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Factors influencing the responses and perceptions of responses of Indian South African adolescents towards problem situations in the Gauteng school setting.

By

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Declaration of Originality

I, Soma Sundram Govender, hereby declare that this thesis, entitled: “Factors influencing the responses and perceptions of responses of Indian South African adolescents towards problem situations in the Gauteng school setting.” is my own work and that all sources I have used or quoted have been indicated and acknowledged by means of complete referencing.

Signed: _____

Date: _____

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Abstract

Violent crime has a destabilising effect on society as it results in the loss of human lives and it also affects the economy. There is a high level of violence in South Africa to the extent that it is undeniably a hazard to public health. This culture of violence is deeply rooted in South African history as political violence thrived during Apartheid and, when Apartheid ended, interpersonal violence became more prevalent. This new wave of violence is most burdensome to the youth of South Africa as the majority of them live in communities where violence is prevalent. This violence permeates the various environments (e.g. neighbourhood, school and family) the child is exposed to. In South Africa, the youth population falling into the age cohort of 15 to 25 years of age experience the highest rate of violence in the country and the majority in this age cohort are school-going youths. Violence in South African schools has escalated to such an extent that it is widely decried as a severe public health crisis.

The purpose of this study was to explore the tendency South African Indian adolescents have to adopt the different types of responses (non-violent, overtly aggressive, relationally aggressive and mediocre) that are commonly used to resolve typical problem situations that adolescents face in the school setting. The research sought to explore the perceptions that these adolescents hold concerning the applicability of these responses. This study aimed to examine how the associating demographic factors (gender, age and residential environment) of the adolescents influence their preference for certain common responses and their perceptions concerning the effectiveness of these responses to resolve typical problem situations.

The comparative analysis of the demographic categories did not produce any results of statistical significance, thus indicating that there is no difference in the preferences and perceptions of the demographic categories (males versus females, township (TS) versus suburb (SB) youths, and middle adolescence (MA) versus late adolescence (LA) youths that

were compared against each other. However, upon further analysis of these results, a trend towards a higher level of preference for overtly aggressive responses among LA individuals and males, in comparison to MA individuals and females respectively, was identified. A similar trend was identified for the same demographic categories when comparing perceptions regarding the effectiveness of overtly aggressive responses in resolving problem situations. The remainder of the results from the additional analyses are similar to the findings of the initial analyses.

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Chapter One: Introduction

1.1 Introduction and Background to the Problem

There are a multitude of factors that influence adolescents' preferences for various types of responses that could be utilised to resolve problem situations in the school setting. However, this study narrowed down its focus by looking specifically at the influence of the participants' gender, residential environment and age on their preferences for specific types of responses that were utilised to resolve a given set of problem situations. This study also looked at the influence of the participant's gender, residential environment and age on the perceptions that participants hold concerning the effectiveness of these specific types of responses in resolving the given set of problem situations.

Farrell, Erwin et al. (2007) conducted a study where they endeavoured to identify the common problem situations encountered by adolescents in a school setting. For most of these problem situations, peer and friend relations, peer pressure, maintaining a positive image and reputation and stressful interactions with teachers were integral components (Farrell, Erwin et al., 2007).

In a subsequent study, Farrell, Kliewer et al. (2007) endeavoured to identify the typical responses that adolescents were making to the problem situations previously identified in the study by Farrell, Erwin et al. (2007). The identified responses were classified into four classes: overtly aggressive responses, relationally aggressive responses, non-violent responses and mediocre responses. The label 'mediocre' was used to describe ineffective non-violent responses (Farrell, Kliewer et al., 2007).

The common problem situations identified in Farrell, Erwin et al. (2007) study and the typical responses identified in Farrell, Kliewer et al. (2007) study formed the basis for this study and

were used to analyse the preferences that adolescents had for those typical responses that are utilised to resolve common problem situations. The findings of Farrell, Erwin et al. (2007) and Farrell, Kliewer et al., (2007) studies were also used to gain insight into the perceptions of this study's participants regarding the effectiveness of the typical responses to resolve common problem situations. Four additional problem situations and the responses to these problem situations supplemented the problem situations and responses obtained from the studies by Farrell, Erwin et al., (2007) and Farrell, Kliewer et al. (2007). These four additional problem situations and responses were formulated specifically for this study in order to make them applicable to the South African context. For this study, only the responses of Indian South African adolescents were investigated as Indian adolescents face the most violence in the school setting when compared to other racial groups (Burton & Leoschut, 2013).

In South Africa, the frequency of violence is so high that it is considered a severe public health crisis (Van der Merwe & Dawes, 2007). Among the youth population in South Africa, the age cohort of 15 to 25 years of age experiences the most violence and the majority of individuals in this group are school-going youths. Violence in the school environment in turn has been red flagged and is considered a public health crisis in South Africa (Swart, Stevens & MacKenzie, 2007). According to a report compiled by the South African Institute of Race Relations in 2008, only 23% of South African learners feel safe in the school environment (Mncube & Harber, 2013).

In 2012, the Centre for Justice and Crime Prevention (CJCP) conducted a study on the scope and nature of violence in South African schools. The study revealed that in the year 2012, 22.2% of high school learners in South Africa were subject to some type of violent act in the school environment (Burton & Leoschut, 2013). Regarding youth violent offending, a study by Masuku (2002, cited in Van der Merwe & Dawes, 2007) revealed that the rate of violent offending dramatically increases between the ages of 13 years and 16.

In order to understand the issue of violent offending among youths, several academics have conducted research in attempts to identify factors that influence the responses youths utilise

to resolve interpersonal conflict. These studies have revealed that the responses an individual adopts in resolving interpersonal conflicts are influenced by a multitude of factors. Among these are cultural background (Haar & Krahé, 1999), gender (Card, Stucky, Sawalani & Little, 2008), peers, residential background (Farrell et al., 2010), school culture (Barnes, Brynard & De Wet, 2012), neurobiological development (Steinberg, 2012) and age (Sousa, Correia, Ramos, Fraga & Barros, 2010).

Estevez, Emler and Wood (2009) argue that it is implausible that youth violence is caused by only one specific risk factor. Rather, it is a consolidation of multiple risk factors that cause aggressive behaviour. When certain multiple risk factors are grouped together, they can shape behaviour and increase the likelihood that a youth will engage in violence (Estevez et al., 2009). The risk factors implicated in school violence are not static, they co-occur and interact. Violence is often the product of the interaction between the individual and risk factors that are context specific (Bushman et al., 2016).

Some of the findings from a study conducted by Farrell et al. (2010) exemplifies the stance taken by Estevez et al. (2009) and Bushman et al. (2016) as their study reveal that a multitude of factors (the type of problem situation, adolescent developmental stage and school context) influence the likelihood that adolescents would resort to physically violent behaviour in order to resolve a problem situation. The type of problem situation in question represented a threat to the adolescent's image and reputation and, taking into consideration the adolescent phase of life where creating and maintaining a positive self-image is a key developmental task, the potency of this problem situation is even stronger for an adolescent in particular. The school context also promoted violent behaviour and thus these factors, the type of problem situation, the adolescent developmental stage and the school context increased the likelihood that adolescents would adopt a physically violent response to resolve a problem situation (Farrell et al., 2010).

An abundance of research exists on factors that influence aggressive behaviour. However, there is a dearth of research on factors associated with effective non-violent behaviour. Most of the research findings that are used to guide violence prevention programmes emanate from

studies that make comparisons between aggressive youth and non-aggressive youth. The shortcoming of such comparative research is that the group of non-aggressive youths in these studies is heterogeneous in nature and thus it cannot be assumed that everyone will use effective non-violent responses in conflict situations (Farrell et al., 2010).Regarding the type of non-violent responses that adolescents use in conflict situations, it is important to differentiate between effective and ineffective non-violent responses. Goldfried and D'Zurilla (1969, cited in Sullivan et al., 2012, p. 164) define an effective non-violent response as "one that resolves a problem situation and has a high likelihood of maximising related positive outcomes and minimising related negative outcomes."

The findings from the study conducted by Farrell et al. (2010) mentioned earlier also emphasises the importance of differentiating effective non-violent responses from ineffective non-violent responses. A non-violent response such as walking away from a fight is normally thought of as viable. However, for some of the youths in Farrell et al. study (2010), it is not an effective response because it would result in them losing status and reputation among their peers. There is, however, another way in which an individual could avoid a fight and still "save face". One of the participants mentioned that if his friend reported an incident of interpersonal conflict to a teacher before he engaged in a physical confrontation with another learner, he would still maintain his reputation as it was not he who prevented the fight from occurring. Such a non-violent response is effective as it considers a key developmental task in the adolescent developmental stage of life, that is, creating and maintaining a positive self-image. This response shows resilience in an extremely violent context that promotes violent behaviour because the response was devised by the adolescent themselves (Farrell et al., 2010).

Scrutinising the non-violent responses that adolescents use in contexts that promote violent behaviour will help in generating research that is applicable to the context targeted by intervention strategies. Benbenishty and Astor (2005, cited in Barnes et al., 2012) believe that the developers of interventions aimed at reducing violence in the school environment should take into consideration the views of learners and encourage their participation. Indeed, Parkes (2008) comments that researchers are beginning to acknowledge the importance of children's

views on violence. The applicability of such research will be enhanced by giving children a voice and treating them as active agents in their lives (Parkes, 2008).

1.2. Problem Statement

Majority of descriptive studies on school violence in South Africa has focussed on describing characteristics, experiences and incidence rates of violence. Examples of such studies are Burton and Leoschut (2013), Burton (2008), Ngqela and Lewis (2012), De Wet (2005), Ncontsa and Shumba (2013) and Mncube and Harber (2013). There seems to be a lack of research that specifically focusses on the influence that certain factors have on adolescents' preferences for aggressive and non-violent responses commonly utilised to resolve problem situations in the school setting. Concerning learners' perceptions regarding the effectiveness of various responses that could be utilised to resolve problem situations in the school setting, there have been studies on the perceived effectiveness of relationally aggressive responses (du Plessis, 2012), as well as studies on the perceived effectiveness of overtly aggressive responses (Mampane, Ebersöhn, Cherrington & Moen, 2014). Aside from these studies, there seems to be a lack of research on learners' perceptions regarding the effectiveness of various responses that could be utilised to resolve problem situations in the South African school setting. This study therefore attempted to address these gaps by providing answers to the research questions which are formulated in the next section.

1.2.1. Research Questions and Hypotheses

1.2.1.1 Research Questions

The following research questions are formulated for this study:

1. How do gender, age and residential environment influence the responses made by Indian South African adolescents to problem situations in the Gauteng school setting?

2. How do gender, age and residential environment influence perceptions of responses made by Indian South African adolescents to problem situations in the Gauteng school setting?

1.2.1.2 Hypotheses

Table 1 below shows the formulated hypotheses for this study

Table 1: Hypotheses

Responses	Gender (males versus females)		Residential Environment (SB versus TS adolescents)		Age (MA versus LA individuals)	
	Level of Preference	**Perceived Effectiveness**	**Level of Preference**	**Perceived Effectiveness**	**Level of Preference**	**Perceived Effectiveness**
OA	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$
RA	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$
NV	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$
M	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 \neq \mu_2$ $H_A: \mu_1 = \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$	$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$

H_0 means Null Hypothesis

H_A means Alternative Hypothesis

$\mu_1 \neq \mu_2$ means there will be a difference in mean scores

$\mu_1 = \mu_2$ means there will be no difference in mean scores

OA means overtly aggressive

RA means relationally aggressive

NV means non-violent

M means mediocre

TS means township

SB means suburb

MA means middle adolescence

LA means late adolescence

1.2.2 Intended Contribution to the Body of Knowledge

According to Burton (2008, cited in Van der Westhuizen & Maree, 2009), there is a lack of comprehensive knowledge on violence within South African schools. Such information is vital to address the issue of violence in the school environment. This study has attempted to supplement the existing body of knowledge on violence within South African schools.

1.3. Aims of the Study

The research had the following aims:

1. To examine how gender, age and residential environment influence the responses made by Indian South African adolescents to problem situations in the Gauteng school setting.

2. To examine how gender, age and residential environment influence perceptions of responses made by Indian South African adolescents to problem situations in the Gauteng school setting.

1.4 Research Methodology

1.4.1. Research Design

In order to address the research problem of this study, a non-experimental field study research design was selected.

1.4.2 Sampling

The sample for this study was made up of learners from South View Secondary School in Lenasia South, Johannesburg.

1.4.2.1 Sampling Technique

For this study, the purposive sampling technique was utilised to select participants.

1.4.3 Research Instrument and Method

The questionnaire that was given to participants to complete consisted of closed-ended questions with a fixed set of responses. This questionnaire was comprised of 26 items. Each item included a problem situation and two sub-questions that applied to the problem situation. A five-point Likert scale was utilised for both sub-questions. This research instrument rated both the preference that participants had for using certain responses to resolve problem situations in the school setting and the perceptions participants had concerning the effectiveness of these given responses in resolving problem situations in the school setting. The aims and purpose of the study, the informed consent process, potential risks posed by participation and other ethical issues were discussed with all participants before they and their parents consented to participation.

1.4.4 Data Analysis

Windows Excel 2010 was used to code the raw data gathered from the questionnaire. Thereafter, the Statistical Analysis Software (SAS) version 9.4 was used to process and analyse the coded data.

1.5 Definition of Terms

Violence

The World Health Organisation (2002, cited in Mncube & Harber, 2013, p. 1) defines violence as:

> The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high

likelihood or resulting in injury, death, psychological harm, maldevelopment or deprivation.

School violence

According to Van den Aardweg and Van den Aardweg (1988, cited in Mncube & Harber, 2013, p. 1), school violence is "any behaviour of learners, educators, administrators or non-school persons, attempting to inflict injury on another person or to damage school property". Violence in schools can manifest in many different forms, for example, bullying, physical fights, etc., and it can involve different actors, for example, students displaying violent behaviour towards other students or teachers displaying violent behaviour towards students (Mncube & Harber, 2013).

Suburb

In the past, certain legislation (such as the Native Act of 1923 and the Group Areas Act of 1950) was passed in South Africa and these laws had a significant impact on the way land was distributed to the various race groups in South Africa. These decrees created affluent suburbs which were specifically reserved for the White race group and these suburbs had a solid infrastructure and an abundance of facilities. These so-called 'White' suburbs were located around the economic hubs (cities) of each of the provinces (Ngqela & Lewis, 2012). Over time, in places like Johannesburg, affluent suburbs (such as Sandton, Randburg and Midrand) started to develop and grow to the north of the city centre and became economic hubs in the post-Apartheid era due to the amount of economic activity that these suburbs generated (Landman, 2004).

Township

Lester, Menguele, Karuri-Sebina and Kruger (2009, p. 6) define townships as "areas that were designated under Apartheid legislation for exclusive occupation by people classified as Africans, Coloureds and Indians". These townships, which have inadequate infrastructure and a lack of facilities, are located on the periphery of cities. Due to these townships lacking self-sustaining infrastructure, they are economically dependent on the White suburbs. Even in the

post-Apartheid era, the conditions in these townships have remained much the same (Ngqela & Lewis, 2012).

Relational aggression

Botha (2014, p. 3) defines relational aggression as "goal-orientated intentional behaviour by means of which individuals intend to punish, hurt, harm or damage another person's friendships or sense of belonging to a specific peer group through manoeuvring and destruction of relational status". Examples of relational aggression are social exclusion and malevolent gossip (Botha, 2014).

Overt aggression

According to Kaukiainen et al. (2001), overt aggression is a type of aggression where anger is exhibited in an open, face-to-face manner. There are different ways in which overt aggression is expressed. Physical aggression (physically harming others) and direct verbal aggression (harming others through the use of words) are ways in which overt aggression is directed towards others (Kaukiainen et al., 2001).

Bullying

By reviewing various literature on bullying, Berkowitz (2014, p. 486) developed a formal definition for bullying as follows: "a student or a group of students who repeatedly harass a victim verbally or physically without provocation".

Cyber bullying

Hinduja and Patchin (2010, cited in Burton & Leoschut, 2013, p. 70) define cyber bullying as "willfull and repeated harm inflicted through the use of computers, cell phones, and other electronic devices".

Corporal punishment

Straus and Mouradian (1998, cited in Greydanus et al., 2003, p. 385) define corporal punishment as "intentional application of physical pain as a method of changing behaviour".

Effective non-violent response

Goldfried and D'Zurilla (1969, cited in Sullivan et al., 2012, p. 164) define an effective non-violent response as "one that resolves a problem situation and has a high likelihood of maximising related positive outcomes and minimising related negative outcomes".

1.6 Chapter Outline

Chapter one provides the background to the problem, statement of the problem, aims of the study, rationale of the study, research questions and hypotheses, research methodology and the outline of the research.

Chapter two provides a discussion of the literature relevant to the study. The focus of this discussion is on the influence that the three factors (gender, age and residential environment) under analysis have on adolescents' preferences and perceptions of specific types of responses (overtly aggressive, relationally aggressive, non-violent and mediocre types of responses) that are utilised to resolve problem situations in the school setting. Research findings of studies relevant to this study are also discussed.

Chapter three provides a detailed description and discussion of the research methodology adopted in the study.

Chapter four provides the research findings and the interpretation of these findings.

Chapter five provides a discussion of the findings documented in Chapter four. The conclusion of the study, the limitations of the study, recommendations and suggestions for future research are also discussed in this chapter.

1.7 Conclusion

This chapter provided a brief discussion of the background to the research problem. The research aims, research questions and research hypotheses were also provided. This chapter provided a brief summary of the research methodology adopted in the study. A discussion of relevant concepts and chapter outline were also given. The following chapter will focus on the literature related to this study.

Chapter Two: Literature Review

2.1. Introduction

In the first section of this literature review, there will be a brief discussion of the nature, extent, causes and effects of school violence. The literature review will then move on to a brief discussion about the importance of addressing the perceptions that adolescents hold concerning the responses they use to resolve problem situations. As there seems to be a lack of literature on adolescents' perceptions of responses to problem situations, this literature review will also discuss beliefs and attitudes associated with the responses that are used to resolve problem situations, as beliefs and attitudes are integral components of perceptions.

In the second section (2.2, 2.3 and 2.4) of this literature review, the focus will be on the influence that the three factors (gender, age and residential environment) under analysis have on adolescents' preference for specific types of responses (overtly aggressive, relationally aggressive, non-violent and mediocre types of responses) that could be utilised to resolve problem situations in the school setting. In addition to this, the literature review will also discuss the influence that the three factors under analysis have on adolescents' perceptions concerning the effectiveness of those specific responses used to resolve problem situations. For each factor, there will, firstly, be a discussion on how the factor in question influences adolescents' preference for specific types of responses that could be utilised to resolve problem situations as well as the literature to be reviewed as it pertains to the first aim of this study. Next, there will be a discussion on how the factor in question influences the perceptions adolescents have on the effectiveness of those specific responses that are used to resolve problem situations as well as the literature to be reviewed as it pertains to the second aim of the study. The same structure will be used to discuss each factor. The third section (2.5) will present the theoretical frameworks for this study.

In recent years, the media has bombarded the South African public with stories of school violence. The following incidents of school violence have made headlines in the media: a learner used a broom to physically assault an educator; a learner was stabbed to death by another learner in KwaZulu-Natal; a principal in New Castle had a physical altercation with an educator in front of learners; and a learner in Mpumalanga was left paralysed after being subjected to corporal punishment (Mgijima, 2014). It is apparent from the media reports mentioned here that both learners and educators are victims and perpetrators of school violence. A study on school violence in South Africa by Pelser (2008) reveals that learners are the main perpetrators of school violence. According to Pelser (2008), 94.1% of the violence in schools was perpetrated by learners who physically assaulted other learners. The study also revealed that educators are also guilty of perpetrating school violence as 50.9% of primary school learners and 14% of secondary school learners reported being assaulted by their educators.

In order to understand the aetiology of the culture of violence displayed by the youth of South Africa, the legacy of Apartheid needs to be scrutinised. During Apartheid, the youth were actively involved in a violent struggle to overthrow the oppressive system. While the youth revolts of 1976 and 1980 were successful and significant in defeating Apartheid, the drawback of such revolts is that it left key institutions of discipline and authority (the family and school) in tatters and up until this day, these institutions have not yet recovered and been restored (Pelser, 2008). What has resulted from all these years of violence is a public desensitization towards violence, violence has been normalised. The findings of the studies by Burton (2008), Lubbe and Mampane (2008) and Neser (2005) (all cited in Mampane et al., 2014) reveal that the majority of South African learners feel safe at school, despite reporting a high frequency of violent incidents in the school setting. The findings of these studies highlight how violence in the school setting has been normalised (Mampane et al., 2014).

According to Chan, Alif and Nelson (2015), frequent exposure to violence, which occurs through social processes, desensitises individuals and violence becomes normalised (Chan et al., 2015). It is through social processes in society that actions and ideas come to be perceived as normal (Timberlake, Farber and Sabatino, 2008). To further elaborate on what this concept of normalisation means, if the behaviour and ideas of people are understood as the way in

which to behave and think, this influences what an individual perceives as normal thoughts and behaviour in society. For children, this perception of what is normal provides a framework for the development of their identity (Pelser, 2008).

Violent behaviour displayed by young learners has serious future implications for both the offender and victim. The following studies: Farrington (1991), Huesmann et al. (1984) and Thornberry et al. (1995) (all cited in Brook et al., 2007) have revealed that when individuals in the early adolescent phase of life constantly behave violently, they are likely to have this same pattern of behaviour in late adolescence, which may lead them to committing criminal offences in the adult phase of their lives. Criminal justice statistics in the US reveal that 85% of violent adult offenders committed their first violent offence when they were adolescents (Brook et al., 2007). The findings of a study conducted by Elliott (1994, cited in Van der Merwe & Dawes, 2007) revealed that violent offending in the USA rarely began before the age of 12, however, from the age of 13 up until 16, the rate of violent offending dramatically increased. A study conducted by Masuku (2002, cited in Van der Merwe & Dawes, 2007) revealed that the trend for youth violent offending in South Africa is similar to the trend mentioned in Elliott's (1994, cited in Van der Merwe & Dawes, 2007) study.

