movies [ ]
On TV [ ]
On Cell phones [ ]
Other [ ] Specify: _____ 60 - 61

36 If any of the options in question 35 were marked,
a) please indicate the source of this exposure
(more than one option can be marked)

Family members [ ] 62 - 65
Friends [ ]
Self [ ]
Accidental [ ]
Other [ ] Specify: _____ 66 - 67

b) please indicate your age the first time you were exposed to pornography

[ ][ ] 68 - 69

c) please indicate whether you try to view pornography

Daily [ ] 70
Weekly [ ]
Monthly [ ]
Occasionally [ ]
Not at all [ ]

NB: Please wait for instructions before continuing with the next questionnaire.