The studies by De Wet (2005), Prinsloo (2006), Smit (2007) (all cited in Ncontsa & Shumba, 2013) and Ncontsa and Shumba (2013) have identified the following common effects of school violence victimisation: poor academic performance, school truancy, emotional problems and loss of time allocated for academic purposes**.** A study by Boyes et al., (2014) revealed that victims of school violence (bullying) display signs of conduct disorder. School violence does not only affect children who have been directly victimised but also other children who witness incidents of school violence (Burton & Leoschut, 2013). School violence is overwhelming and overbearing and represents an obstacle to effective learning as it creates an atmosphere of fear and apprehension (Burton & Leoschut, 2013).

Harber and Muthukrishna (2000), Prinsloo (2006), Prinsloo and Neser (2007), Van Jaarsveld (2008) (all cited in Ncontsa & Shumba, 2013) and Ncontsa and Shumba (2013) identified the following common causes of school violence: violence and crime in the community,

indiscipline, intolerance, easy access to school premises, unemployment, poverty, lack of recreational facilities and overcrowding. In addition to the causes mentioned so far, the following studies have identified substance abuse (Ncontsa & Shumba, 2013), violent media (Huesmann & Taylor, 2006) and neurobehavioral disorders (Connor, Chartier, Preen & Kaplan, 2010) as causal factors contributing to school violence.

There are multiple forms in which school violence is experienced in the school setting. Bullying, corporal punishment, sexual harassment, sexual violence, physical violence (Ngakane, Muthukrishna & Ngcobo, 2012) and relational aggression (Werner & Nixon, 2005) are some of the ways in which violence is manifest in the school setting. Recently a new form of school violence has emerged called electronic aggression (Burton & Leoschut, 2013). Through social media, electronic aggression unlike other forms of violence is not restricted or confined to any physical space. It is omnipresent in that it crosses all spheres and spaces. Cyber bullying is a form of electronic aggression (Burton & Leoschut, 2013).

According to Redden (2013), there has been a shift in the preference for relationally aggressive responses among adolescents in recent times. Adolescent cohorts who previously displayed a lower level of preference for relationally aggressive responses appear to now utilise relationally aggressive responses as much as those adolescent cohorts who were previously thought to display an exclusive level of preference for relationally aggressive responses. Redden (2013) attributes this shift in preference to the emergence of social media. The introduction of advanced technology such as mobile phones, facilitates easy accessibility to social media and this provides an alternative medium through which relational aggression can be perpetrated (Razmjoee et al., 2015). In recent times electronic aggression has become so far reaching and pervasive that it is now considered by the Centers for Disease Control and Prevention in the USA as an emerging heath risk for youths (Stejskal, 2010).

Perceptions of violence are critical variables that can form the basis for violent action (Gardner et al., 2003). According to Ajzen's (1989, cited in Ali et al., 2011) theory of planned behaviour, an individual's intentions form the basis for their actions and these intentions are influenced by their attitudes and perceptions towards a particular behaviour.

The findings of a study conducted by Gellman and Delucia-Waack (2006) reveal that there is a positive correlation between attitudes which favour overt aggression and the utilisation of overtly aggressive responses among adolescents. The findings of another study conducted by Roberto, Meyer, Boster and Roberto (2003, cited in Ali et al., 2011) revealed that violence related attitudes among African American adolescents are associated with intentions to use physical violence and this in turn is associated with actual peer violence perpetration.

The preliminary step that should be taken before addressing violence among a particular population is to attempt to understand the attitudes and beliefs of the population regarding violence within their cultural context (Gardner et al., 2003). A 'perception' can be described as a process of interpreting an event or situation through one's senses in order to make sense of the event or situation (Bowditch et al., 2008). An individual's interpretation of an event or situation is influenced by the beliefs, values and attitudes they hold concerning the event or situation. The individual's cultural and environmental experiences influence the type of beliefs, values and attitudes they hold about an event or situation (Bowditch et al., 2008). Thus perceptions are the product of the interaction between psychological and sociocultural factors. It is these past experiences and socialisation that accounts for differences in individual interpretation of the same event or situation (Bowditch et al., 2008).

According to Gellman and Delucia-Waack (2006), violence-related attitudes are a predictor of violence perpetration. Based on this statement, it is apparent that attitudes supporting violence exist prior to the violent act thus showing the importance and logic in addressing attitudes related to violence. Comprehending violence-related attitudes is important for taking preventive measures (Sahin, Baloglu & Ünalmis, 2010). In order to change aggressive behaviour, it will be more effective to address those cognitions that endorse aggression (Hoffman, Cummings & Leschied, 2004). Intervention programmes that aim to reduce violence through preventative means usually contain components or strategies that advocate non-violent beliefs and attitudes. In comparison to environmental risk factors that influence violent behaviour, beliefs and attitudes are considered more malleable variables to target in intervention strategies (Gardner et al., 2003).

Majority of studies on youth violence have focussed on risk factors that are not amendable to change such as community level factors (O'Neil, Parke & McDowell, 2001; Kotchick & Forehand 2002; Herrenkohl et al., 2003; Silk et al., 2004 all cited in Van der Merwe & Dawes, 2007) and on risk factors that may be difficult to change such as family level factors (Patterson et al., 1997; Hawkins et al., 1998; Loeber et al., 1998 all cited in Van der Merwe & Dawes, 2007). Violence related perceptions are considered as more malleable variables to target in intervention strategies to prevent and treat youth violence (Gardner et al., 2003), however there seems to be only a few studies (du Plessis, 2012; Mampane, Ebersöhn, Cherrington & Moen, 2014; Choe, Zimmerman & Devnarain, 2012) on violence related perceptions held by youths in South Africa.

The theory of planned behaviour by Ajzen (1989, cited in Ali et al., 2011) asserts that there is a correlation between perceptions concerning a particular behaviour and the likelihood of enacting this particular behaviour. This postulation made by Ajzen's theory of planned behaviour seems to be applicable in the domain of youth violence, as research evidence provided by academics (Gellman & Delucia-Waack, 2006, Roberto, Meyer, Boster & Roberto, 2003, cited in Ali et al., 2011) revealed that there is a correlation between perceptions concerning aggression and the likelihood of utilising aggression. This study aligns with this argument concerning the correlation between perceptions concerning aggression and the likelihood of utilising aggression. Thus the focus of this study is not only to analyse students' preferences for aggressive and non-violent responses to resolve problem situations in the Gauteng school setting and their perceptions concerning the effectiveness of these aggressive and non-violent responses, but also to identify the relationship between these perceptions and preferences.

2.2 Residential Environment

The experiences that a learner has in school usually mirror the experiences that the learner has in their residential environment (Van der Westhuizen & Maree, 2009). Certain variables in the residential environment such as drug use, imprisonment of family members, learner-directed assault and robbery are associated with the learner's experience of violence in the school environment (Van der Westhuizen & Maree, 2009). A study conducted by Ncontsa

and Shumba (2013) on violence in South African schools reveals that there is an association between the level of violence in schools and the level of violence in the wider community.

In the year 2012, the recorded murder rate for South Africa was 31 per 100 000 of the population (UNODC, 2013). This is a high rate for murder relative to the population size. With violence being so pervasive, it would be plausible to assume that violence affects a large proportion of the population and may not be solely restricted to segments of the population residing in certain areas. However, that being said, certain areas in South Africa experience a significantly higher level of violence than other regions and townships in urban areas seem to bear the brunt of this (Achmat, 2014).

The formation of townships, rural areas and suburbs are associated with the political history of the country. In the past, certain laws (the Native Act of 1923 and the Group Areas Act of 1950) were passed in South Africa and these decrees had a significant impact on the way land was distributed among the various race groups in South Africa (Ngqela & Lewis, 2012). These decrees created affluent suburbs which were specifically reserved for the White race group. The so-called 'White' suburbs were located around the economic hubs (cities) of each of the provinces (Ngqela & Lewis, 2012). Over time, in places like Johannesburg, affluent suburbs (such as Sandton, Randburg and Midrand) started to develop and grow to the north of the city centre and became economic hubs in the post-Apartheid era due to the amount of economic activity that these suburbs generated (Landman, 2004).

In the post-Apartheid era, people of colour are allowed to reside in the suburbs. Despite this opportunity, only a minority of people belonging to the Black, Indian and Coloured racial groups can afford to live in such suburbs. In Johannesburg, for example, reported statistics for the year 2011 revealed that the majority of suburban dwellers are from the White racial group (Statistics South Africa, 2012). Just as in the Apartheid era, in the post-Apartheid era, suburban dwellers enjoy the social and economic opportunities afforded to them by residing in such suburbs. Some of the defining characteristics of suburbs in South Africa are more efficient delivery of public services and of a better quality (Seekings, 2010), lower contact crime rate, higher police presence, private security, suburban dwellers earn higher incomes,

low unemployment rates, suburban dwellers own property as well as other assets, solid infrastructure and an abundance of cultural and recreational facilities (Achmat, 2014).

The formation of rural areas was also the product of land displacement policies driven by the Apartheid government (Mampane et al, 2014). There was no concerted effort from the Apartheid government to develop these rural areas. Rural areas have remained underdeveloped in the post-Apartheid era (Gopaul, 2006). Some of the defining characteristics of rural areas in South Africa are pervasive poverty, lack of institutional support, lack of physical and social infrastructure (Mampane et al, 2014), rural dwellers earn lower incomes and skills deficits which result in high rate of unemployment (Meyer, 2014).

Townships were created for people belonging to the Black, Indian and Coloured racial groups. These townships were overcrowded and mono-racial (Seekings, 2010). In South Africa, townships generally experience a higher rate of violence in comparison to other residential areas (Achmat, 2014). For example, in Cape Town in 2013 and 2014, there were 353 murders in Khayelitsha Township and 305 murders in Nyanga Township, whereas in certain affluent suburbs like Camps Bay, Claremont, Mowbray and Rondebosch there was not a single murder during the same period (Achmat, 2014). A study by Otieno et al. (2015) indicates that over a 8 year period from 2000 until 2008, the homicide rate for the rural district of Umkhanyakude in Kwa-Zulu Natal was 66 deaths per 100 000 of the population. Based on the murder rates in suburbs, rural areas and townships mentioned above, it is plausible to assume that the likelihood of being exposed to violence in the townships would be greater than the likelihood of being exposed to violence in the suburbs and rural areas.

Some of the factors that contribute to violence in townships are the high unemployment rate, lack of recreational facilities, poor security, overcrowding (Achmat, 2014), availability of guns, bad role models and gang activity (Ncontsa & Shumba, 2013). The studies by Bell and Jenkins (1993) and Langhinrichsen-Rohling and Neidig (1995) (both cited in Carr, 2004) reveal that frequent exposure to overt aggression was associated with an increased propensity to utilise overtly aggressive responses to resolve conflicts.

Exposure to violence in the residential environment has a significant impact on the behaviour of youths in South Africa. The Centre for Justice and Crime Prevention (CJCP) conducted a study in 2008 (Clark, 2012) comparing children who witness violence in their residential environment to children who did not witness violence in their residential environment. The study revealed that children who witness violence in their residential environment are 2-8 times more likely to carry a weapon, 4.4 times more likely to use a weapon and 2.1 times more likely to become involved in a physical fight (Clark, 2012).

Research conducted in the USA revealed that the majority of children brought up in poor urban areas are already exposed to violence, neglect, abuse, poverty and drugs in the pre-adolescent stages of their lives (Farrell et al., 2010). By the time these youths reach adolescence, negative neighbourhood influences interact with factors in other environmental contexts such as the peer, school and family domains in such a way that it promotes the use of aggressive responses in conflict situations and minimises the effectiveness of non-aggressive responses (Farrell et al., 2010). With respect to this, Ward (2008, cited in Van der Westhuizen & Maree, 2009, p. 48) states, "the ways in which children acquire violent repertoires can only be understood by exploring the ecology of contexts in which children grow up".

With concern to the association between the preference for overtly aggressive responses and the differences in residential environmental characteristics, the findings of one study by Beyers et al. (2001) reveal that neighbourhood context does have an influence on the propensity to engage in overt aggression. Beyers et al. (2001) study was conducted in the USA and the findings show that adolescents who reside in disadvantaged neighbourhoods have a higher level of preference for overtly aggressive responses when compared to adolescents who reside in relatively more advantaged neighbourhoods. However, in contrast to the findings of Beyers et al. (2001) study, the findings from a study by Caicedo and Jones (2014) conducted in Columbia, reveal that neighbourhood context does not have an influence on the level of preference for overtly aggressive responses among adolescents.

The differences in the findings of Caicedo and Jones' (2014) research in comparison to the findings of Beyers et al. (2001) research could be due to contextual factors. Violence in Columbia is pervasive but appears to be less pervasive in the US by comparison when looking at the UNODC (2013) report. In 2012, the recorded murder rate for Columbia was 30.8 per 100 000 of the population. In the same year, the recorded murder rate for the US was 4.7 per 100 000 of the population (UNODC, 2013). These statistics reveal the pervasive nature of violence in Columbia and, with violence being so pervasive, it is unlikely that the majority of relatively advantaged neighbourhoods are free from the effects of violence. The level of exposure to violence in advantaged and disadvantaged neighbourhoods in Columbia is not vastly different but it is certainly relevant. These exposure levels could account for the similar level of preference for overtly aggressive responses among adolescents from advantaged and disadvantaged neighbourhoods. The following studies by Bell and Jenkins (1993, cited in Carr, 2004), Langhinrichsen-Rohling and Neidig (1995, cited in Carr, 2004) and Gardner et al. (2003) lend support to the pattern of association for exposure to violence and preference for overtly aggressive responses that was observed in Caicedo and Jones' (2014) study. These studies indicate that frequent exposure to overt aggression is associated with an increased propensity to utilise overt aggression to resolve conflict.

With concern to the association between the differences in residential environmental characteristics and perceptions regarding the effectiveness of overtly aggressive responses, the findings of a study by Guerra, Huesmann, Tolan, Van Acker and Eron (1995) reveal that youths who reside in disadvantaged neighbourhoods hold perceptions which are more supportive towards the use of overtly aggressive responses compared to adolescents who reside in relatively more advantaged neighbourhoods. Guerra et al. (1995) study was conducted in the US.

Bandura's (1973, cited in Gudyanga et al., 2015) Social Learning Theory offers an explanation as to why certain residential environments influence adolescents' preference for overtly aggressive responses and their perceptions towards such responses. According to Bandura's Social Learning Theory, an individual learns a particular behaviour from observing others who model such behaviour (Gudyanga et al., 2015). Children learn through observation and when aggression is played out in the residential environment children learn

when, how and against whom aggression should be used (Carr, 2004). The residential environment is the primary venue where children learn aggression through observation (Carr, 2004).

If individuals in a community model overt aggression, then the youth in that community are more likely to adopt such aggression (Gudyanga et al., 2015). Through observing violence, children perceive violence as an effective, normal and justified way to resolve conflict (Cooley-Strickland et al., 2009). Youths exposed to violence and crime in key institutions such as the home and community internalise this behaviour and replicate it. The home and community are key institutions through which the youth are socialised and when violence has become culturally acceptable, this is the behaviour youth will adopt as means to bond and connect with society. Violence then becomes the means through which the youth gain respect, status, achievement and partners (Pelser, 2008). Through observing the aggressive behaviour of role models in their community, youths learn that positive outcomes can be expected through utilising aggression (Chaux et al., 2012).

With concern to the association between preferences for relationally aggressive responses and the differences in residential environmental characteristics, the finding of one study by Herrenkohl et al. (2007) reveals that neighbourhood context does not have an influence on the level of preference for relationally aggressive responses among adolescents. The finding of Herrenkohl et al. (2007) study is in contrast with the finding of Jansen et al. (2012) study. Jansen et al. (2012) study reveal that youth from disadvantaged residential environments have a higher level of preference for relational aggression in comparison to youth from relatively more advantaged residential environments.

Concerning the association between the differences in residential environmental characteristics and perceptions regarding the effectiveness of relationally aggressive responses, the findings of Cillessen and Mayeux (2004) and Farmer and Xie (2007) (both cited in Waasdorp, Baker, Paskewich & Leff, 2013) indicate that youths of various residential environments (disadvantaged and advantaged) hold similar perceptions concerning the effectiveness of relationally aggressive responses. In both these studies, adolescents from

various residential environments perceive relational aggression as an effective tool to gain and maintain popularity (Waasdorp et al., 2013).

Regarding the association between preferences for non-violent responses and the differences in residential environmental characteristics, the finding of one study by Renzaho and Karantzas (2010) reveals that neighbourhood context does not have an influence on the level of preference for non-violent responses among youths. However, in contrast to the findings of Renzaho and Karantzas' (2010) study, another study by Lenzi et al. (2011) reveals that adolescents who reside in advantaged neighbourhoods have a higher level of preference for non-violent responses when compared to adolescents who resided in relatively more disadvantaged neighbourhoods. Certain characteristics of a residential environment can promote the use of non-violent prosocial responses to resolve conflict. A study by Lenzi et al. (2011) revealed that adolescents who live in neighbourhoods that are socially organised and rich with resources are more likely to choose non-violent prosocial responses to resolve interpersonal conflict. Residential environments that promote the use of non-violent prosocial responses are also characterised as having a sense of community, social capital, social cohesion, community support and recreational facilities (Lenzi et al., 2011).

Regarding the association between the differences in residential environmental characteristics and perceptions regarding the effectiveness of non-violent responses, the finding of one study by Vernberg, Jacobs and Hershberger (1999, cited in Carr, 2004) revealed that youths who resided in environments where they were frequently exposed to violence were more likely to disregard the use of non-violent conflict resolution strategies as they felt that such responses would not be effective in resolving interpersonal conflict.

On the association between preferences for mediocre responses and the differences in residential environmental characteristics, the finding of one study by Finkelstein, Kubzansky, Capitman and Goodman (2007) revealed that neighbourhood context does have an influence on the level of preference for mediocre responses among youths. Finkelstein et al. (2007) study revealed that adolescents who reside in disadvantaged neighbourhoods have a higher level of preference for mediocre responses when compared to adolescents residing in

relatively more advantaged neighbourhoods. The mediocre responses that were considered for analyses in Finkelstein et al. (2007) study were withdrawal conflict resolution strategies. No studies were found on the association between the differences in residential environmental characteristics and perceptions on the effectiveness of mediocre responses. However based on the tenets of Ajzen's (1989, cited in Ali et al., 2011) Theory of Planned Behaviour, the pattern of association for the differences in residential environmental characteristics and perceptions on the effectiveness of mediocre responses could be similar to the pattern of association for the differences in residential environmental characteristics and preference for mediocre responses.

2.3. Gender

Amongst the majority of researchers who have conducted studies on adolescent violence, there seems to be a consensus that gender differences are apparent as there appears to be a gender-specific modality in which aggression is expressed. Examples of such studies in which this gender difference is apparent are Borkgquist et al. (1992), Campbell et al. (1997), Crick and Grotpeter (1995), Osterman (1999), Owusu-Banahene (2005) and Tapper and Boulton (2004) (all cited in Owusu-Banahene & Amedahe, 2008). However, there seems to be controversy surrounding the reasons for such gender differences. The findings by Campbell et al. (1997) (biological differences), Eagly and Wood (1999) (cultural factors) and White (2000) (social factors) (all cited in Owusu-Banahene & Amedahe, 2008) reveal different reasons that could account for the gender-specific modalities in which aggression is expressed by males and females.

Studies on the association between preferences for relationally aggressive responses and gender differences have produced mixed findings. The finding of a meta-analytical study by Card et al. (2008) reveals that there is no significant difference in the level of preference for relationally aggressive responses between male and female adolescents. The findings of two other studies by Crick and Grotpeter (1995) and Smith, Rose and Schwartz-Mette (2009) reveal that female adolescents have a higher level of preference for relationally aggressive responses in comparison to male adolescents.

Ostrov and Godleskis' (2010, cited in Lafko, 2015) Integrated Gender-Linked Model of Aggression Subtypes lends support to the findings from Smith et al. (2009) study and Crick and Grotpeters' (1995) study. The Integrated Gender-Linked Model of Aggression Subtypes proposes that gender schemas influence the type of aggression that youths engage in. A gender schema is a formulated group of gender-related beliefs that can influence behaviour (Carducci, 2009). These gender schemas influence individuals to utilise gender-appropriate responses when faced with a problem situation (Lafko, 2015). Relationally aggressive responses fit into the female gender schema and this accounts for why females are more likely to utilise relational aggression (Lafko, 2015). Relational aggression is a form of indirect aggression that aims to cause harm to the target person by destroying and manipulating the target person's peer relationships (Krahé & Busching, 2014). According to Artz (1997, cited in Leschied et al, 2000), the way in which females are socialised in society leads them to defining their identity within the context of relationships, thus it makes sense that females perceive relational aggression as being an effective response to harm another individual. Females, unlike males, express aggression in a covert manner, thus the covert nature in which relational aggression plays out also fits into how females are socialised (Kotze, 2007).

Studies have produced mixed findings on the association between gender differences and perceptions regarding the effectiveness of relationally aggressive responses. This findings of one study by Krahé and Busching (2014) reveals that there is no association between gender differences and perceptions about relationally aggressive responses among adolescents. The findings of Krahé and Buschings' (2014) study are in contrast to the findings of another study by Russell, Kraus and Ceccherini, (2010). In Russell et al. (2010) study, a higher proportion of female youths perceived relationally aggressive responses as more impactful in comparison to male youths.

A few studies provide insight into the benefits that female adolescents gain from utilising relationally aggressive responses. These include the research by Hoff et al. (2009) and Puckett, Aikins and Cillessen (2008) (both cited in Leff et al., 2010) which reveal that there is an association between the use of relationally aggressive responses and achieving a high social status among female youths. A study conducted by Artz (1998, cited Leschied et al.,

2000) reveal that relational aggression provides a means through which female youths gain relational influence. Popularity and being a member of a peer group is important for female adolescents as it enhances their self-image and self-confidence (Hamilton, 2010).

With concern to the association between preferences for overtly aggressive responses and gender differences, studies have produced mixed findings. The finding of one study by Shute and Charlton (2006) reveal that there is no significant difference in the level of preference for overtly aggressive responses between male and female adolescents. The findings of two other studies by Card et al. (2008) and Skara et al. (2008), reveal that overt aggression is more prevalent among male youths in comparison to female youths.

Ostrov and Godleskis' (2010, cited in Lafko, 2015) Integrated Gender-Linked Model of Aggression Subtypes lends support to the findings of Card et al. (2008) study and Skara et al. (2008) study. The Integrated Gender-Linked Model of Aggression Subtypes proposes that gender schemas influence the type of aggression that youth engage in. Males are socialised to become domineering and overtly aggressive (Kotze, 2007). The context plays an important role in how males are socialised and it is important to consider the way in which masculinity has been constructed in South Africa. In the post-Apartheid era, the one common factor that links all versions of masculinity is their violent character. Weapons such as guns are an integral component of the violent masculinities that are shared among South African males, irrespective of race and class (Dunaiski, 2013). These violent masculinity types prescribe the use of violence to obtain and defend power (Dunaiski, 2013) thus overt aggression fits into the male gender schema and this accounts for why males are more likely to utilise overt aggression.

With concern to the association between gender differences and perceptions regarding the effectiveness of overtly aggressive responses, one study by Shapiro, Dorman, Welker and Clough (1998) revealed that male adolescents held perceptions that were more supportive towards the use of overtly aggressive responses in comparison to female adolescents. The findings of a qualitative study conducted by Govender (2011) on a sample of male South African adolescents are somewhat supportive of the findings from Shapiro et al. (1998)

research. The male participants in Govender's (2011) study believed that overtly aggressive behaviour would enhance their reputation at school as other students would think of them as being 'cool'. They also felt that male learners who did not live up to these ideals of being overtly aggressive would end up being bullied, insulted and ostracized (Govender, 2011).

Studies have produced mixed findings on the association between preferences for non-violent responses and gender differences. The findings of one study by Alexander (2001) reveal that female adolescents have a higher level of preference for non-violent responses in comparison to male adolescents. A study which supports the findings of Alexander's (2001) study is that of Osterman et al. (1997, cited in Nel, 2006) which revealed that females are less likely to resort to aggression to resolve an interpersonal conflict as they have more superior conflict resolution skills than males. Females' superior conflict resolution skills are due to their higher level of social maturity and their ability to interpret non-verbal behaviour (Nel, 2006). Females place immense value on interpersonal relationships and thus realise the utility that pro social non-violent responses have in maintaining harmony in interpersonal relationships (Lafko, 2015).

The findings of Alexander's (2001) study are in contrast to the findings of a study by Shute and Charlton (2006). Shute and Charltons' (2006) study reveal that there is no difference in the level of preference for non-violent responses between male and female adolescents. In addition to that, Shute and Charltons' (2006) study also reveals that female youths utilise overtly aggressive responses at a similar rate to males. Shute and Charlton (2006) attributed this shift in the type of responses that female adolescents are utilising to resolve conflicts with their peers as a sign of changing gender roles in society. With concern to the association between gender differences and perceptions on the effectiveness of non-violent responses, a study by Preisser (1989) revealed that female adolescents held perceptions that were more supportive towards the use of non-violent responses in comparison to male adolescents.

For the association between preferences for mediocre responses and gender differences, studies have produced mixed findings. The findings of a study by Thayer et al. (2008) reveal that there is no difference in the level of preference for mediocre responses between male and

female adolescents. The mediocre responses that were considered for analyses in Thayer et al. (2008) study were avoidant and withdrawal conflict resolution strategies. The findings of Thayer et al. (2008) study are in contrast to the findings of another study by Ayas, Deniz, Kagan and Kenç (2010). Ayas et al. (2010) study reveal that females have a higher level of preference for mediocre responses compared to males. The mediocre responses considered for analyses in Ayas et al. (2010) study were avoidant conflict resolution strategies. No studies were found on the association between gender differences and perceptions on the effectiveness of mediocre responses. However based on the tenets of Ajzen's (1989, cited in Ali et al., 2011) Theory of Planned Behaviour, the pattern of association for gender differences and perceptions on the effectiveness of mediocre responses could be similar to the pattern of association for gender differences and preference for mediocre responses.

2.4. Age

Adolescence is a period in human development characterised by conflict with family members and extra-familial people such as peers, teachers, significant others, etc. Constructing an identity is a major task in adolescence and in this process of identity formation, where asserting independence and autonomy are integral, a certain degree of conflict is inevitable. Conflict is thus essential for social development. Adolescence is a stage of development where the individual experiences rapid physical, cognitive and social changes. Such changes lead to interpersonal conflict as the adolescent realigns and becomes accustomed to the insuppressible changes they are going through (DeBates, 1999).

Social cognitive theorists, through the studies they conducted, noted differences in conflict resolution abilities as the individual grows older. An example of such a study is that of Dodge (1985, cited in DeBates, 1999) which revealed differences in information-processing skills across adolescence. Another example is the study conducted by Selman, Schorin, Stone and Phelps (1983, cited in DeBates, 1999) which revealed differences in negotiation skills and in the level of comprehension of conflict resolution in children. Another example is the study by Selman (1981, cited in DeBates, 1999) which revealed that cognitive advances across adolescence lead to differences in conflict resolution ability.

With concern to the association between preferences for overtly aggressive responses and age differences, studies have produced mixed findings. The finding of one study by Toldos (2005, cited in Willemse, 2008) reveal that there is no significant difference in the level of preference for overtly aggressive responses across adolescence. Toldos's study was conducted on a sample in Spain. Two other studies by Lindeman et al. (1997) (conducted on a sample in Finland) and Sousa et al. (2010) (conducted on a sample in Portugal) show that MA individuals have a higher level of preference for overtly aggressive responses in comparison to LA individuals.

The tenets of Steinberg's Neurobiological Model (2012) support the above mentioned findings from the studies conducted by Lindeman et al. (1997) and Sousa et al. (2010). Steinberg's (2012) Neurobiological Model proposes that there is less communication between different areas of the brain during MA (middle adolescence) in comparison to LA (late adolescence). For adolescents in the MA stage, this has implications for their ability to regulate emotions when they are aroused and their ability to make rational decisions. During MA, intense feelings are less likely to be regulated by areas of the brain that bear the responsibility for regulating emotions, planning for the future, contemplating the advantages and disadvantages of a course of action and perceiving the advantages of alternative options to the obvious option (Steinberg, 2012). This normative deficit in the adolescent brain could explain why individuals in the MA stage are more prone to utilising overtly aggressive responses to resolve interpersonal conflict.

The findings from a study conducted by Bailey (2011) in Jamaica are in contrast to the findings of Toldos's (2005, cited in Willemse, 2008) study, Lindeman et al. (1997) study and Sousa et al. (2010) study. Bailey's (2011) study reveal that LA individuals have a higher level of preference for overtly aggressive responses in comparison to MA individuals. The divergent findings of Bailey's study could be due to contextual factors. The United Nations Office on Drugs and Crime (UNODC, 2013) reports that in 2012 the recorded murder rate for Jamaica was 39.3 per 100 000 of the population. In the same year the recorded murder rate for Portugal was 1.2 per 100 000, Spain was 0.8 per 100 000 and Finland was 1.6 per 100 000 of the population (UNODC, 2013). The frequency of violence in Jamaica is thus considerably higher than the frequency of violence in Finland, Spain and Portugal (UNODC, 2013). With

the frequency of violence being so high, it is plausible that LA individuals as a result of their age would have been exposed to violence over a longer period.

Through such extended exposure to violence, LA individuals may have developed a greater preference for overt aggression than MA individuals in Jamaica. A study by Weist et al. (2001) reveals that there is a positive correlation between 'increased age' and increased exposure to violence among adolescents. Increased exposure to violence leads to the internalisation of this behaviour and when this occurs, violence is perceived as a culturally acceptable behaviour that youth replicate in order to bond to society (Pelser, 2008). It is plausible to assume that through such internalisation of violence, the frequency of engaging in violent behaviour will increase to the point where it becomes habitual. Violent behaviour that is habitual is more resistant to change (Ali et al., 2011). Thus it is important to implement early intervention strategies that target youths while they are still young (Ali et al., 2011).

With concern to the association between age differences and perceptions on the effectiveness of overtly aggressive responses, studies have produced mixed findings. The findings of a study by Shapiro et al. (1998) revealed that MA and LA individuals held similar attitudes towards overt aggression. Another study by Bailey (2011) reveals that older adolescents, as result of being exposed to violence for a longer time than younger adolescents due to their age, hold attitudes more tolerant towards the use of overt aggression when compared to the attitudes of the younger adolescents. As mentioned earlier, Weist et al. (2001) study reveals that there is a positive correlation between 'increased age' and increased exposure to violence among adolescents. Increased exposure to violence leads to the internalisation of this behaviour and when this occurs, violence is perceived as a culturally acceptable behaviour that youth replicate in order to bond to society (Pelser, 2008). It is plausible to assume that as a result of older adolescents being exposed to violence for a longer duration, they may have been harbouring violence related attitudes for a longer duration and this could lead to the crystallisation of violence related attitudes. According Cooper, Blackman and Keller (2015), crystallised attitudes are more resistant to change.

With concern to the association between preferences for relationally aggressive responses and age differences, the findings of a study by Sousa et al. (2010) reveal that the preference for relationally aggressive responses increased across adolescence. The findings of one study by Johnson et al. (2013), which looked at the association between age differences and perceptions of the effectiveness of relationally aggressive responses, reveals that MA and LA individuals hold similar perceptions concerning the impact of such responses.

Mixed results have been found by researchers on the association between preferences for non-violent responses and age differences. The findings of a meta-analytical study conducted by Laursen et al. (2001) reveals that the pattern of preference for non-violent conflict resolution strategies increases across adolescence. The finding of another meta-analytic study conducted by Eisenberg and Fabes (1998, cited in Damon & Eisenberg, 2006) revealed that the preference for prosocial responding remained constant across adolescence. There are some studies on the association between empathy and prosocial behaviour that supports the findings of Eisenberg and Fabess' (1998, cited in Damon & Eisenberg, 2006) study to some extent. An example of such studies is that by Underwood and Moore (1982, cited in Garaigordobil, 2009), which revealed that there was an association between empathy and prosocial behaviour during adolescence. Another study by Mestre et al. (2004, cited in Garaigordobil, 2009) reveals that the level of empathy did not change across adolescence. Since there is an association between empathy and prosocial behaviour during adolescence and this level of empathy remained constant across adolescence, these findings lend support to the findings of Eisenberg and Fabess' (1998, cited in Damon & Eisenberg, 2006) study.

Regarding the association between age differences and perceptions on the effectiveness of non-violent responses, the findings of studies by Carlo et al. (1992) and Eisenberg et al. (1991) (both cited in Lindeman et al., 1997) revealed that prosocial responses increased across adolescence due to the development of higher order moral reasoning. Thus it would be plausible to assume that older adolescents would hold perceptions that were more supportive towards the use of prosocial non-violent responses than younger adolescents because older adolescents are in a more advanced stage of moral development.

With concern to the association between preference for mediocre responses and age differences, the findings of two studies by Leyva and Furth (1986) and Thayer, Updegraff and Delgado (2008) reveal that there is a negative correlation between age and the use of mediocre responses among adolescents. The mediocre responses considered for analyses in Leyva and Furths' (1986) study were non-compromising conflict resolution strategies. The mediocre responses that were considered for analyses in Thayer et al. (2008) study were avoidant and withdrawal conflict resolution strategies. No studies were found on the association between age differences and perceptions on the effectiveness of mediocre responses. However based on the tenets of Ajzen's (1989, cited in Ali et al., 2011) Theory of Planned Behaviour, the pattern of association for age differences and perceptions on the effectiveness of mediocre responses could be similar to the pattern of association for age differences and preference for mediocre responses.

2.5 Theoretical Framework

2.5.1 Social Learning Theory

Social Learning Theory (SLT) focusses on the process of observational learning. The outcome of a modelled behaviour, whether it is rewarded or punished and cognitive notions about this modelled behaviour influences whether such behaviour will be learnt (Yang, 2002). SLT makes the assumption that specific behaviours are influenced by a combination of environmental and psychological factors (Milkman & Wanberg, 2012). An individual learns a particular behaviour from observing others who model such behaviour (Gudyanga et al., 2015). An interactive process occurs between cognitive, behavioural and environmental influences when the individual attends to the behaviour being modelled and then in turn models the behaviour, cognitions and emotions of that individual (Milkman & Wanberg, 2012). Proponents of SLT believe that one of the main causes for aggression in children is social learning (Yang, 2002). Children learn through observation and when aggression is played out in their environment, children learn when, how and against whom aggression should be used (Carr, 2004). This then becomes a part of their repertoire of conflict resolution strategies (Yang, 2002).

There are four requirements for learning and then modelling of a specific behaviour:

- Attending to the behaviour that is being modelled and to the characteristics of the behaviour and situation, such as level of arousal, affect and perceptual set, that captures the observer's attention (Milkman & Wanberg, 2012).
- Retaining the modelled behaviour by means of cognitively coding, organising and rehearsing the modelled behaviour (Milkman & Wanberg, 2012).
- Reproducing the behaviour and self-observation of one's ability to accurately reproduce the observed behaviour (Milkman & Wanberg, 2012).
- Motivation to adopt the modelled behaviour if the outcome of such behaviour is of value and importance to the individual (Milkman & Wanberg, 2012).

2.5.2 Neurobiological Model

Steinberg (2012) developed a Neurobiological Model that offers a neurobiological explanation as to why younger adolescents in comparison to older adolescents are more likely to choose overtly aggressive responses to resolve interpersonal conflict. In comparison to late adolescence, there is less communication between different areas of the brain during middle adolescence. This has implications for the adolescent's (adolescent in the middle adolescent stage) ability to regulate their emotions when they are aroused and their ability to make rational decisions (Steinberg, 2012).

In middle adolescence, intense feelings that the adolescent experiences is least likely to be regulated by areas of the brain that bear the responsibility for regulating emotions, planning for the future, contemplating the pros and cons of a course of action and perceiving the advantages of alternative options to the obvious option. This normative deficit in the adolescent's brain could explain why adolescents in the middle adolescent stage are more prone to utilising overtly aggressive responses to resolve interpersonal conflict. This normative deficit in the adolescent's brain during middle adolescence also contributes to an increased susceptibility to peer influence, especially when peers model anti-social and risky behaviour (Steinberg, 2012).

2.5.3 The Integrated Gender-Linked Model of Aggression Subtypes

Ostrov and Godleski (2010, cited in Lafko, 2015) developed the Integrated Gender-Linked Model of Aggression Subtypes in order to explain why males and females express aggression in different ways. According to the Integrated Gender-Linked Model of Aggression Subtypes, gender schemas influence the type of aggression that youth engage in (Lafko, 2015). To further elaborate on this, a gender schema is a formulated group of gender-related beliefs that can influence behaviour (Carducci, 2009). These gender schemas influence individuals to utilise gender-appropriate responses when faced with a problem situation .These gender schemas also influence the individual's beliefs about acceptable gender specific responses. Gender schemas are more accessible to the individual than non-gender-congruent schemas (Lafko, 2015).

Chapter 3: Methodology

3.1 Introduction

This chapter will discuss the methodology applied in this study. The discussion begins with a brief description of the research design that mapped the way in which the inquiry was conducted. What follows will be a discussion of the research paradigm that was employed for this study. The sampling strategy that was employed will be discussed next, paying particular attention to the type of sampling technique, rationale for selecting the sample and a demographic analysis of the selected sample. The discussion will move on to a description of the research instrument, focusing on its design and purpose. What follows will be a brief discussion of the procedure used for collecting the data and the ethical considerations. The data analysis techniques used for the data gathered will be discussed next. The chapter will conclude with a discussion on validity, reliability and generalizability.

3.2 Research Design

In order to address the research problem of this study, a non-experimental field study research design was selected. Researchers may choose to use a non-experimental design if they simply want to describe a certain group or if they are aiming to analyse relationships between pre-existing groups. For such non-experimental designs, there is no need for a random selection of participants. The conclusions that are reached from using non-experimental designs are mainly descriptive. To elaborate on this, non-experimental designs are used to enquire about differences between groups or simply to investigate the nature of a group (Salkind, 2010).

3.3 Research Paradigm

This study locates its inquiry approach within the post-positivist paradigm. Post-positivism affirms to notions of knowledge that is relativistic, social constructivist and indeterminate (Cooper, 1997). The post-positivist paradigm aims to identify, explain and reveal relationships that exist among variables (Ponterotto, 2005). The post-positivist paradigm places emphasis on hypotheses testing. Hypotheses concerning the nature of the relationship between variables are tested to determine if they are statistically significant thus revealing information about such relationships. The post-positivist paradigm makes modest claims concerning causality when analysing relationships among variables. As such, generalisations derived from the data that has been produced do not extend beyond the particular context in which the variables have been analysed. The post-positivist paradigm demands a high level of priori theorisation from researchers (Babones, 2016).

Proponents of the post-positivist paradigm proffer a modified dualistic/objective researcher role in research. This perspective takes into consideration that the researcher may have an influence on that which is being researched, however an objective, detacher researcher role is still the gold standard for the research process. Thus proponents of this paradigm use standardised, systematic methods of investigation so as to meet this gold standard of conducting research (Ponterotto, 2005).

3.4 Sampling

3.4.1 Sampling Technique

Farrell et al. (2010) conducted a study in the US that was similar to this study. Their study explored the perceptions that adolescent learners have concerning the applicability of different types of responses (non-violent and violent) to conflict situations with their peers (Farrell et al., 2010). In their study, Farrell et al. (2010) utilised a purposive sampling strategy as the participants had to fit certain criteria, that is, they needed to be school-going youths in

the adolescent phase of life. In this study, purposive sampling is also employed as it is deemed valid and suitable for the type of inquiry.

The purposive sampling technique, which is also known as judgement sampling, is based on the deliberate selection of participants by virtue of the qualities they possess (Tongco, 2007). The purposive sampling technique is non-random and does not make use of a quota for the number of participants in the sample. Purposive sampling does not require an underlying theoretical framework to guide its focus (Tongco, 2007). The researcher will usually have pre-determined ideas concerning the type of information they require and the criteria for selecting participants and this guides the researcher in selecting specific participants who can provide the type of information required for the study (Tongco, 2007).

The criteria for participation in this study are:

- The participants must be adolescent learners who fall within the age range of 14 to 21 years old.
- The participants must belong to the Indian race group.
- The participants must be school-going youths.

3.4.2 Rationale for selecting the sample

For this study, a sample of Indian South African adolescents was selected. The reason for specifically selecting a sample of Indian adolescents for this study is that Indian adolescents seem to face the most violence in the school setting. Burton and Leoschut (2013) revealed that in South African schools Indian adolescents face the most violence in the school setting when compared to other racial groups. There may be factors which are specific to the Indian racial group that account for the higher levels of violence among these adolescents. The results of this study could contribute to our understanding of why adolescents belonging to the Indian racial group experience such high levels of violence in the school setting.

Several studies (e.g., Leung & Wu, 1990; Ting-Tomey, 1985; Obuchi & Takahashi, 1994, all cited in Haar & Krahé, 1999) have revealed that socio-cultural norms and values influence the strategies that an individual employs in resolving interpersonal conflict. The results of this study could be used in future studies that make cross-cultural comparisons among the various racial groups in South Africa so as to investigate whether cultural differences influence the strategies that adolescents employ to resolve interpersonal conflict. The research may also be used to develop violence prevention interventions that are culturally adapted for adolescents belonging to the Indian racial group in South Africa. Resnicow, Soler, Braithwaite, Ahluwalia and Butler (2000) believe that the effectiveness of interventions intended for people of different cultural groups can be enhanced if these interventions are responsive to the unique practices and worldviews of culturally diverse people.

3.4.3 Demographic analysis of the sample

The sample for this study includes learners from South View Secondary School in Lenasia South, Johannesburg. A demographic analysis was conducted by analysing the frequency distributions and the cross tabulations of the demographic variables. The demographic variables for the sample are summarised in Table 3.1 below.

Table 3.1: Demographic variables

Variable		Frequency	Percentage
Gender	Male	37	62%
	Female	23	38%
Age	Adolescents in the middle adolescent stage	36	60%
	Adolescents in the late adolescent stage	24	40%
Residential Environment	Suburb	27	45%
	Township	33	55%

The results for each of the demographic variables are illustrated below in Figure 3.1, 3.2 and 3.3. Figure 3.1 shows the gender composition of the learners. Thirty-seven of the learners are male, which is more than half (62%) of the sample, while 23 individuals (38%) are female.

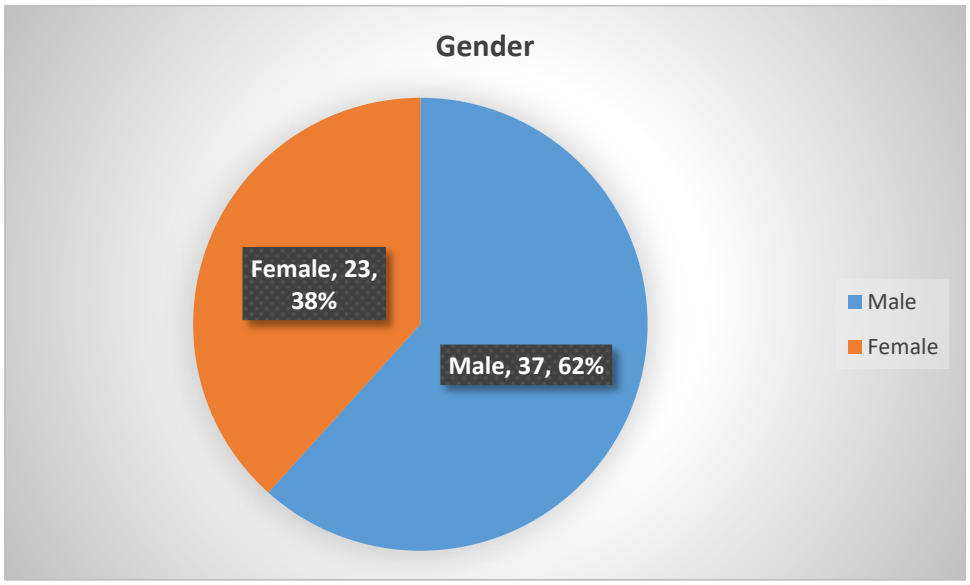

Figure 3.1: Gender composition of learners

With regard to the residential environment in which learners reside, 33 learners live in townships and this amounts to more than half (55%) of the total sample. A total of 27 individuals (45%) live in the suburbs, as shown in Figure 3.2 below.

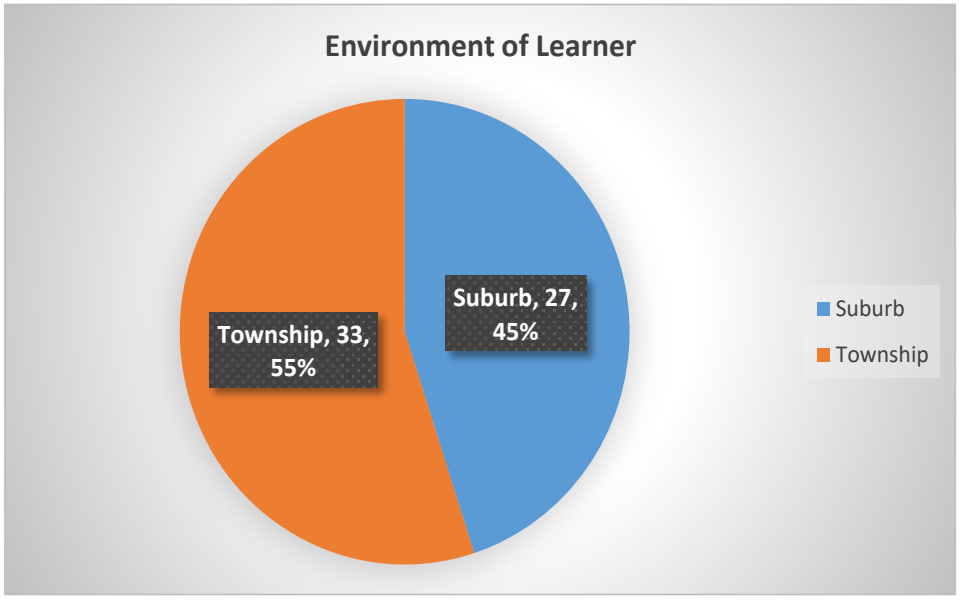

Figure 3.2: Learners' residential environment

The respondents were split into two age groups, as shown in Figure 3.3 below. 36 learners are in the middle adolescent stage and this amounts to more than half (60%) of the total sample. A total of 24 individuals (40%) are in the late adolescent stage.

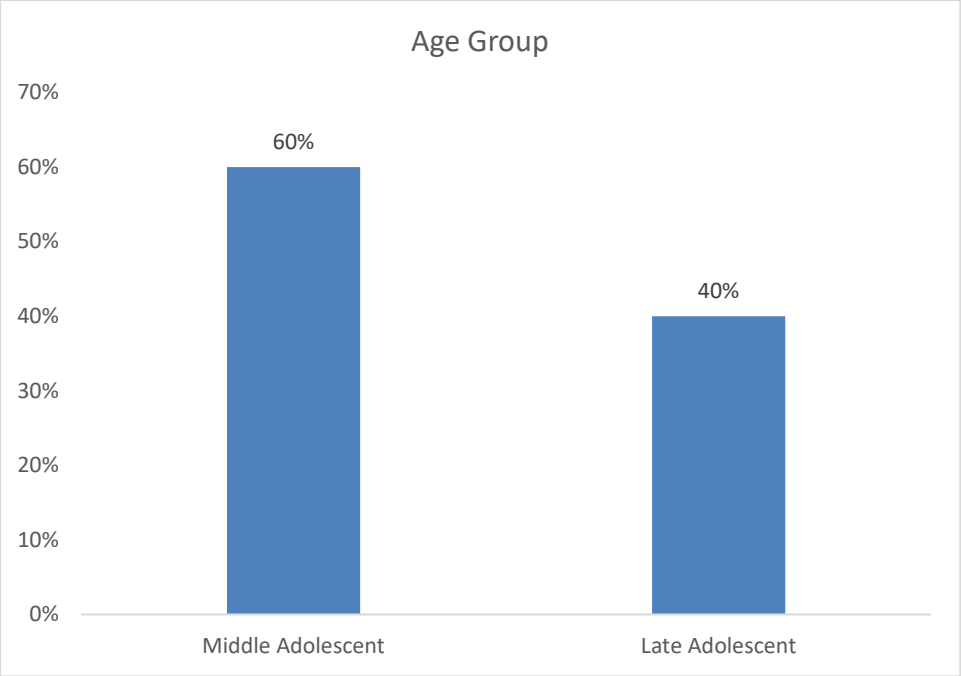

Figure 3.3: Age distribution of the learners

The researcher selected a sample of participants from only one school in the community due to the following reasons: only one school in the community was willing to participate and financial limitations. The researcher had no control over sample size and sample composition as participation was voluntary. Potential participants and their parents, who met the selection criteria, were provided with the appropriate information concerning the study and it was left to them to decide whether to participate or not. The sample was not balanced as all sub categories (males, females, township residents, suburban residents, middle adolescents and late adolescents) within the various categories (gender, residential environment and age) contained unequal number of participants thus potentially affecting results as sub categories within the various categories were compared against each other. To counter the effect of this unbalanced sample size, the Satterthwaite Approximation equation was utilised. The

Satterthwaite Approximation is considered a robust tool to deal with the effects of unequal sample sizes (Lovric, 2011).

3.5 Research Instrument

3.5.1 The nature and purpose of the research instrument

The questionnaire given to participants to complete consists of closed-ended questions only which seek a fixed set of responses. A copy of the questionnaire is included in Annexure 2. Given the students' academic workload and limited time available to participate in this study, a closed-ended questionnaire seems more practical and less of a burden. In addition to this, the questions in the questionnaire are framed in such a way as to make it easier for students to understand and to answer.

The content of the research instrument is based on the published research of Farrell et al. (2010) which has been modified to make it applicable to the South African context. The participants' thoughts about the applicability of the different types of responses to problem situations are measured by utilising two scales: the Behavioural Intentions Measure and the Perceived Effectiveness Measure. Participants were asked whether they would execute the given response if they encountered the given problem situation (Behavioral Intentions Measure). Thereafter, participants were asked to rate the effectiveness of the given response (Perceived Effectiveness Measure) (Farrell et al., 2010).

The Behavioural Intentions Measure assesses the participants' intentions to execute different types of responses to problem situations with their peers, authority figures and criminals. For each item in the measure, the participants are asked to rate the likelihood of selecting a certain response on a five-point scale ranging from 1 = Definitely would not to 5 = Definitely would (Farrell et al., 2010). The Perceived Effectiveness Measure assesses the participants' perceptions concerning the effectiveness of the different types of responses to problem situations with their peers, authority figures and criminals. For each item in the measure,

participants are asked to rate the effectiveness of the given response to resolve the problem situation on a five-point scale ranging from 1 = Not at all to 5 = Really well (Farrell et al., 2010).

The questionnaire comprises 26 items, which includes problem situations and possible responses to the problem situation. Thirteen problem situations are described in the questionnaire. Nine of the 13 problem situations and the possible responses associated with these problem situations were obtained from the studies conducted by Farrell, Erwin et al. (2007) study and Farrell, Kliewer et al. (2007). The remaining four problem situations and the responses to these problem situations were formulated specifically for this study in order to make them applicable to the South African context.

The problem situations deal with the following themes: resolving a problem situation involving friends, resolving a problem situation while under peer pressure, resolving a problem situation involving a teacher, reporting a problem, resolving a problem situation involving a criminal, resolving a problem situation involving peers and maintaining a positive reputation. The responses that are utilised for this questionnaire fall into four categories, namely, non-violent responses (nine items), overtly aggressive responses (seven items), relationally aggressive responses (six items) and mediocre responses (four items). The label 'mediocre' is used to describe ineffective non-violent responses.

The research instrument consists of two sections, Section A and Section B. In Section A, the demographic variables (age, gender and residential environment) are listed. The participants indicate which demographic variable apply to them by marking a cross in the boxes that apply to them. To facilitate the comparative analysis, the demographic variables were split into categories that could be compared against each other. Gender was split into males and females, residential environment into township residence, rural residence and suburb residence and age into specific age cohorts ranging from 14 to 19 plus, with the cut off age being 21 years. As none of the learners resided in rural areas, the analysis for this study focussed on the differences between township (TS) and suburb (SB) residents. With concerns to the demographic category of age, the various age cohorts were collapsed and grouped

according to the developmental stages that were applicable. In accordance with Shehan's (2016) criteria, 14 to 16 years old was classified as middle adolescence (MA) and 17 to 21 years old as late adolescence (LA).

The researcher aims to examine if and how the demographics and background of the participants influences how they answer the items in Section B of the research instrument. For example, male participants in the sample may select overtly aggressive responses more frequently than female participants. The finding would thus indicate that a higher proportion of males prefer to use overtly aggressive responses to resolve problem situations in the school setting in comparison to females. This type of comparison indicates that, for the given sample, gender does influence the preference for overtly aggressive responses to resolve problem situations in the school setting.

Section B of the research instrument comprises of 26 items. Each item consists of a problem situation that students may experience in the school setting. For each item there are two sub-questions that apply to the problem situation. For example, for item 2 of the research instrument, the problem situation depicted is: "Imagine that you told a friend something private and they told it to other people. This friend promised that they wouldn't tell anyone but went behind your back and told other people."

Sub-question (a) of item 2 presents a possible response to resolve the problem situation. This response is: "If you were in that situation, do you think you would tell those people who heard about your private affairs that what your friend told them about you is not true?" For sub-question (a), the participant is then required to rate the likelihood that they would select the given response.

For sub-question (b) the participant is asked to rate how effective the response presented to them in sub-question (a) would be in resolving the problem situation, irrespective of the answer given to sub-question (a). Sub-question (b) is stated as follows: "If you told those people who heard about your private affairs that what your friend told them about you is not

true, how well do you think things would work out?" Participants answer sub-question (b) by rating how effective the given response would be in resolving the problem situation.

3.5.2 Description of procedures

The researcher was granted permission by the Gauteng Department of Education (GDE) (Annexure 6) and the principal of South View Secondary School to conduct research with learners from the school. The relevant officials at the GDE and the principal of South View Secondary School were given the opportunity to review the questionnaire and have given their approval of it.

On the day the researcher visited the school, the teacher who was in charge of the Life Orientation course assisted the researcher by gathering learners in a large classroom. The researcher then discussed the purpose of his visit and clarified the aims of the study. In addition to that, the informed consent process and the potential risks (trauma) of participating in the study were also discussed with the learners.

Learners were given the questionnaire in a sealed envelope to take home so that their parents could have an opportunity to review the questionnaire before agreeing to allow their children to participate in the study. Informed consent applications (Annexure 3 and Annexure 4) for both the learners and parents and the ethical clearance certificate (Annexure 5) from the University of Zululand were included in the envelope.

3.5.3. Ethical considerations

Permission was sought from the GDE and the principal of South View Secondary School to invite learners to participate in the study. Active consent is a process of obtaining consent from the parents who want their children to participate in research and the children themselves who will participate. Active consent is an important aspect of ethical research and

ethics committees are more inclined to favour such a process of obtaining consent. This process of active consent also assures the researcher that consent was intentionally given by the children and their parents. As parents are responsible for their children's wellbeing and safety, a researcher who acknowledges this should obtain consent from the parents. The process of active consent emphasises the importance of respecting peoples' privacy and their freedom of choice (Powell, Fitzgerald, Taylor, & Graham, 2012). For this study, it was compulsory that the participants and their parents give informed consent relating to participation in the study.

The risk of harm or trauma to children should be an important consideration in research conducted on children thus certain measures ensuring the protection and care of children should be incorporated into the research design (Powell et al., 2012). Barron et al (2009 cited in Powell et al., 2012) advises researchers to provide research participants with access to appropriate resources and services if they are harmed or traumatised from participating in the study. For this study, participants were informed that they would be given access to free counselling should they experience any psychological harm from their participation in the study. It was made clear to the participants and to their parents that participants may choose to refrain from participating in the study at any point in the process.

The questionnaire that was utilised for this study is derived from a questionnaire utilised in another study (Farrell et al., 2010) which was deemed appropriate for adolescents. Dr A. D. Farrell gave permission to the researcher to use the research instrument and to make the necessary changes to it so that it would be applicable to the South African context (see Annexure 7). There was no need for a translated version of the annexures and the questionnaire because the Indian youth use English as their first language.

Anonymity for research respondents is considered an essential component of ethical research. Several academics (e.g., Heath & Luff 1995, Newell, 1995, Procter, 1995 all cited in Grinyer, 2009) have emphasised the importance of protecting the identity of research respondents. This component of anonymity has an impact on research design and the practice of ethical research. According to Barnes (1979 cited in Grinyer, 2009), the rule of thumb concerning

the practice of anonymity, is that the reader should not be able to identify research participants in the data presented in the study. Anonymity is not only an ethical consideration, it also has legal implications (Grinyer, 2009). The right to privacy in South Africa is protected by the Constitution and Common Law (Olinger, Britz & Olivier, 2007). Regarding anonymity and confidentiality for this study, only the researcher and his supervisor have access to the participants' biographical details and the completed questionnaires. No personal information of the participants such as their names will be revealed in this report or in any other manner.

3.6 Data Analysis

In the first phase of data analysis, the raw data gathered from the questionnaires was captured and coded using Microsoft Excel 2010. The data was transformed from raw data to coded data so that the statistical analysis software could interpret the data. In the second phase of data analysis, the Statistical Analysis Software (SAS) version 9.4 was used to analyse the coded data. Through the use of this software, frequency distributions, *t*-tests, effect size and chi-square tests were computed. A tabulated summary of the frequency distributions are presented in Annexure 1. Frequency distributions which are depicted in various forms such as tables containing summarised data and graphs can be classified as a type of descriptive statistics. Descriptive statistics is defined as an analysis that assists in describing the basic features of data that has been gathered in a study (Trochim, 2006).

The type of *t*-test that has been used for this study is called the Student's *t*-test. This type of *t*-test is used when there is one measurement variable and a nominal variable which has only two values. The *t*-test determines whether there are differences in the mean values between the measurement variable in the two groups (McDonald, 2014). The statistical significance of the *t*-test results is important as it reveals whether an observed difference between the two groups is a "real" difference. Statistical significance is the likelihood of the detected difference between the groups being due to chance. When the p-value is greater than the chosen alpha level, any detected difference between the groups is due to sampling variability.

If the p-value is less that the chosen alpha level, any detected difference between groups constitutes a "real" difference (Sullivan & Feinn, 2012).

This study is relatively small and a reliance on interpreting p-values to draw conclusions about the results can be problematic. The interpretation of results for confidence intervals and p-values can be a major problem with small studies. In small studies the p-value may be just above the accepted cut-off estimate of 0.05 and thus indicating that they are not statistically significant. However, this may have more to do with the study not being large enough rather than there being no detected difference (Hackshaw, 2008). According to Moore and McCabe (1998), the size of the sample has a strong influence on the p-value in a test. When a sample is large enough, statistical tests will most likely demonstrate results that are statistically significant except when there is no detected difference at all (Sullivan & Feinn, 2012). In smaller studies where a p-value may be just above the accepted cut-off estimate of 0.05 and is thus not statistically significant, the results should be interpreted carefully. It would be better to state that, despite the result not being statistically significant, there is evidence of some degree of detected difference (Hackshaw, 2008).

The sample for this study with Indian South African youths is small, and in reference to what was mentioned earlier by Moore and McCabe (1998), Hackshaw (2008) and Sullivan and Feinn (2012), a small sample size would have a negative influence on the p-value score, resulting in the partial comprehension of the *t*-test results. In order to compensate for this, substantive significance (effect size) was also calculated. Substantive significance, unlike statistical significance, is not dependent on the sample size of the study. Substantive significance (effect size) reveals the size of the difference whereas statistical significance (p-value) only indicates if a difference exists (Sullivan & Feinn, 2012). It is essential to demonstrate both statistical significance (the p-value) and substantive significance (the effect size) when reporting and interpreting the results of studies (Sullivan & Feinn, 2012). Thus, for this study, substantive significance and statistical significance have been computed. The interpretation of effect size will be conducted in accordance with Cohen's (1988, cited in Becker, 2000) criteria.

Chi-square tests are computed in this study in order to assess whether the demographic variables (gender, age and residential environment) are associated. The purpose of chi-square tests is to determine the nature of association between variables, in other words, to test whether these variables are statistically independent of each other or that they are associated (Michael, 2013). The results of the *t*-tests, effect size and chi-square tests will be presented in chapter four. Labels have been created for the variables under analysis and the problem situations. These labels will be utilised in the presentation of the frequency distributions, *t*-test and effect size results. Refer to tables A1 to A6 in the Appendix for the description of the labels.

3.7 Validity, Reliability and Generalizability

3.7.1 Validity

Content validity refers to the extent to which the scale represents all relevant information concerning the construct under analysis. In other words, are all facets of a construct considered and measured through the way in which the research instrument has been designed. The content validity of a research instrument is enhanced when irrelevant information concerning the construct is excluded (Bannigan & Watson, 2009). Through a series of studies (Farrell et al., 2006; Farrell et al., 2007), Farrell et al. (2010) ensured that the problem situations and responses depicted in their research instrument were relevant and representative of the types of problem situations faced by adolescents and the types of responses utilised by adolescents. Through administering questionnaires and interviews on different samples, Farrell et al. (2010) were able to enhance the content validity of their research instrument. The content validity attained by Farrell et al. (2010) for their research instrument is also applicable to the research instrument that was utilised for this study, as the content of research instrument utilised in this study is almost identical to the research instrument utilised by Farrell et al. (2010). In order to make Farrell et al. (2010) research instrument applicable to the South African context, minor modifications were made to the content of the research instrument.

Construct validity refers to the extent to which a research instrument measures what it intended to measure (Deniz & Alsaffar, 2013). Farrell et al. (2010) were able to demonstrate the construct validity of their research instrument through a series of studies (Farrell et al., 2006; Farrell et al., 2007) on different samples. The construct validity attained by Farrell et al. (2010) for their research instrument is also applicable to the research instrument that was utilised for this study, as the research instrument utilised in this study is almost identical to the research instrument utilised by Farrell et al. (2010).

3.7.2 Reliability

Internal consistency is a method that is used extensively to test the reliability of research instruments because it is an economical method which is efficient in identifying errors in the sampling of items (Polit & Hungler, 1995 cited in Bannigan & Watson, 2009). Internal consistency describes the extent to which different items in a scale measure the different aspects of the same attribute (Deniz & Alsaffar, 2013). There are a variety of procedures that can be used to measure internal consistency such as the split-half technique, Cronbach's alpha and the Kuder– Richardson formula 20 (Bannigan & Watson, 2009). The Cronbach's alpha was utilised to measure the internal consistency of the research instrument used in this study. The range of the scores produced when utilising Cronbach's alpha start at 0 and end at 1. Scores of 0.7 and greater are considered as reliable (Deniz & Alsaffar, 2013).

Farrell et al. (2010) computed the internal consistency for their research instrument, the following results were produced: internal consistencies for the Behavioral Intentions Measure on a sample of urban middle school students ranged from .88 to .90 for the Overt Aggression subscale and .80 to .87 for the Non-violent Responses subscale. In a community sample of urban adolescents, internal consistencies were .78 for the Overt Aggression subscale, .73 for the Relational Aggression subscale and .74 for the Non-violent Responses subscale. Internal consistencies for the Perceived Effectiveness Measure on a sample of urban middle school students ranged from .86 to .91 for the Overt Aggression subscale and .76 to .84 for the Non-violent Responses subscale. In a community sample of urban adolescents, internal consistencies were .75 for the Overt Aggression subscale, .79 for the Relational Aggression subscale and .78 for the Non-violent Responses subscale (Farrell el al., 2010). Except for

some minor modifications, the format and content of the research instrument utilised in this study is almost identical to the research instrument utilised by Farrell et al. (2010) thus the internal consistency results that were produced in the assessment of Farrell et al. (2010) research instrument are also applicable to the research instrument utilised in this study.

3.7.3 Generalizability

According to Cooper (1997), research that complies with the guiding principles of the research paradigm that it follows can be considered good research practice. This study locates its inquiry approach within the post-positivist paradigm and thus adheres to the guiding principles of this paradigm concerning generalisability. Proponents of post-positivism believe that their methods cannot ensure certainty and universally generalisable results. This belief however does not prevent post-positivist from striving towards context-dependent generalisations. This stance of seeking context-dependent generalisations arises from notions of reliability in that researchers aim to do similar things in similar contexts in order to discover if results will be reliably similar (Cooper, 1997).

These context-dependent generalisations are not meant to be predictive of any individual's behaviour. Claims made about a group are not assumed to hold for each member of the group. The modus operandi is for generalisations to be tested and refined through researchers' attempts to reanalyse, replicate, challenge and extend each other's data, thus modifying and refining generalisations with each study (Cooper, 1997). To be more concise, post-positivism stresses 'theory falsification' (Ponterotto, 2005). Thus the findings of this study can be further modified and refined with each study in the future, which focusses on the same variables in the same context.

3.8 Conclusion

In this chapter, the research design, research paradigm and the various components of the research methodology were discussed in detail. The ethical aspects of the research were also

addressed by the researcher in this chapter. The following chapter will present and discuss the results of the study.

Chapter Four: Presentation of Results

4.1 Introduction

In this chapter, the results of the reliability analysis, *t*-tests, effect size and Chi-Square tests will be presented. The results of the reliability analysis will be presented first. The *t*-tests and effect size results will be presented next, according to the response variables they apply to. For each of the response variables analysed in this study, for example, non-violent responses, the *t*-test and effect size results will be presented for this variable first and then the discussion will move on to relationally aggressive responses and the *t*-test and effect size results that apply to this variable will be presented next. The same will apply for the other two variables (overtly aggressive and mediocre responses). The discussion of the *t*-test and effect size results will take the following form: first a summary of the *t*-test and effect size results will be presented in a table under each section on a response variable. A discussion of the information contained in the table will follow. A tabulated summary will be given at the end of the section on the *t*-test and effect size results. For the discussion of the *t*-test and effect size results, the research aims have been broken down into more specific statements so as to facilitate the discussion. The chapter will conclude with the presentation of the Chi-Square test results. Labels have been created for the variables under analysis and the problem situations. These labels will be utilised in the presentation of the *t*-test and effect size results section. Refer to tables A1 to A6 in the Appendix for the description of the labels.

4.2. Reliability Analysis

A reliability analysis was performed in order to determine the internal consistency of data. The Cronbach Alpha technique was used to determine the internal consistency of the data for this study. As shown in table 4.1 below, the Cronbach Alpha Coefficient is 0.7978. According to Nunnally and Bernstein (1994 cited in Frank-Stromborg & Olsen, 2004), a Cronbach Alpha Coefficient of 0.70 can be considered acceptable for new instruments. Thus,

the Cronbach Alpha Coefficient of 0.7978 for this study suggests that the data for this study is internally consistent and reliable.

Table 4.1: Reliability analysis (Cronbach Alpha)

Cronbach Alpha Coefficient	
Variables	**Alpha**
Raw	0.7890
Standardised	0.7978

The sample for this study was made up of 60 Indian South African adolescents. According to Charter (1999 cited in Yurdugul, 2008), a minimum sample size of 400 is required in order to determine a more accurate population coefficient. However, this issue of minimum sample size has been debated time and again due to the difficulty of collecting data in psychometric research (Yurdugul, 2008).

4.3 *T*-test and Effect Size Results

4.3.1 Preference for Responses

4.3.1.1 Age

Research Aim

To examine how age influences the responses made by Indian South African adolescents to problem situations.

Non-Violent Responses

Null Hypothesis (H_O): There will be a difference between the mean scores for MA and LA individuals.

Alternative Hypothesis (H_A): There will be no difference between the mean scores for MA and LA individuals.

Results

The results confirm the alternative hypothesis and the null hypothesis is therefore rejected. Table 4.2 below shows that the p-values are greater than 0.05 for all the non-violent response items. Thus, we may conclude that the MA and LA individuals do not differ in their degree of preference for non-violent responses. The results are not significant for all items A to J.

Table 4.2: Difference in means scores between MA and LA individuals in relation to non-violent responses (n = 60)

Item	MA	LA	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
A	3.7222	3.0833	0.6389	1.87	0.0659	1.2936	0.49
B	3.1389	3.4583	-0.3194	-0.84	0.4033	1.4400	0.22
C	4.3611	4.4583	-0.0972	-0.28	0.7800	1.3148	0.07
D	4.1389	3.6667	0.4722	1.32	0.1936	1.3623	0.35
E	4.2222	4.3333	-0.1111	-0.30	0.7622	1.3869	0.08
F	4.2222	3.5833	0.6389	1.79	0.0782	1.3522	0.47
G	4.5556	4.4583	0.0972	0.35	0.7243	1.0409	0.09
H	4.3611	4.1250	0.2361	0.77	0.4456	1.1666	0.20
J	3.2222	2.8750	0.3472	0.85	0.4013	1.5583	0.22

MA means middle adolescence: 14 –16 years

LA means late adolescence: 17-21 years

Relationally Aggressive Responses

H_O: There will be no difference between the mean scores for MA and LA individuals.

H_A: There will be a difference between the mean scores for MA and LA individuals.

Results

Based on the results of the analysis, the null hypothesis has been confirmed and the alternative hypothesis has been rejected. Table 4.3 below shows that the p-values are greater than 0.05 for all the relationally aggressive responses items. We may thus conclude that the MA and LA individuals do not differ in their level of preference for relationally aggressive responses. The results are not significant for all items K to Q.

Table 4.3: Difference in means scores between MA and LA individuals in relation to relationally aggressive responses (n = 60)

Item	MA	LA	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
K	1.5000	1.2917	0.2083	1.01	0.3160	0.8505	0.24
L	2.5556	2.1667	0.3889	0.98	0.3288	1.4984	0.26
M	1.8333	1.7083	0.1250	0.40	0.6877	1.1741	0.11
N	1.7778	1.6667	0.1111	0.46	0.6500	0.9243	0.12
P	1.7778	1.5833	0.1944	0.75	0.4560	0.9831	0.20
Q	1.6667	2.2500	-0.5833	-1.68	0.0980	1.3163	0.44

Overtly Aggressive Responses

H_O: There will be a difference between the mean scores for MA and LA individuals.

H_A: There will be no difference between the mean scores for MA and LA individuals.

Results

The alternative hypothesis has been confirmed by the findings of the analysis for overtly aggressive responses. The null hypothesis is therefore rejected. Table 4.4 below shows that the p-values are greater than 0.05 for the majority of the overtly aggressive response items. Thus we may conclude that the MA and LA individuals do not differ in their level of preference for overtly aggressive responses. The results are not significant for items R, S, U, W and X. Since the p-values are less than 0.05 for the overtly aggressive response items T and V, we may conclude that there is a significant difference in the preferences of the MA and LA individuals with regard to utilising these overtly aggressive response items to resolve problem situations. For both the overtly aggressive response items T and V, a higher proportion of LA individuals selected these responses in comparison to the MA individuals. Table 4.4 also shows the effect size for all the responses R to X. The effect size scores for these responses reveal that there is a trend towards a higher preference for overtly aggressive responses among LA individuals in comparison to MA individuals.

Table 4.4: Difference in means scores between MA and LA individuals in relation to overtly aggressive responses (n = 60)

Item	MA	LA	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
R	2.1111	2.7083	-0.5972	-1.72	0.0905	1.3164	0.45
S	1.4722	1.8333	-0.3611	-1.23	0.2247	1.1165	0.32
T	2.3056	3.1250	-0.8194	-2.18	0.0335 *	1.4279	0.57
U	2.4167	2.6667	-0.2500	-0.70	0.4858	1.3524	0.18
V	2.5833	3.4167	-0.8333	-2.12	0.0380 *	1.4889	0.56
W	2.2778	2.6667	-0.3889	-1.07	0.2896	1.3806	0.28
X	2.0556	2.4583	-0.4028	-1.20	0.2344	1.2720	0.32

* indicates a significant result

Mediocre Responses

H_O: There will be no difference between the mean scores for MA and LA individuals.

H_A: There will be a difference between the mean scores for MA and LA individuals.

Results

The conclusion from these results is that the alternative hypothesis is rejected and the null hypothesis is confirmed. Table 4.5 below shows that the p-values are greater than 0.05 for the majority of the mediocre response items. We therefore conclude that the MA and LA individuals do not differ in their level of preference for mediocre responses. The results are not significant for items I, O and Z. Since p-values are less than 0.05 for the mediocre response item Y, we may conclude that there is a significant difference in the preferences of the MA and LA individuals with regard to utilising this mediocre response item to resolve a problem situation. For the mediocre response item Y, a higher proportion of LA participants selected this response in comparison to the MA participants.

Table 4.5: Difference in means scores between MA and LA individuals in relation to mediocre responses (n = 60)

Item	MA	LA	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
I	3.0000	3.6667	-0.6667	-1.72	0.0906	1.4700	0.45
O	3.0556	3.5000	-0.4444	-1.12	0.2680	1.5080	0.29
Y	1.3333	1.8333	-0.5000	-2.06	0.0442 *	0.9223	0.54
Z	2.5278	2.5833	-0.0556	-0.16	0.8759	1.3442	0.04

4.3.1.2 Gender

Research Aim

To examine how gender influences the responses made by Indian South African adolescents to problem situations.

Non-Violent Responses

H_O: There will be a difference between the mean scores for the male and female adolescents.

H_A: There will be no difference between the mean scores for the male and female adolescents.

Results

The results confirm the alternative hypothesis and the null hypothesis is thus rejected. Table 4.6 below shows that the p-values are greater than 0.05 for all the non-violent response items. We may therefore conclude that male and female adolescents do not differ in their level of preference for non-violent responses. The results are not significant for all items A to J.

Table 4.6: Difference in means scores between the male and female adolescents in relation to non-violent responses (n = 60)

Item	Male	Female	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
A	3.5135	3.3913	0.1222	0.35	0.7307	1.3308	0.09
B	3.2162	3.3478	-0.1316	-0.31	0.7573	1.4473	0.09
C	4.4324	4.3478	0.0846	0.24	0.8094	1.3150	0.06
D	3.9459	3.9565	-0.0106	-0.03	0.9771	1.3825	0.00
E	4.0270	4.6522	-0.6251	-1.95	0.0566	1.3531	0.46
F	3.8649	4.1304	-0.2656	-0.72	0.4725	1.3830	0.19
G	4.4054	4.6957	-0.2902	-1.16	0.2491	1.0321	0.28
H	4.3243	4.1739	0.1504	0.48	0.6301	1.1701	0.13
J	3.2432	2.8261	0.4172	0.35	0.7307	1.5543	0.27

Relationally Aggressive Responses

H_O: There will be a difference between the mean scores for the male and female adolescents.

H_A: There will be no difference between the mean scores for the male and female adolescents.

Results

Based on an analysis of the results, the alternative hypothesis is confirmed and the null hypothesis is rejected. Table 4.7 below shows that the p-values are greater than 0.05 for all the relationally aggressive response items. Therefore, we may conclude that the male and female participants do not differ in their level of preference for relationally aggressive responses. The results are not significant for all items K to Q.

Table 4.7: Difference in means scores between the male and female adolescents in relation to relationally aggressive responses (n = 60)

Item	Male	Female	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
K	1.3243	1.5652	-0.2409	-1.07	0.2894	0.8485	0.28
L	2.6216	2.0435	0.5781	1.47	0.1476	1.4836	0.39
M	1.9459	1.5217	0.4242	1.38	0.1726	1.1569	0.37
N	1.6757	1.8261	-0.1504	-0.61	0.5418	0.9230	0.16
P	1.8108	1.5217	0.2891	1.22	0.2268	0.9775	0.30
Q	1.7838	2.0870	-0.3032	-0.85	0.3976	1.3397	0.23

Overtly Aggressive Responses

H_O: There will be a difference between the mean scores for the male and female adolescents.

H_A: There will be no difference between the mean scores for the male and female adolescents.

Results

The alternative hypothesis is confirmed and the null hypothesis is rejected, as determined by the results of the analysis. Table 4.8 below shows that the p-values are greater than 0.05 for the majority of overtly aggressive response items and we may conclude that the male and female adolescents do not differ in their level of preference for overtly aggressive responses. The results are not significant for items R, T, U and V. Since the p-values are less than 0.05 for the overtly aggressive response items S, W and X, we may conclude that there is a significant difference in the preferences of male and female adolescents with regards to utilising these overtly aggressive responses to resolve problem situations. For these overtly aggressive response items S, W and X, a higher proportion of male adolescents selected these responses in comparison to female adolescents. Table 4.8 also shows the effect size for all responses R to X. The effect size scores for these responses reveal that there is a trend towards a higher preference for overtly aggressive responses among male adolescents in comparison to female adolescents.

Table 4.8: Difference in means scores between the male and female adolescents in relation to overtly aggressive responses (n = 60)

Item	Male	Female	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
R	2.4595	2.1739	0.2855	0.80	0.4263	1.3422	0.21
S	1.8378	1.2609	0.5770	2.35	0.0224 *	1.0944	0.53
T	2.4595	2.9130	-0.4536	-1.16	0.2494	1.4681	0.31
U	2.5405	2.4783	0.0623	0.17	0.8635	1.3578	0.05
V	3.0541	2.6957	0.3584	0.88	0.3830	1.5356	0.23
W	2.9459	1.6087	1.3373	4.53	0.0001 *	1.2273	1.09
X	2.5946	1.6087	0.9859	3.42	0.0012 *	1.1919	0.83

Mediocre Responses

H_O: There will be a difference between the mean scores for the male and female adolescents.

H_A: There will be no difference between the mean scores for the male and female adolescents.

Results

The results confirm the alternative hypothesis and the null hypothesis is thus rejected. Table 4.9 below shows that the p-values are greater than 0.05 for all the mediocre response items and we may conclude that the male and female adolescents do not differ in their level of preference for mediocre responses. The results are not significant for all items I to Z.

Table 4.9: Difference in means scores between the male and female adolescents in relation to mediocre responses (n = 60)

Item	Male	Female	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
I	3.5135	2.8696	0.6439	1.65	0.1051	1.4730	0.44
O	3.3784	3.0000	0.3784	0.94	0.3501	1.5126	0.25
Y	1.5946	1.4348	0.1598	0.63	0.5298	0.9520	0.17
Z	2.6216	2.4348	0.1868	0.52	0.6019	1.3414	0.14

4.3.1.3 Residential Environment

Research Aim

To examine how the residential environment influences the responses made by Indian South African adolescents to problem situations.

Non-Violent Responses

H_O: There will be a difference between the mean scores for the SB and TS adolescents.

H_A: There will be no difference between the mean scores for the SB and TS adolescents.

Results

The results confirm the alternative hypothesis and the null hypothesis is thus rejected Table 4.10 below shows that the p-values are greater than 0.05 for the majority of the non-violent response items and thus we may conclude that the SB and TS groups of adolescents do not differ in their level of preference for non-violent responses. The results are not significant for all items A to G. Since the p-values are less than 0.05 for the non-violent response items H and J, we may conclude that there is a significant difference in the preferences of the SB and TS adolescents with regard to utilising these non-violent response items to resolve problem situations. For the non-violent response item H, a higher proportion of TS adolescents selected this response in comparison to the SB adolescents. For the non-violent response item J, a higher proportion of SB adolescents selected this response in comparison the TS adolescents.

Table 4.10: Difference in means scores between the SB and TS adolescents in relation to non-violent responses (n = 60)

Item	SB	TS	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
A	3.5185	3.4242	0.0943	0.27	0.7859	1.3313	0.07
B	3.4444	3.1212	0.3232	0.87	0.3904	1.4395	0.22
C	4.5556	4.2727	0.2829	0.83	0.4081	1.3079	0.21
D	4.1481	3.7879	0.3602	1.01	0.3152	1.3704	0.26
E	4.3333	4.2121	0.1212	0.34	0.7374	1.3866	0.09
F	3.6667	4.2121	-0.5454	-1.54	0.1281	1.3615	0.40
G	4.7037	4.3636	0.3401	1.28	0.2074	1.0278	0.33
H	3.8519	4.6061	-0.7542	-2.50	0.0166 *	1.1086	0.68
J	3.5185	2.7273	0.7912	2.01	0.0489 *	1.5159	0.52

SB means suburbs

TS means townships

Relationally Aggressive Responses

H_O: There will be a difference between the mean scores for the SB and TS adolescents.

H_A: There will be no difference between the mean scores for the SB and TS adolescents.

Results

The alternative hypothesis is confirmed by the results for this aspect and the null hypothesis is therefore rejected. Table 4.11 below shows that the p-values are greater than 0.05 for all the relationally aggressive response items. It may be concluded therefore that the SB and TS adolescents do not differ in their level of preference for relationally aggressive responses. The results are not significant for all items K to Q.

Table 4.11: Difference in means scores between the SB and TS adolescents in relation to relationally aggressive responses (n = 60)

Item	SB	TS	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
K	1.2593	1.5455	-0.2862	-1.36	0.1804	0.8445	0.34
L	2.1852	2.5758	-0.3906	-1.00	0.3192	1.4979	0.26
M	1.9630	1.6364	0.3266	1.08	0.2841	1.1641	0.28
N	1.7778	1.6970	0.0808	0.34	0.7376	0.9251	0.09
P	1.8889	1.5455	0.3434	1.36	0.1788	0.9725	0.35
Q	1.8519	1.9394	-0.0875	-0.25	0.8032	1.3473	0.06

Overtly Aggressive Responses

H_O: There will be a difference between the mean scores for the SB and TS adolescents.

H_A: There will be no difference between the mean scores for the SB and TS adolescents.

Results

Based on the results of the analysis, the alternative hypothesis is confirmed and the null hypothesis is rejected. Table 4.12 below shows that the p-values are greater than 0.05 for all the overtly aggressive response items. Thus we may conclude that the SB and TS adolescents do not differ in their level of preference for overtly aggressive responses. The results are not significant for all items R to X.

Table 4.12: Difference in means scores between the SB and TS adolescents in relation to overtly aggressive responses (n = 60)

Item	SB	TS	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
R	2.0370	2.6061	-0.5690	-1.66	0.1017	1.3186	0.43
S	1.9259	1.3636	0.5623	1.89	0.0661	1.0946	0.51
T	2.5556	2.6970	-0.1414	-0.37	0.7147	1.4835	0.10
U	2.2963	2.6970	-0.4007	-1.15	0.2550	1.3429	0.30
V	3.0370	2.8182	0.2189	0.55	0.5865	1.5418	0.14
W	2.5556	2.3333	0.2222	0.62	0.5401	1.3896	0.16
X	2.1481	2.2727	-0.1246	-0.37	0.7103	1.2862	0.10

Mediocre Responses

H_O: There will be no difference between the mean scores for the SB and TS adolescents.

H_A: There will be a difference between the mean scores for the SB and TS adolescents.

Results

The results confirm the null hypothesis and the alternative hypothesis is thus rejected. Table 4.13 below shows that the p-values are greater than 0.05 for all the mediocre response items and thus we may conclude that the SB and TS adolescents do not differ in their level of preference for mediocre responses. The results are not significant for all items I to Z.

Table 4.13: Difference in means scores between the SB and TS adolescents in relation to mediocre responses (n = 60)

Item	SB	TS	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
I	3.1852	3.3333	-0.1481	-0.38	0.7059	1.5052	0.10
O	3.3333	3.1515	0.1818	0.46	0.6468	1.5214	0.12
Y	1.6667	1.4242	0.2424	0.99	0.3282	0.9474	0.26
Z	2.3333	2.7273	-0.3939	-1.14	0.2583	1.3297	0.30

4.3.2 Perceived Effectiveness of Responses

4.3.2.1 Age

Research Aim

To examine how age influences perceptions of responses made by Indian South African adolescents to problem situations.

Non-Violent Responses

H_O: There will be no difference between the mean scores for MA and LA individuals.

H_A: There will be a difference between the mean scores for MA and LA individuals.

Results

The alternative hypothesis is rejected and the null hypothesis is confirmed by the results of the analysis. Table 4.14 below shows that the p-values are greater than 0.05 for the majority of the non-violent response items. Thus we may conclude that there is no significant difference in the perceptions of the MA and LA individuals regarding the effectiveness of non-violent responses. The results are not significant for items A to H. Since the p-values are less than 0.05 for the non-violent response item J, we may conclude that there is a significant

difference in the perceptions of the MA and LA participants regarding the effectiveness of this non-violent response item. For non-violent response item J, a higher proportion of LA individuals rated this response as effective in resolving a problem situation in comparison to MA individuals.

Table 4.14: Difference in means scores between the MA and LA individuals in relation to perceived effectiveness of non-violent responses (n = 60)

Item	MA	LA	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
A	3.1111	3.0833	0.0278	0.10	0.9187	1.0288	0.03
B	2.8056	2.3750	0.4306	1.42	0.1622	1.1542	0.37
C	3.3056	3.7500	-0.4444	-1.31	0.1954	1.2875	0.35
D	4.3611	4.4583	-0.0972	-0.34	0.7350	1.0849	0.09
E	3.4167	2.9167	0.5000	1.43	0.1590	1.3299	0.38
F	3.2222	3.3333	-0.1111	-0.43	0.6682	0.9787	0.11
G	3.9722	4.1667	-0.1944	-0.67	0.5054	1.1010	0.18
H	3.4722	3.5417	-0.0694	-0.25	0.8042	1.0581	0.07
J	2.9444	3.5833	-0.6389	-2.04	0.0457 *	1.1870	0.54

Relationally Aggressive Responses

H_O: There will be a difference between the mean scores for MA and LA individuals.

H_A: There will be no difference between the mean scores for MA and LA individuals.

Results

The alternative hypothesis has been confirmed and the null hypothesis is rejected on the basis of the results. Table 4.15 below shows that the p-values are greater than 0.05 for all the relationally aggressive responses items. Consequently we conclude that there is no significant

difference in the perceptions of the MA and LA individuals regarding the effectiveness of relationally aggressive responses. The results are not significant for all items K to Q.

Table 4.15: Difference in means scores between the MA and LA individuals in relation to the perceived effectiveness of relationally aggressive responses (n = 60)

Item	MA	LA	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
K	1.6667	1.9167	-0.2500	-1.12	0.2686	0.8493	0.29
L	2.5556	2.2500	0.3056	1.00	0.3196	1.1551	0.26
M	1.8889	2.2500	-0.3611	-1.32	0.1904	1.0344	0.35
N	1.9722	2.2500	-0.2778	-0.94	0.3529	1.1255	0.25
P	2.1667	2.4583	-0.2917	-1.06	0.2925	1.0419	0.28
Q	1.9722	2.4583	-0.4861	-1.52	0.1328	1.2101	0.40

Overtly Aggressive Responses

H_O: There will be a difference between the mean scores for MA and LA individuals.

H_A: There will be no difference between the mean scores for MA and LA individuals.

Results

The alternative hypothesis is confirmed and the null hypothesis is rejected. Table 4.16 below shows that the p-values are greater than 0.05 for the majority of overtly aggressive response items, thus we may conclude that there is no significant difference in the perceptions of MA and LA individuals regarding the effectiveness of overtly aggressive responses. The results are not significant for items R, S, T and U. Since the p-values are less than 0.05, for the overtly aggressive response items W, X and V, we may conclude that there is a significant difference in the perceptions of MA and LA individuals regarding the effectiveness of these overtly aggressive response items. For these overtly aggressive response items W, X and V, a higher proportion of LA individuals in comparison to MA individuals, rated these responses

as effective in resolving problem situations. Table 4.16 also shows the effect size for all the responses R to X. The effect size scores for these responses reveal that there is a trend towards a higher rating of effectiveness for overtly aggressive responses among LA individuals in comparison to MA individuals.

Table 4.16: Difference in means scores between the MA and LA individuals in relation to the perceived effectiveness of overtly aggressive responses (n = 60)

Item	MA	LA	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
R	2.0833	2.5833	-0.5000	-1.49	0.1427	1.2770	0.39
S	1.9444	1.8333	0.1111	0.47	0.6433	0.9933	0.11
T	2.0278	2.5000	-0.4722	-1.46	0.1488	1.2245	0.39
U	2.0000	2.5833	-0.5833	-1.84	0.0707	1.2022	0.49
V	2.2222	2.8750	-0.6528	-2.27	0.0267 *	1.0895	0.60
W	1.9444	2.6250	-0.6806	-2.21	0.0343 *	1.0465	0.65
X	1.9167	2.7917	-0.8750	-3.32	0.0023 *	0.8974	0.98

Mediocre Responses

H_O: There will be no difference between the mean scores for MA and LA individuals.

H_A: There will be a difference between the mean scores for MA and LA individuals.

Results

Based on the results of the analysis, the alternative hypothesis has been rejected and the null hypothesis has been confirmed. Table 4.17 below shows that the p-values are greater than 0.05 for all the mediocre response items. It may be concluded that there is no significant difference in the perceptions of the MA and LA individuals regarding the effectiveness of mediocre responses. The results are not significant for all items I to Z.

Table 4.17: Difference in means scores between MA and LA individuals in relation to the perceived effectiveness of mediocre responses (n = 60)

Item	MA	LA	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
I	2.4444	2.4583	-0.0139	-0.06	0.9544	0.9177	0.02
O	2.8611	2.5833	0.2778	0.95	0.3485	1.1152	0.25
Y	1.9444	2.3750	-0.4306	-1.52	0.1361	0.9958	0.43
Z	2.3056	2.7917	-0.4861	-1.79	0.0787	1.0305	0.47

4.3.2.2 Gender

Research Aim

To examine how gender influences perceptions of responses made by Indian South African adolescents to problem situations.

Non-Violent Responses

H_O: There will be no difference between the mean scores for male and female adolescents.

H_A: There will be a difference between the mean scores for the male and female adolescents.

Results

Based on the results of the analysis, the alternative hypothesis has been rejected and the null hypothesis has been confirmed. Table 4.18 below shows that the p-values are greater than 0.05 for the majority of non-violent response items. Thus we may conclude that there is no significant difference in the perceptions of the male and female participants regarding the effectiveness of non-violent responses. The results are not significant for items B to H and J. Since the p-values are less than 0.05 for the non-violent response item A, we may conclude that there is a significant difference in the perceptions of male and female adolescents regarding the effectiveness of this non-violent response item. For non-violent response item

A, a higher proportion of the male adolescents rated this response as effective in resolving a problem situation in comparison to the female adolescents.

Table 4.18: Difference in means scores between the male and female adolescents in relation to the perceived effectiveness of non-violent responses (n = 60)

Item	Male	Female	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
A	3.3243	2.7391	0.5852	2.23	0.0295 *	0.9874	0.59
B	2.5405	2.7826	-0.2421	-0.71	0.4814	1.1678	0.21
C	3.4595	3.5217	-0.0623	-0.18	0.8581	1.3060	0.05
D	4.4054	4.3913	0.0141	0.05	0.9612	1.0859	0.01
E	3.0541	3.4783	-0.4242	-1.20	0.2369	1.3367	0.32
F	3.2973	3.2174	0.0799	0.31	0.7598	0.9795	0.08
G	4.1081	3.9565	0.1516	0.52	0.6066	1.1027	0.14
H	3.7027	3.1739	0.5288	1.94	0.0571	1.0258	0.52
J	3.3243	3.0000	0.3243	1.00	0.3203	1.2185	0.27

Relationally Aggressive Responses

H_O: There will be a difference between the mean scores for the male and female adolescents.

H_A: There will be no difference between the mean scores for the male and female adolescents.

Results

The alternative hypothesis has been confirmed by the analysis and the null hypothesis is thus rejected. Table 4.19 below shows that the p-values are greater than 0.05 for the majority of the relationally aggressive response items. It is concluded that there is no significant difference in the perceptions of the male and female adolescents regarding the effectiveness of relationally aggressive responses. The results are not significant for items K, L, M, N and

Q. Since the p-values are less than 0.05 for the non-violent response item P, there is a significant difference in the perceptions of the male and female adolescents regarding the effectiveness of this relationally aggressive response item. For relationally aggressive response item P, a significantly higher proportion of male adolescents rated this response as effective in resolving a problem situation in comparison to the female adolescents.

Table 4.19: Difference in means scores between the male and female adolescents in relation to the perceived effectiveness of relationally aggressive responses (n = 60)

Item	Male	Female	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
K	1.8378	1.6522	0.1857	0.82	0.4160	0.8534	0.22
L	2.4595	2.3913	0.0682	0.22	0.8263	1.1646	0.06
M	2.1081	1.9130	0.1951	0.70	0.4851	1.0455	0.19
N	2.2162	1.8696	0.3467	1.16	0.2489	1.1210	0.31
P	2.5676	1.8261	0.7415	3.20	0.0022 *	0.9860	0.75
Q	2.1622	2.1739	-0.0118	-0.04	0.9715	1.2341	0.01

Overtly Aggressive Responses

H_O: There will be no difference between the mean scores for the male and female adolescents.

H_A: There will be a difference between the mean scores for the male and female adolescents.

Results

The alternative hypothesis is rejected and the null hypothesis is accepted on the basis of the results obtained. Table 4.20 below shows that the p-values are greater than 0.05 for the majority of overtly aggressive response items. The researcher thus concludes that there is no significant difference in the perceptions of the male and female adolescents regarding the effectiveness of overtly aggressive responses. The results are not significant for items U, V,

W and X. Since the p-values are less than 0.05 for the overtly aggressive response items R, S and T, we may conclude that there is a significant difference in the perceptions of the male and female participants regarding the effectiveness of these overtly aggressive response items. For the overtly aggressive response items R, S and T, a higher proportion of the male adolescents rated these responses as effective in resolving problem situations in comparison to the female adolescents. Table 4.20 below also shows the effect size for all the responses from R to X. The effect size scores for these responses reveal that there is a trend towards a higher rating of effectiveness for overtly aggressive responses among the male adolescents in comparison to the female adolescents.

Table 4.20: Difference in means scores between the male and female adolescents in relation to the perceived effectiveness of overtly aggressive responses (n = 60)

Item	Male	Female	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
R	2.5946	1.7826	0.8120	2.47	0.0164 *	1.2376	0.66
S	2.0811	1.6087	0.4724	2.12	0.0389 *	0.9670	0.49
T	2.4865	1.7826	0.7039	2.54	0.0140 *	1.1974	0.59
U	2.2703	2.1739	0.0964	0.29	0.7701	1.2360	0.08
V	2.6216	2.2609	0.3608	1.21	0.2312	1.1229	0.32
W	2.2703	2.1304	0.1398	0.48	0.6332	1.0979	0.13
X	2.3514	2.1304	0.2209	0.84	0.4049	0.9917	0.22

Mediocre Responses

H_O: There will be a difference between the mean scores for the male and female adolescents.

H_A: There will be no difference between the mean scores for the male and female adolescents.

Results

The analysis results allow us to confirm the alternative hypothesis and the null hypothesis is therefore rejected. Table 4.21 shows that the p-values are greater than 0.05 for the majority of the mediocre response items. There is thus no significant difference in the perceptions of the male and female adolescents regarding the effectiveness of mediocre responses. Since the p-values are less than 0.05 for the mediocre response item Y, we may conclude that there is a significant difference in the perceptions of the male and female adolescents regarding the effectiveness of this mediocre response item. For the mediocre response item Y, a significantly higher proportion of the male adolescents rated this response as effective in resolving a problem situation when compared with the female adolescents.

Table 4.21: Difference in means scores between the male and female adolescents in relation to the perceived effectiveness of mediocre responses (n = 60)

Item	Male	Female	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
I	2.5676	2.2609	0.3067	1.28	0.2070	0.9051	0.34
O	2.7297	2.7826	-0.0529	-0.18	0.8599	1.1235	0.05
Y	2.3243	1.7826	0.5417	2.38	0.0206 *	0.9828	0.55
Z	2.6486	2.2609	0.3878	1.40	0.1660	1.0411	0.37

4.3.2.3 Residential Environment

Research Aim

To examine how residential environment influences perceptions of responses made by Indian South African adolescents to problem situations.

Non-Violent Responses

H_O: There will be no difference between the mean scores for the SB and TS adolescents.

H_A: There will be a difference between the mean scores for the SB and TS adolescents.

Results

The analysis of the relevant results indicates that the alternative hypothesis be rejected and the null hypothesis is thus confirmed. Table 4.22 below shows that the p-values are greater than 0.05 for all the non-violent responses items and thus we may conclude that there is no significant difference in the perceptions of the SB and TS adolescents regarding the effectiveness of non-violent responses. The results are not significant for all items A to J.

Table 4.22: Difference in means scores between the SB and TS groups in relation to the perceived effectiveness of non-violent responses (n = 60)

Item	SB	TS	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
A	2.9259	3.2424	-0.3165	-1.20	0.2350	1.0164	0.31
B	2.7778	2.5152	0.2626	0.87	0.3892	1.1664	0.23
C	3.4815	3.4848	-0.0033	-0.01	0.9921	1.3064	0.00
D	4.1852	4.5758	-0.3906	-1.41	0.1640	1.0678	0.37
E	3.3704	3.0909	0.2795	0.80	0.4268	1.3456	0.21
F	3.2593	3.2727	-0.0134	-0.05	0.9580	0.9802	0.01
G	4.1111	4.0000	0.1111	0.39	0.6995	1.1038	0.10
H	3.2593	3.6970	-0.4377	-1.56	0.1257	1.0352	0.42
J	3.1481	3.2424	-0.0943	-0.30	0.7684	1.2280	0.08

Relationally Aggressive Responses

H_O: There will be a difference between the mean scores for the SB and TS adolescents.

H_A: There will be no difference between the mean scores for the SB and TS adolescents.

Results

Based on the results of the analysis, the alternative hypothesis has been confirmed and the null hypothesis has been rejected. Table 4.23 below shows that the p-values are greater than 0.05 for all the relationally aggressive responses items. The researcher concludes that there is no significant difference in the perceptions of the SB and TS adolescents regarding the effectiveness of relationally aggressive responses. The results are not significant for all items K to Q.

Table 4.23: Difference in means scores between the SB and TS adolescents in relation to the perceived effectiveness of relationally aggressive responses (n = 60)

Item	SB	TS	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
K	1.8148	1.7273	0.0875	0.39	0.6954	0.8572	0.10
L	2.2963	2.5455	-0.2492	-0.83	0.4105	1.1583	0.22
M	2.2963	1.8182	0.4781	1.80	0.0765	1.0217	0.47
N	1.9630	2.1818	-0.2189	-0.75	0.4579	1.1286	0.19
P	2.4444	2.1515	0.2929	1.08	0.2829	1.0415	0.28
Q	2.1111	2.2121	-0.1010	-0.32	0.7534	1.2330	0.08

Overtly Aggressive Responses

H_O: There will be no difference between the mean scores for the SB and TS adolescents.

H_A: There will be a difference between the mean scores for the SB and TS adolescents.

Results

The conclusion from these results is that the alternative hypothesis be rejected and the null hypothesis be confirmed. Table 4.24 below shows that the p-values are greater than 0.05 for all the overtly aggressive responses items. We therefore conclude that there is no significant

difference in the perceptions of the SB and TS adolescents regarding the effectiveness of overtly aggressive responses. The results are not significant for all items R to X.

Table 4.24: Difference in means scores between the SB and TS adolescents in relation to the perceived effectiveness of overtly aggressive responses (n = 60)

Item	SB	TS	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
R	2.2222	2.3333	-0.1111	-0.33	0.7430	1.2999	0.09
S	1.8889	1.9091	-0.0202	-0.08	0.9379	0.9948	0.02
T	2.0741	2.3333	-0.2593	-0.81	0.4237	1.2400	0.21
U	2.1852	2.2727	-0.0875	-0.27	0.7859	1.2361	0.07
V	2.4444	2.5152	-0.0707	-0.24	0.8114	1.1365	0.06
W	2.5185	1.9697	0.5488	1.90	0.0646	1.0644	0.52
X	2.2593	2.2727	-0.0135	-0.05	0.9587	0.9977	0.01

Mediocre Responses

H_O: There will be no difference between the mean scores for the SB and TS adolescents.

H_A: There will be a difference between the mean scores for the SB and TS adolescents.

Results

The alternative hypothesis has been rejected and the null hypothesis has been confirmed by the analysis results. Table 4.25 below shows that the p-values are greater than 0.05 for all the mediocre responses items and there is thus no significant difference in the perceptions of the SB and TS adolescents regarding the effectiveness of mediocre responses. The results are not significant for items I, O Y and Z.

Table 4.25: Difference in means scores between the SB and TS adolescents in relation to the perceived effectiveness of mediocre responses (n = 60)

Item	SB	TS	Diff (1-2)	t Value	Pr > |t|	Std Dev	Effect Size
I	2.3704	2.5152	-0.1448	-0.61	0.5443	0.9148	0.16
O	2.6667	2.8182	-0.1515	-0.52	0.6045	1.1212	0.14
Y	2.0370	2.1818	-0.1448	-0.55	0.5850	1.0160	0.14
Z	2.5185	2.4848	0.0337	0.12	0.9029	1.0585	0.03

4.3.3 Tabulated Summary of the Results

The two tables below provide a summary of the *t*-test and effect size results in relation to each variable and the nature of the response. Table 4.26 includes the results for response preference while Table 4.27 shows the results for the perceived effectiveness of the responses. Both tables also provide the outcome ratios of statistically significant results to statistically non-significant results.

Table 4.26: Composite table of analysed data (preference for responses)

Variable	Nature of Response	Outcome Ratio of Statistically Significant Results to Non-significant Results
Age	Non-violent	0:9
	Relationally aggressive	0:6
	Overtly aggressive	2:5
	Mediocre	0:4
Gender	Non-violent	0:9
	Relationally aggressive	0:6
	Overtly aggressive	3:4
	Mediocre	0:4
Residential Environment	Non-violent	2:7
	Relationally aggressive	0:6
	Overtly aggressive	0:7
	Mediocre	0:4

Table 4.27: Composite table of analysed data (perceived effectiveness of responses)

Variable	Nature of Response	Outcome Ratio of Statistically Significant Results to Non-significant Results
Age	Non-violent	1:8
	Relationally aggressive	0:6
	Overtly aggressive	3:4
	Mediocre	0:4
Gender	Non-violent	1:8
	Relationally aggressive	1:5
	Overtly aggressive	3:4
	Mediocre	1:3
Residential Environment	Non-violent	0:9
	Relationally aggressive	0:6
	Overtly aggressive	0:7
	Mediocre	0:4

4.4 Chi-Square Test Results

The study used Chi-Square tests to assess the associations between the demographic variables (gender, age and residential environment) in the study. The tests were conducted through cross-tabulations which displayed cell frequencies of demographic variable pairs. Table 4.28 below displays the Chi-Square test results for the demographic factors age, gender and residential environment. The non-significant Chi-Square values suggest that there is no association between gender and age, gender and residential environment, and between age and residential environment in this sample. Thus, certain comparisons could not be made. For example, the female middle adolescents from a township environment compared to female middle adolescents from a suburban environment compared to male middle adolescents from a township environment compared to male middle adolescents from a suburban environment for overtly aggressive responses. The p-values for the Chi-Square tests are all greater than the 0.05 level of significance. This indicates that there is no association between the variables. Therefore, the statistical inference of this relational analysis indicates that the results obtained are not a product of chance and that the conclusions from the study are empirically verified.

Table 4.28: Chi-Square Test results

Variables	DF	Value	Prob
Gender by Age	1	0.0118	0.9137
Gender by Residential Environment	1	0.1204	0.7286
Age by Residential Environment	1	0.0112	0.9156

Table 4.29 shows the cross tabulations between gender and age. There are more MA males (36.67%) and fewer LA females (15%), as shown in this table.

Table 4.29: Cross tabulation (gender by age)

	MA	LA	Total
Male			
Frequency	22	15	37
Percent	**36.67**	25.00	61.67
Row Pct	59.46	40.54	
Col Pct	61.11	62.50	
Female			
Frequency	14	9	23
Percent	23.33	**15.00**	38.33
Row Pct	60.87	39.13	
Col Pct	38.89	37.50	
Total	36	24	60
	60.00	40.00	100.00

Table 4.30 below shows the cross tabulations between gender and residential environment. Most of the male participants (35%) reside in a township while only 18.33% of the female participants come from suburban areas, as shown in this table.

Table 4.30: Cross tabulation (gender by residential environment)

	SB	TS	Total
Male			
Frequency	16	21	37
Percent	26.67	**35.00**	61.67
Row Pct	43.24	56.76	
Col Pct	59.26	63.64	
Female			
Frequency	11	12	23
Percent	**18.33**	20.00	38.33
Row Pct	47.83	52.17	
Col Pct	40.74	36.36	
Total	27	33	60
	45.00	55.00	100.00

The cross tabulations between age and residential environment are found in Table 4.31 below. A little over 33% of the MA participants come from a township environment and a little over 18% of the LA participants are from suburban areas.

Table 4.31: Cross tabulation (age by residential environment)

	SB	**TS**	**Total**
MA			
Frequency	16	20	36
Percent	26.67	**33.33**	60.00
Row Pct	44.44	55.56	
Col Pct	59.26	60.61	
LA			
Frequency	11	13	24
Percent	**18.33**	21.67	40.00
Row Pct	45.83	54.17	
Col Pct	40.74	39.39	
Total	27	33	60
	45.00	55.00	100.00

4.5 Conclusion

The comparative analysis of the demographic categories did not produce any results of statistical significance, thus indicating that there is no difference in the preferences and perceptions of the demographic categories (males versus females, TS versus SB adolescents, and MA versus LA individuals) that were compared against each other. However, upon further analysis of these results, a trend towards a higher level of preference for overtly aggressive responses among LA individuals and males, in comparison to MA individuals and females respectively, was identified. A similar trend was identified for the same demographic categories when comparing perceptions regarding the effectiveness of overtly aggressive responses in resolving problem situations. The remainder of the results from the additional analyses are similar to the findings of the initial analyses.

Chapter Five: Discussion of Findings

5.1 Summary of the Study

5.1.1 Aims of the Study

The purpose of this study was to explore the tendency South African Indian adolescents have to adopt the different types of responses (non-violent, overtly aggressive, relationally aggressive and mediocre) that are commonly used to resolve typical problem situations that adolescents face in the school setting. The research sought to explore the perceptions that these adolescents hold concerning the applicability of these responses. This study aimed to examine how the associating demographic factors (gender, age and residential environment) of the adolescents influence their preference for certain common responses and their perceptions concerning the effectiveness of these responses to resolve typical problem situations.

5.1.2 Methodology

In order to address the research questions of this study, a non-experimental field study research design was selected. The purposive sampling technique was utilised to select participants. The research instrument, which was a closed-ended questionnaire, was utilised to obtain self-reported information from participants. This information was coded and analysed using an analysis software package. As the aim of the study was to explore the influence that demographic factors have on the preferences and perceptions of adolescents, a comparative analysis was deemed best to address this. Each demographic factor was considered in terms of two categories, for example, the gender split of males and females. A comparative analysis of the preferences and perceptions of males and females was conducted to determine if there is a difference in their preferences and perceptions. Through this comparative analysis, the study explored the influence gender has on the preferences and

perceptions of adolescents. The same type of analysis was conducted for the other two demographic factors: residential environment, which was split into SB and TS adolescents, and age, which was split into MA and LA individuals.

5.1.3 Results

These are the research questions that were formulated for this study:

> How do gender, age and residential environment influence the responses made by Indian South African adolescents to problem situations in the Gauteng school setting?
>
> How do gender, age and residential environment influence perceptions of responses made by Indian South African adolescents to problem situations in the Gauteng school setting?

The results of this study in relation to the research questions stated above indicated that the demographic categories (gender, age and residential environment) did not influence preferences and perceptions concerning the various types of responses (overtly aggressive, relationally aggressive, nonviolent and mediocre), as no results of statistical significance were detected through the comparative analysis. To elaborate further, there were no stark differences in the responses given by Indian adolescents belonging to different demographic categories, concerning their preferences and perceptions for the various types of responses that could be utilised to resolve problem situations in the Gauteng school setting.

Upon further analysis, a trend towards a higher level of preference for overtly aggressive responses among LA individuals and males, in comparison to MA individuals and females respectively, were detected. A similar trend was identified for the same demographic categories when comparing perceptions regarding the effectiveness of overtly aggressive responses in resolving problem situations. Given that no results of statistical significance were detected and only after further analysis were the trends stated above identified, caution should be taken on what conclusions can be drawn from such trends. Nonetheless these trends warrant further research concerning the relationship between the variables implicated

in these trends, as these trends could have implications for Indian adolescents in the Gauteng school setting.

5.2 Findings

5.2.1 Findings with regard to the first aim: To examine how gender, age and residential environment influence the responses made by Indian South African adolescents to problem situations in the school setting.

The findings of this study reveal that the MA and LA individuals who participated do not differ in their level of preference for relationally aggressive responses. This finding is in contrast to the findings of a study by Sousa et al. (2010) which is reported on in the literature review. Sousa et al. (2010) research reveals that the preference for relationally aggressive responses increases across adolescence.

The findings of this study also indicate that male and female adolescents do not differ in the level of preference for relationally aggressive responses. This finding is consistent with the findings of the meta-analytical study by Card et al. (2008), as reported in the literature review. The findings of Card et al. (2008) study reveal that there is no significant difference in the level of preference for relationally aggressive responses between male and female adolescents. However, the findings of this study with Indian South African adolescents and Card et al. (2008) study are in contrast to the findings of two other studies by Crick and Grotpeter (1995) and Smith et al. (2009). The findings of Crick and Grotpeter (1995) and Smith et al. (2009) studies reveal that female adolescents have a higher level of preference for relationally aggressive responses in comparison to male adolescents.

Concerning the influence of the residential environment, the findings of this study reveal that SB and TS Indian South African adolescents do not differ in their level of preference for relationally aggressive responses. This finding is consistent with the findings of the study by Herrenkohl et al. (2007) reported on in the literature review. Herrenkohl et al. (2007) study

indicate that the neighbourhood context does not have an influence on the level of preference for relationally aggressive responses among adolescents. The findings of this study with Indian adolescents and Herrenkohl et al. (2007) study are in contrast with the finding of Jansen et al. (2012) study. Jansen et al. (2012) study reveal that youth from disadvantaged residential environments have a higher level of preference for relational aggression in comparison to youth from more relatively advantaged residential environments.

The analysis on the influence of gender, age and residential environment on the level of preference for relationally aggressive responses among Indian adolescents has produced results that are in contrast to the majority of studies reported on which deal with relational aggression among youths. According to Redden (2013), there has been a shift in the preference for relationally aggressive responses among adolescents in recent times. Adolescent cohorts who previously displayed a lower level of preference for relationally aggressive responses appear to now utilise relationally aggressive responses as much as those adolescent cohorts who were previously thought to display an exclusive level of preference for relationally aggressive responses. Redden (2013) attributes this shift in preference to the emergence of social media. The introduction of advanced technology such as mobile phones facilitates easy accessibility to social media and this provides an alternative medium through which relational aggression can be perpetrated (Razmjoee et al., 2015). In recent times electronic aggression has become so far reaching and pervasive that it is now considered by the Centers for Disease Control and Prevention in the USA as an emerging heath risk for youths (Stejskal, 2010).

The findings of this study reveal that MA and LA individuals do not differ in their level of preference for overtly aggressive responses. This finding is consistent with the findings of a study conducted by Toldos (2005, cited in Willemse, 2008) which is reported on in the literature review. Toldoss' (2005, cited in Willemse, 2008) study reveals that there is no significant difference in the level of preference for overtly aggressive responses across adolescence. Toldos (2005, cited in Willemse, 2008) study was conducted on a sample in Spain. While there may not be a significant difference in preferences for overtly aggressive responses, there is a trend towards a higher preference for overtly aggressive responses among LA individuals in comparison to MA individuals in this study with Indian South

African youths. This pattern is also observable in the findings of another study conducted by Bailey (2011) in Jamaica. Bailey's (2011) study revealed that LA individuals have a higher level of preference for overtly aggressive responses in comparison to MA individuals.

However, this pattern identified in Bailey's (2011) study and in this study with Indian South African youths is in contrast to the findings of the study mentioned earlier by Toldos (2005, cited in Willemse, 2008) and two other studies by Lindeman et al. (1997) and Sousa et al. (2010). The studies by Lindeman et al. (1997) (conducted on a sample in Finland) and Sousa et al. (2010) (conducted on a sample in Portugal) indicate that MA individuals have a higher level of preference for overtly aggressive responses in comparison to LA individuals. The findings of this research with Indian South African youths and Bailey's (2011) study differ from the findings of Toldos (2005, cited in Willemse, 2008), Lindeman et al. (1997) and Sousa et al. (2010) studies and this could be due to contextual factors. The United Nations Office on Drugs and Crime (UNODC, 2013) reports that in 2012 the recorded murder rate for South Africa was 31 per 100 000 people in the nation's population and in Jamaica it was 39.3 per 100 000. In the same year the recorded murder rate for Spain was 0.8 per 100 000, Portugal was 1.2 per 100 000 and Finland was 1.6 per 100 000 of the population (UNODC, 2013). The frequency of violence in South Africa and Jamaica is thus considerably higher than the frequency of violence in Finland, Spain and Portugal (UNODC, 2013).

With the frequency of violence being so high, it is plausible to assume that LA individuals as a result of their age would have been exposed to violence over a longer period. Through such extended exposure to violence, LA individuals may have developed a greater preference for overt aggression than MA individuals in South Africa and Jamaica. The following studies lend support to such an assumption. A study by Weist et al. (2001) reveals that there is a positive correlation between 'increased age' and increased exposure to violence among adolescents. Studies by Bell and Jenkins (1993) and Langhinrichsen-Rohling and Neidig (1995) (both cited in Carr, 2004) reveal that frequent exposure to overt aggression was associated with an increased propensity to utilise overtly aggressive responses to resolve conflicts.

The findings of this study with Indian South African adolescents also reveal that male and female adolescents do not differ in their level of preference for overtly aggressive responses. This finding is consistent with the findings of a study by Shute and Charlton (2006) that was reported in the literature review. Shute and Charltons' (2006) study reveal that there is no significant difference in the level of preference for overtly aggressive responses between male and female adolescents. While there may not be a significant difference in preference for overtly aggressive responses, there is however a trend towards a higher preference for overtly aggressive responses among males in comparison to females in this study with Indian South African youths. This pattern tends to be consistent with the findings of two other studies by Card et al. (2008) and Skara et al. (2008) that is reported on in the literature review. The tenets of the Integrated Gender-Linked Model of Aggression Subtypes by Ostrov and Godleskis (2010, cited in Lafko, 2015) are also consistent with the researcher's findings for Indian South African adolescents.

The findings of the studies by Card et al. (2008) and Skara et al. (2008), reveal that overt aggression is more prevalent among male youths in comparison to female youths. The Integrated Gender-Linked Model of Aggression Subtypes by Ostrov and Godleskis (2010, cited in Lafko, 2015) proposes that gender schemas influence the type of aggression that youths engage in. In accordance with this theoretical model, certain features of overt aggression fit into the male gender schema (Lafko, 2015). Generally males are socialised to become domineering and physically aggressive (Kotze, 2007). In South Africa, a common factor that has linked all versions of masculinity is their violent character (Dunaiski, 2013). This violent masculinity prescribes the use of violence to obtain and defend power (Dunaiski, 2013), thus overt aggression fits into the male gender schema.

The findings of this study also show that SB and TS adolescents do not differ in their level of preference for overtly aggressive responses. This finding is consistent with the findings of a study by Caicedo and Jones (2014) that was reported on in the literature review. Caicedo and Jones (2014) conducted their study in Columbia and they found that the neighbourhood context did not have an influence on the level of preference for overtly aggressive responses among the adolescent participants. However, the finding of this study which included Indian South African youths is in contrast to the findings of Beyers et al. (2001) study which were

mentioned in the literature review. Beyers et al. (2001) study was conducted in the US. Beyers et al. (2001) study indicated that adolescents who reside in disadvantaged neighbourhoods have a higher level of preference for overtly aggressive responses compared to adolescents living in relatively more advantaged neighbourhoods.

The differences in the findings of this study and Caicedo and Jones' (2014) research in comparison to the findings of Beyers et al. (2001) study could be due to contextual factors. Violence in South Africa and Columbia is pervasive but appears to be less pervasive in the US by comparison when looking at the UNODC (2013) report. In 2012, the recorded murder rate for South Africa was 31 per 100 000 people in the population and in Columbia it was 30.8 per 100 000. In the same year, the recorded murder rate for the USA was 4.7 per 100 000 of the population (UNODC, 2013). These statistics reveal the pervasive nature of violence in South Africa and Columbia and, with violence being so pervasive, it is unlikely that the majority of relatively advantaged neighbourhoods are free from the effects of violence. It is possible that the level of exposure to violence in advantaged and disadvantaged neighbourhoods in South Africa is not vastly different but it is certainly relevant. This could account for the similar levels of preference for overtly aggressive responses among TS and SB adolescents in this study.

The following studies by Bell and Jenkins (1993, cited in Carr, 2004), Langhinrichsen-Rohling and Neidig (1995, cited in Carr, 2004) and Gardner et al. (2003) lend support to the pattern of association for exposure to violence and preference for overtly aggressive responses that was observed in this study with Indian South African adolescents and in Caicedo and Jones' (2014) study. These studies indicate that frequent exposure to overt aggression is associated with an increased propensity to utilise overt aggression to resolve conflict (Bell & Jenkins, 1993 cited in Carr, 2004; Langhinrichsen-Rohling & Neidig, 1995, cited in Carr, 2004; Gardner et al. 2003).

As can be noted from the research results of this study, the MA and LA Indian South African participants do not appear to differ in the level of preference for non-violent responses. This is consistent with the findings of a meta-analytical study conducted by Eisenberg and Fabes

(1998, cited in Damon & Eisenberg, 2006). There are some studies on the association between empathy and prosocial behaviour that supports the findings of this study with Indian South African youths and Eisenberg and Fabess' (1998, cited in Damon & Eisenberg, 2006) study to some extent. An example of such studies is that by Underwood and Moore (1982, cited in Garaigordobil, 2009), which revealed that there was an association between empathy and prosocial behaviour during adolescence. Another study by Mestre et al. (2004, cited in Garaigordobil, 2009) reveals that the level of empathy did not change across adolescence. Since there is an association between empathy and prosocial behaviour during adolescence and this level of empathy remained constant across adolescence, these findings lend support to the findings of this study with Indian South African youths and Eisenberg and Fabess' (1998, cited in Damon & Eisenberg, 2006) study.

The finding of this study with Indian South African youths and Eisenberg and Fabess' (1998, cited in Damon & Eisenberg, 2006) study.is, however, in contrast to the findings of another meta-analytical review of previous studies conducted by Laursen et al. (2001), which shows that the pattern of preference for non-violent conflict resolution strategies increases as the adolescent gets older.

Indian South African male and female adolescents do not appear to differ in the level of preference for non-violent responses according to the results of this research. This finding is consistent with Shute and Charlton's (2006) study described in the literature review. Shute and Charltons' (2006) study reveal that there is no difference in the level of preference for non-violent responses between male and female adolescents. The finding of this study is however in contrast to the findings of a study by Alexander (2001), also referred to in the literature review chapter. Alexander's (2001) study revealed that the female participants have a higher level of preference for non-violent responses than the males. The findings of this research with Indian South African youths and Shute and Charlton's (2006) study differ from the findings of Alexander's (2001) study and this could be due to the way in which gender roles have evolved and changed over time.

Alexander's (2001) study was conducted in the early 2000s, whereas Shute and Charlton's (2006) study was conducted a few years later and the current study with Indian South African youths was conducted very recently. Thus it is possible that changing gender roles have had an impact on the level of preference for non-violent responses. This study with Indian South African adolescents and the study by Card et al. (2008) also reveal that there is no significant difference in the level of preference for relationally aggressive responses between male and female adolescents. Ostrov and Godleskis' (2010, cited in Lafko, 2015) Integrated Gender-Linked Model of Aggression Subtypes proposes that gender schemas influence the type of aggression that youths engage in. In accordance with this theoretical model, certain features of relational aggression fit into the female gender schema (Lafko, 2015). Certain features of prosocial non-violent responses such as social maturity (Nel, 2006) and maintaining harmonious relations (Lafko, 2015) also fit into the female gender schema. However, there is no significant difference in the level of preference for relationally aggressive responses and non-violent responses between the male and female participants in this study with Indian South African adolescents, thus indicating a shift away from the typical responses associated with the female gender schema for the female participants in this study. Shute and Charlton (2006) attribute this shift in the type of responses that female adolescents are utilising to resolve conflicts with their peers as a sign of changing gender roles in society.

The findings of this study show that SB and TS adolescents do not differ in their level of preference for non-violent responses. This is consistent with the findings of the study by Renzaho and Karantzas (2010) that was reported on in the literature review. Renzaho and Karantzas's (2010) study revealed that neighbourhood context did not have an influence on the level of preference for non-violent responses among youths. The finding of this study is in contrast to the finding of another study by Lenzi et al. (2011) mentioned in the literature review. Lenzi et al. (2011) found that adolescents who reside in advantaged neighbourhoods have a higher level of preference for non-violent responses when compared to adolescents who reside in relatively more disadvantaged neighbourhoods.

The researcher found that the Indian South African MA and LA participants do not differ in the level of preference for mediocre responses. The finding of this study is in contrast to the

findings of two other studies by Leyva and Furth (1986) and Thayer et al. (2008). These studies are reported on in the literature review and they both found a negative correlation between age and the use of mediocre responses among adolescents (Leyva & Furth, 1986; Thayer et al., 2008).

The findings of this study also reveal that the male and female adolescent participants do not differ in the level of preference for mediocre responses. This finding is consistent with the findings of the study by Thayer et al. (2008). The findings of the study by Thayer et al. (2008) reveal that there is no difference in the level of preference for mediocre responses between male and female adolescents. However, the findings of this study with Indian adolescents and Thayer et al. (2008) research are in contrast to the findings of another study by Ayas et al. (2010) that was reported on in the literature review. Ayas et al. (2010) noted that females have a higher level of preference for mediocre responses than the male participants.

SB and TS Indian South African adolescents do not seem to differ in the level of preference for mediocre responses, as seen in the research results. The finding of this study is in contrast to the finding of a study by Finkelstein et al. (2007) that was reported in the literature review. Finkelstein et al. (2007) study revealed that adolescents who reside in disadvantaged neighbourhoods have a higher level of preference for mediocre responses when compared to adolescents that reside in relatively more advantaged neighbourhoods.

5.2.2 Findings with regard to the second aim: To examine how gender, age and residential environment influence perceptions of responses made by Indian South African adolescents to problem situations.

The findings of this study reveal that MA and LA individuals do not differ in perceptions of the effectiveness of relationally aggressive responses. This finding is consistent with the findings of the study by Johnson et al. (2013) which shows that MA and LA individuals hold similar perceptions concerning the impact of relationally aggressive responses.

The findings of this study reveal that male and female adolescents do not differ in perceptions of the effectiveness of relationally aggressive responses. This finding is consistent with the findings of a study by Krahé and Busching (2014) that was reported in the literature review. Krahé and Buschings' (2014) study reveal that there is no association between gender differences and perceptions about relationally aggressive responses among youths. The findings of this study and Krahé and Buschings' (2014) study are in contrast to the findings of a study by Russell et al. (2010). In Russell et al. (2010) study, a higher proportion of female youths perceived relationally aggressive responses as more impactful in comparison to male youths.

The results of the survey-based research among the Indian South African youths reveals that SB and TS adolescents do not differ in perceptions of the effectiveness of relationally aggressive responses. This finding is consistent with the findings of two studies by Cillessen and Mayeux (2004) and Farmer and Xie (2007) (both cited in Waasdorp et al., 2013) which are mentioned in the literature review. These studies (Cillessen & Mayeux, 2004; Farmer & Xie, 2007, cited in Waasdorp et al., 2013) indicate that youths of various residential backgrounds (disadvantaged and advantaged) hold similar perceptions concerning the effectiveness of relationally aggressive responses.

The findings of this study reveal that the MA and LA Indian South African participants do not differ in their perceptions of the effectiveness of overtly aggressive responses. This finding is consistent with the findings of Shapiro et al. (1998). Shapiro et al. (1998) study revealed that the MA and LA participants held similar attitudes concerning overtly aggressive responses. There may not have been a significant difference in perceptions concerning overtly aggressive responses but there is, however, a trend towards a higher rating of effectiveness for overtly aggressive responses among LA individuals in comparison to MA individuals in this study with Indian South African youths. This pattern is also observable in the findings of Bailey's (2011) research. Bailey (2011) found that older adolescents, who are exposed to violence for a longer time than younger adolescents due to their age, hold attitudes that are more supportive towards the use of overt aggression to resolve problem situations, when compared to the attitudes of younger adolescents.

As mentioned earlier, Weist et al. (2001) study reveals that there is a positive correlation between 'increased age' and increased exposure to violence among adolescents. Increased exposure to violence leads to the internalisation of this behaviour and when this occurs, violence is perceived as a culturally acceptable behaviour (Pelser, 2008). It is plausible to assume that as a result of older adolescents being exposed to violence for a longer duration, they may have been harbouring violence related attitudes for a longer duration and this could lead to the crystallisation of violence related attitudes. According to Cooper et al. (2015), crystallised attitudes are more resistant to change.

The male and female adolescent participants in this research appear not to differ in their perceptions of the effectiveness of overtly aggressive responses. While there may not be a significant difference in perceptions concerning overtly aggressive responses, there is however a trend towards a higher rating of effectiveness for overtly aggressive responses among males in comparison to females in this study with Indian South African youths. This pattern is consistent with Shapiro et al. (1998) research. Shapiro et al. (1998) study indicate that male adolescents hold perceptions that are more supportive towards the use of overtly aggressive responses compared to female adolescents. The findings of a qualitative study conducted by Govender (2011) on a sample of male South African adolescents are somewhat supportive of the findings from this study with Indian adolescents and Shapiro et al. (1998) research. The male participants in Govender's (2011) study believed that overtly aggressive behaviour would enhance their reputation and shield them against any physical and emotional abuse.

This study found that SB and TS adolescents do not differ in perceptions of the effectiveness of overtly aggressive responses. This finding is in contrast to the findings of Guerra et al. (1995) as reported on in the literature review. Guerra et al. (1995) study revealed that adolescents who reside in disadvantaged neighbourhoods held perceptions that were more supportive towards the use of overtly aggressive responses when compared to adolescents who reside in relatively more advantaged neighbourhoods. Guerra et al. (1995) study was conducted in the US.

As mentioned earlier, violence in South Africa is pervasive but appears to be less pervasive in the US by comparison when looking at the UNODC (2013) report. With violence being so pervasive, it is unlikely that the majority of relatively advantaged neighbourhoods are free from the effects of violence. It is possible that the level of exposure to violence in advantaged and disadvantaged neighbourhoods in South Africa is not vastly different but it is certainly relevant. This could account for the similar perceptions regarding the effectiveness of overtly aggressive responses among TS and SB adolescents in this study. The tenets of Bandura's (1973, cited in Gudyanga et al., 2015) Social Learning Theory offers an explanation as to why certain residential environments influence adolescents' perceptions towards overtly aggressive responses. According to Bandura's Social Learning Theory (1973, cited in Gudyanga et al., 2015), an individual learns through observation. Through observing violence, children perceive violence as an effective, normal and justified way to resolve conflict (Cooley-Strickland et al., 2009).

The findings of this study reveal that MA and LA individuals do not differ in perceptions of the effectiveness of non-violent responses. The finding of this study is in contrast to the findings of two studies, Carlo et al. (1992) and Eisenberg et al. (1991) (cited in Linderman et al., 1997), in which perceptions supporting non-violence increased as adolescents got older due to the development of higher-order moral reasoning.

The findings of this study show that the Indian South African male and female adolescent participants do not differ in their perceptions of the effectiveness of non-violent responses. This finding is in contrast with the findings of a study by Preisser (1989). Preisser's (1989) study revealed that female adolescents held perceptions that were more supportive towards the use of non-violent responses in comparison to male adolescents.

The Indian South African participants in this study do not differ in their perceptions of the effectiveness of non-violent responses, regardless of their residential background (SB or TS). This finding differs from that of Vernberg et al. (1999, cited in Carr, 2004) who noted that youths who reside in environments where they are frequently exposed to violence (such as TS

areas) are more likely to disregard the use of non-violent conflict resolution strategies as they feel they would not be effective in resolving interpersonal conflict.

The findings of this study reveal that the MA and LA participants do not differ in perceptions of the effectiveness of mediocre responses. The findings of this study also indicate that Indian South African male and female adolescents do not differ in the perceptions of the effectiveness of mediocre responses and that the same is true for SB and TS adolescents.

In this study there seems to be an association between the level of preference for the different responses (non-violent, overtly aggressive, relationally aggressive and mediocre) and the perceived effectiveness of these responses when making comparisons for each demographic variable category within each demographic variable. For example, there is no significant difference in the level of preference for overtly aggressive responses between the male and female adolescents. However, there is a trend towards a higher preference for overtly aggressive responses among the Indian South African male adolescent participants in comparison to the females. The results for perceptions that the male and female adolescents hold regarding the effectiveness of overtly aggressive responses is similar to the pattern of results for their preference for these responses because there is no significant difference in the perceptions of the male and female participants regarding the effectiveness of overtly aggressive responses. Nevertheless, there is a trend towards a higher rating of effectiveness for overtly aggressive responses among the male adolescent participants in comparison to the female adolescents.

Similar associations are apparent between the preference for responses and perceived effectiveness of responses for the various demographic variable categories (males vs females, LA vs MA individuals, SB vs TS adolescents) within each demographic variable (gender, residential environment and age). These associations show that the level of preference for the various responses and the rating of the perceived effectiveness of these various responses are directly related. This pattern of association is consistent with Ajzen's (1989, cited in Ali et al., 2011) Theory of Planned Behaviour. According to the Theory of Planned Behaviour, an individual's intentions form the basis for their actions and these intentions are influenced by

their attitudes and perceptions towards a particular behaviour (Ajzen, 1989, cited in Ali et al., 2011). In this study, it seems that the participants' perceptions of the various responses are directly related to their preference for these responses. It is thus plausible to assume that the participants' perceptions concerning the effectiveness of the various responses influence their preference for these responses.

5.3 Conclusion

The findings of this study, which concerns the association between Indian South African adolescents' perceptions of the effectiveness of certain responses and their level of preference for utilising those responses to resolve problem situations, reiterate the importance of understanding adolescents' perceptions concerning the variety of responses that they use and could use to resolve problem situations. This pattern of association also supports the relevance of Ajzen's (1989, cited in Ali et al., 2011) Theory of Planned Behaviour in understanding the association between cognitions and behaviour.

Through comparing the findings of this study with the findings of other studies reported on in the literature review, similarities as well as differences were highlighted. What is apparent in this comparative analysis is that the nature of youth violence in developing countries, where violence is pervasive and frequent, is distinct and somewhat unique in comparison to the nature of youth violence in developed countries where violence is less pervasive and infrequent. This has implications concerning the applicability of the findings of studies conducted in the developed world to youth violence in the developing world. Thus there is a pressing need for a context-specific assessment of youth violence at the country level.

The risk factors implicated in school violence are not static, they co-occur and interact. Violence is often the product of the interaction between the individual and risk factors that are context specific (Bushman et al., 2016). Thus it would be illogical to seek a causal connection between a single variable and adolescent violence. Studies on adolescent violence should rather adopt an ecological approach so as to consider the multitude of factors that shape behaviour. The results of this study, in comparison to previous studies, has shown that

the way in which adolescents respond when faced with problem situations will continuously change and adapt to the transforming context as we move into an era where technology (social media), culture (gender roles) and social conditions are changing the type of problem situations adolescents face. It is vital to recognise that these factors greatly determine how adolescents respond to problem situations in our times.

5.4 Limitations of the Study

One of the limitations of this study is the small sample size. Due to this limitation, the results of this study must be interpreted carefully. Another limitation of this study is that a self-report technique was utilised to obtain information from learners. The self-reported data concerning learners' preferences and perceptions was obtained by using a closed-ended questionnaire. When information is obtained in this manner, there is always the possibility of social desirability bias and the results of this study must be interpreted with care.

Regarding aggressive and non-violent responses that could be utilised to resolve problem situations in the school setting, there seems to be a lack of research in South Africa on adolescents' preferences and perceptions towards these responses. Internationally, studies on adolescents' preference for non-violent responses and their perceptions towards such responses are also scarce. The lack of similar research is a limitation as some of the results in this study cannot be corroborated with findings of previous studies.

5.5 Recommendations

In this study there seems to be an association between the level of preference for the different responses (non-violent, overtly aggressive, relationally aggressive and mediocre) and the perceived effectiveness of these responses when making comparisons for each demographic category within each demographic variable. These associations show that the level of preference for the various responses and the rating of the perceived effectiveness of these various responses are directly related. This pattern of association reiterates the importance of analysing adolescent perceptions concerning conflict resolution strategies. Such an analysis

could provide valuable information for designing interventions that target adolescents' perceptions concerning conflict resolution strategies. These interventions would be practical as they focus on targets (cognitions) that are amenable to change rather than focusing on issues which would be more difficult to change such as poverty and the level of violence in society, etc.

The findings of this study indicate that there is a trend towards a higher rating of effectiveness for overtly aggressive responses among males in comparison to females. According to Ali et al. (2011), male and female adolescents do not necessarily share the same beliefs and attitudes concerning the approval and justification for violence. Thus, there is a need for gender-specific interventions that aim to change beliefs and attitudes.

The findings of this study indicate that there is a trend towards a higher level of preference for overtly aggressive responses among LA individuals in comparison to MA individuals. A similar trend was identified for the same demographic categories when comparing perceptions regarding the effectiveness of overtly aggressive responses in resolving problem situations. According to Ali et al. (2011), it is important to implement early intervention strategies that target youths while they are still young. This is important because behaviour that becomes habitual (Ali et al., 2011) and attitudes which crystallise (Cooper et al, 2015) over time are more resistant to change.

5.6 Avenues for Further Research

There seems to be a lack of research on adolescents' perceptions towards aggressive and non-violent responses that are utilised to resolve problem situations in the school setting. There needs to be further research on these perceptions as the information obtained from such studies would be valuable in designing preventive interventions.

There are specific social beliefs unique to certain cultures or groups. These social beliefs have the potential to encourage aggressive responses and prohibit non-violent responses in

resolving interpersonal conflict. Further research is required which aims to analyse social beliefs related to aggressive and non-aggressive responses (Farrell et al., 2008). Given the high rate of violence in South Africa, the unique political history of the country and the multicultural composition of its population, an analysis of the unique social beliefs that South African adolescents hold is recommended. Future research would also do well to examine the influence of social beliefs on the types of responses adolescents adopt to resolve interpersonal conflict.

This study was a quantitative study and the scope of inquiry is thus limited. Qualitative studies are required to give learners more opportunity to share their experiences concerning the types of responses they utilise to resolve interpersonal conflict and the types of problem situations they face in the school environment.

As mentioned previously, electronic aggression has recently emerged. Electronic aggression has already been red flagged by the Centers for Disease Control and Prevention in the USA as an emerging heath risk for youths (Stejskal, 2010). Burton and Leoschut (2013) found that 20.9% of South African learners in their sample experienced some form of electronic aggression. Further research needs to be conducted on this issue of electronic aggression. Through such research efforts, the impact of electronic aggression can be further clarified, analysed and monitored.

5.7 Implications of these findings for policy, theory and practice

The findings of this study have implications for theory, practice and policies associated with the prevention and treatment of youth violence in South African schools. According to Burton (2008, cited in Van der Westhuizen & Maree, 2009), there is a lack of comprehensive knowledge on violence within South African schools. Such information is vital to address the issue of violence in the school environment. The findings of this study contribute to the body of knowledge on the comprehension of youth violence and the prevention and treatment of youth violence in South African schools.

According to Leoschut and Burton (2006, cited in Van der Merwe & Dawes, 2007), the bulk of local and international research on youth violence focuses more on individual level factors in attempts to understand youth violence. They argue that in the South African context, contextual drivers have a huge influence on youth violence thus local research should also focus on contextual factors. This study has analysed the influence that residential environment has on responses and perceptions of various responses to problem situations in the school setting. The findings of this study heeds to the call of academics that have identified gaps in local research and thus supplementing the growing body of knowledge on school violence in South Africa.

Research on individual and contextual factors associated with youth violence is of vital importance for the design and delivery of effective interventions and programs that address such behaviour among the youths. A substantial amount of resources are directed towards programs that aim to prevent and treat antisocial and violent behaviour among youths, thus it is important that such programs are theoretically grounded and based on research evidence of risk and protective factors linked to antisocial and violent behaviour (Van der Merwe & Dawes, 2007).

A meta-analysis conducted by Izzo and Ross (1990, cited in Van der Merwe & Dawes, 2007) of programs targeting antisocial and violent behaviour among youths revealed that programs which are theoretically grounded and based on research evidence are five times more effective in the reduction of antisocial and violent behaviour among youths than programs which do not rely on research evidence and which lack a theoretical framework. A review of South African interventions conducted by Farr et al. (2003), Parker et al. (2004), and Steyn, (2005) (all cited in Van der Merwe & Dawes, 2007) indicated that local interventions which target antisocial and violent behaviour among youths are rarely based on theoretical and empirical research.

It is imperative for a country like South Africa with such a high level of violence, that intensive, multi-modal, evidence-based, structured, cognitive-behavioural programmes are developed for adolescents who display violent and other anti-social behaviour (Van der

Merwe & Dawes, 2007). According to Thornton et al. (2000, cited in Van der Merwe & Dawes, 2007) analysis of best practices for youth violence prevention and reduction, the most effective programs were multi-modal programs that incorporated and linked established factors at the individual, family and community level. A comprehensive review of South African diversion programs targeting violent youth was conducted by Steyn (2005, cited in Van der Merwe & Dawes, 2007). This review revealed that the majority of diversion programs were not multi modal programs (Van der Merwe & Dawes, 2007).

Another reason for stimulating local research is that interventions should be customised for the specific characteristics of the population that it aims to assist. Another important factor with concerns to designing effective interventions is that it should incorporate a developmental perspective. Comprehensive developmental theory is of importance as youths are susceptible to different risk factors at different stages in their lives and the same can be said for their level of competence in utilising protective factors (Van der Merwe & Dawes, 2007).

Research on contextual and individual level factors associated with youth violence are important for the design and delivery of multi-modal programs that aim to prevent and treat youth violence. This is the connection between research findings and practice in the domain of youth violence. The findings of this study provide information on the influence of a contextual level factor (residential environment) and individual level factors (gender and developmental stage) thus providing information that could contribute to the design and delivery of multi-modal programs. By focusing on the influence of developmental stage (middle adolescence and late adolescence) this study also considered the developmental perspective, thus contributing to developmental theory which in turn can be utilised for the design and delivery of multi-modal programs.

As mentioned earlier, theoretically grounded programs are more effective in addressing youth violence (Izzo & Ross, 1990, cited in Van der Merwe & Dawes, 2007) thus emphasising the importance of local research in the domain of youth violence. Based on these findings concerning what constitutes an effective program to address youth violence, it is

recommended that government led programs align with findings provided by local and international research. The government is an important actor in addressing youth violence on a national level. Government policies can facilitate collaboration between various government departments and civil society. Government funding policies can also provide much needed financial support for programs addressing youth violence.

In his assessment of South African policies associated with programs addressing youth violence in the country, Burton (2012) noted that policies and funding seem to impede integration between different government departments and civil society that address different factors associated with youth violence. Such policies and funding prevent a holistic approach to addressing youth violence in the country. Policies dictate which government departments or NGOs are responsible for addressing the various factors associated with youth violence and funding is allocated in the same manner, to specific departments and NGOs dealing with specific factors. Such policies and funding patterns restrict collaboration between the various government departments and civil society thus preventing multi modal approaches to addressing youth violence (Burton, 2012). The findings of this study supplement the growing body of knowledge on the influence of a multitude of factors on youth violence thus calling for a multi-modal approach to addressing youth violence. This body of knowledge supports the argument that the South African government should direct its policies and funding towards a holistic approach to addressing youth violence in the country.

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Appendix: Labels for Variables and Problem Situations

Table A 1: Variable labels (Non-violent responses)

Label	Variable
A	If you were in that situation, do you think you would approach your friend in a friendly way, to tell them that you don't want them to flirt with the person that you are interested in?
B	If you were in that situation do you think you would say, I'm not going to fight?)
C	If you were in that situation, do you think you would say you were sorry for what you said, and tell your friend that you didn't mean it?
D	If you were in that situation, do you think you would listen to the teacher?
E	If you were in that situation, do you think you would report this student to a teacher?
F	If you were in that situation, do you think you would talk to your friend about why they broke their promise not to tell other people about your private affairs?
G	If you were in that situation, do you think you would report these thugs to the police?
H	If you were in that situation, do you think you would talk about it with the person the rumor was about and explain that you didn't start the rumor?
J	If you were in that situation, do you think you would report this student who said something racist towards you, to a teacher?

Table A 2: Variable labels (Rationally aggressive responses)

Label	Variable
K	If you were in that situation, do you think you would get back at your friend by spreading rumors about them?
L	If you were in that situation, do you think you would also be fake towards to them?
M	If you were in that situation, do you think you would tell something your friend told you in private to other people to get back at them?
N	If you were in that situation, do you think you would spread rumors about them?
P	If you were in that situation, do you think you would spread a rumor about that person to get back at them?
Q	If you were in that situation, do you think you would disobey the teacher?

Table A 3: Variable labels (Mediocre responses)

Label	Variable
I	If you were in that situation, do you think you would tell those people who heard about your private affairs, that what your friend told them about you, is not true?
O	If you were in that situation, do you think you would stop talking to both of your friends until they regained their friendship?
Y	If you were in that situation, do you think you would choose sides with the friend you liked better?
Z	If you were in that situation, do you think you would try to convince your friend that the person you like isn't suitable for them?

Table A 4: Variable labels (Overtly aggressive responses)

Label	Variable
R	If you were in that situation, do you think you would fight the person?
S	If you were in that situation, do you think you would fight your friend?
T	If you were in that situation, do you think you would fight the person that started the rumor about you?
U	If you were in that situation, do you think you would approach that person who spread the rumor about you and insult them to their face?
V	If you were in that situation, do you think you would fight the student who robbed you of your possessions?
W	If you were in that situation, do you think you would fight the thugs?
X	If you were in that situation, do you think you would fight the student who said something racist towards you?

Table A 5: Variable labels (Demographic items)

Variable		Labels
Gender	male	male
	female	female
Age	middle adolescent stage	MA
	late adolescent stage	LA
Residential Environment	suburbs	SB
	townships	TS

Table A 6: Labels for problem situations

Label	Variable
a	Imagine you told a good friend that you were interested in going out with someone. Now, you see your friend flirting with this person.
b	Imagine that you get into an argument with someone. Other people are there encouraging you and this other person to fight by saying, "Fight, fight, fight.
w	Imagine that you and a friend are joking with each other. You accidentally say something that you didn't think would cross the line, but your friend takes offense and gets really mad at you. You didn't mean it, you were just joking around, and now your friend wants to fight with you.
d	Imagine a teacher at school caught you smoking. The teacher warns you to not smoke again on the school premises.
e	Imagine a student at school robbed you of your possessions (e.g. school bag, cell phone etc.).
f	Imagine that you told a friend something private, and they told it to other people. This friend promised that they wouldn't tell anyone but went behind your back and told other people.
g	Imagine that thugs got into your school. These thugs then robbed you, other students and teachers.
h	Imagine somebody is spreading a rumor about another teen and you got blamed for it. Now you have a big problem with this person who thinks you were talking about them behind their back.
q	Imagine that a student at school said something racist towards you
k	Imagine that someone is "fake" (insincere) with you, sometimes acting like a friend and sometimes saying mean things about you. You can't trust them because they change how they act all the time.
s	Imagine that someone said something which is disrespectful about your family.
m	Imagine another teen started a rumor about you and other people are keeping it going and making the rumor worse.
p	Imagine two of your friends are fighting, and they try to involve you in it. You feel pressure from both sides because they each want you to take their side.

Annexure 1: Frequency Distributions

Non-Violent Responses

Age

Table B 1: Distribution of non-violent responses by Age

Problem Situations	Non-Violent Responses	Middle Adolescence	Late Adolescence
a	A	64%	38%
b	B	42%	50%
w	C	83%	88%
d	D	75%	58%
e	E	83%	83%
f	F	83%	54%
g	G	89%	88%
h	H	86%	71%
q	J	44%	42%

Table B 2: Distribution of perceived effectiveness for non-violent responses by Age

Problem Situations	Non-Violent Responses	Middle Adolescence	Late Adolescence
a	A	81%	71%
b	B	50%	33%
w	C	75%	79%
d	D	89%	96%
e	E	67%	50%
f	F	81%	79%
g	G	81%	96%
h	H	92%	83%
q	J	64%	75%

Residential Environment

Table B 3: Distribution of non-violent responses by Residential Environment

Problem Situations	Non-Violent Responses	Suburb	Township
a	A	52%	55%
b	B	60%	33%
w	C	90%	82%
d	D	78%	61%
e	E	85%	82%
f	F	59%	82%
g	G	96%	82%
h	H	63%	94%
q	J	59%	30%

Table B 4: Distribution of perceived effectiveness for non-violent responses by Residential Environment

Problem Situations	Non-Violent Responses	Suburb	Township
a	A	70%	82%
b	B	48%	40%
w	C	78%	76%
d	D	85%	97%
e	E	63%	58%
f	F	79%	82%
g	G	81%	91%
h	H	78%	97%
q	J	63%	73%

Gender

Table B 5: Distribution of non-violent responses by Gender

Problem Situations	Non-Violent Responses	Male	Female
a	A	54%	52%
b	B	41%	52%
w	C	86%	83%
d	D	65%	74%
e	E	78%	91%
f	F	70%	74%
g	G	86%	91%
h	H	81%	78%
q	J	46%	39%

Table B 6: Distribution of perceived effectiveness for non-violent responses by Gender

Problem Situations	Non-Violent Responses	Male	Female
a	A	86%	61%
b	B	43%	43%
w	C	78%	74%
d	D	92%	91%
e	E	59%	61%
f	F	84%	74%
g	G	86%	87%
h	H	97%	74%
q	J	73%	61%

Relational Aggression

Age

Table B 7: Distribution of relationally aggressive responses by Age

Problem Situations	Relationally Aggressive Responses	Middle Adolescence	Late Adolescence
a	K	6%	0%
k	L	33%	25%
f	M	6%	17%
s	N	6%	4%
m	P	6%	4%
d	Q	11%	25%

Table B 8: Distribution of perceived effectiveness for relationally aggressive responses by Age

Problem Situations	Relationally Aggressive Responses	Middle Adolescence	Late Adolescence
a	K	14%	17%
k	L	42%	29%
f	M	14%	21%
s	N	17%	25%
m	P	19%	42%
d	Q	14%	25%

Residential Environment

Table B 9: Distribution of relationally aggressive responses by Residential Environment

Problem Situations	Relationally Aggressive Responses	Suburb	Township
a	K	4%	3%
k	L	22%	36%
f	M	11%	9%
s	N	4%	6%
m	P	7%	3%
d	Q	15%	18%

Table B 10: Distribution of perceived effectiveness for relationally aggressive responses by Residential Environment

Problem Situations	Relationally Aggressive Responses	Suburb	Township
a	K	22%	9%
k	L	33%	39%
f	M	26%	9%
s	N	19%	21%
m	P	37%	21%
d	Q	19%	18%

Gender

Table B 11: Distribution of relationally aggressive responses by Gender

Problem Situations	Relationally Aggressive Responses	Male	Female
a	K	3%	4%
k	L	35%	22%
f	M	14%	4%
s	N	5%	4%
m	P	8%	0%
d	Q	14%	22%

Table B 12: Distribution of perceived effectiveness for relationally aggressive responses by Gender

Problem Situations	Relationally Aggressive Responses	Male	Female
a	K	19%	9%
k	L	32%	43%
f	M	22%	9%
s	N	24%	13%
m	P	38%	13%
d	Q	19%	17%

Overt Aggression

Age

Table B 13: Distribution of overtly aggressive responses by Age

Problem Situations	Overtly Aggressive Responses	Middle Adolescence	Late Adolescence
b	R	14%	25%
w	S	6%	13%
m	T	22%	38%
m	U	22%	25%
e	V	25%	50%
g	W	14%	33%
q	X	19%	38%

Table B 14: Distribution of perceived effectiveness for overtly aggressive responses by Age

Problem Situations	Overtly Aggressive Responses	Middle Adolescence	Late Adolescence
b	R	22%	38%
w	S	14%	17%
m	T	17%	33%
m	U	19%	42%
e	V	22%	46%
g	W	14%	42%
q	X	11%	42%

Residential Environment

Table B 15: Distribution of overtly aggressive responses by Residential Environment

Problem Situations	Overtly Aggressive Responses	Suburb	Township
b	R	7%	27%
w	S	15%	3%
m	T	22%	33%
m	U	11%	33%
e	V	33%	36%
g	W	22%	21%
q	X	22%	30%

Table B 16: Distribution of perceived effectiveness for overtly aggressive responses by Residential Environment

Problem Situations	Overtly Aggressive Responses	Suburb	Township
b	R	26%	30%
w	S	19%	12%
m	T	15%	30%
m	U	26%	30%
e	V	30%	33%
g	W	33%	18%
q	X	26%	21%

Gender

Table B 17: Distribution of overtly aggressive responses by Gender

Problem Situations	Overtly Aggressive Responses	Male	Female
b	R	19%	17%
w	S	14%	0%
m	T	22%	39%
m	U	24%	22%
e	V	38%	30%
g	W	32%	4%
q	X	19%	4%

Table B 18: Distribution of perceived effectiveness for overtly aggressive responses by Gender

Problem Situations	Overtly Aggressive Responses	Male	Female
b	R	38%	13%
w	S	22%	4%
m	T	32%	9%
m	U	24 %	35%
e	V	38%	22%
g	W	30%	17%
q	X	27%	17%

Mediocre Responses

Age

Table B 19: Distribution of Mediocre responses by Age

Problem Situations	Mediocre Responses	Middle Adolescence	Late Adolescence
f	I	42%	58%
p	O	42%	54%
p	Y	3%	4%
a	Z	22%	21%

Table B 20: Distribution of perceived effectiveness for Mediocre responses by Age

Problem Situations	Mediocre Responses	Middle Adolescence	Late Adolescence
f	I	42%	42%
p	O	61%	33%
p	Y	11%	37%
a	Z	42%	50%

Residential Environment

Table B 21: Distribution of Mediocre responses by Residential Environment

Problem Situations	Mediocre Responses	Suburb	Township
f	I	44%	51%
p	O	52%	42%
p	Y	4%	3%
a	Z	15%	27%

Table B 22: Distribution of perceived effectiveness for Mediocre responses by Residential Environment

Problem Situations	Mediocre Responses	Suburb	Township
f	I	37%	45%
p	O	48%	51%
p	Y	26%	18%
a	Z	48%	42%

Gender

Table B 23: Distribution of Mediocre responses by Gender

Problem Situations	Mediocre Responses	Male	Female
f	I	54%	39%
p	O	46%	48%
p	Y	5%	0%
a	Z	19%	26%

Table B 24: Distribution of perceived effectiveness for Mediocre responses by Gender

Problem Situations	Mediocre Responses	Male	Female
f	I	43%	39%
p	O	49%	52%
p	Y	30%	9%
a	Z	54%	30%

Annexure 2: Questionnaire

SECTION A: Background Information

Instructions
Indicate by means of a cross [**X**] whatever is appropriate to you.

1. Gender [**Male**] [**Female**]

2. Age in years [**14**] [**15**] [**16**] [**17**] [**18**] [**19+**]

3. Environment where you stay [**Rural**] [**Suburb**] [**Township**]

SECTION B: Situational Test

Instructions
Here we describe some difficult situations that other teens have said happened to them, and possible responses. Imagine that the situation happened to you. Tell us how likely you think it is that you would actually respond that way if you were in that situation, and how well you think it would work out if you did. Please read carefully, because sometimes we describe the same situation with a few different ways of handling it.

ENCIRCLE THE ALTERNATIVE WHICH APPLIES TO YOU

1. Imagine you told a good friend that you were interested in going out with someone. Now, you see your friend flirting with this person.

a) If you were in that situation, do you think you would approach your friend in a friendly way, to tell them that you don't want them to flirt with the person that you are interested in?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you approached your friend in a friendly way to tell them that you don't want them to flirt with someone you want to go out with, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

2. Imagine you told a friend something private, and they told it to other people. This friend promised they wouldn't tell anyone but went behind your back and told other people.

a) If you were in that situation, do you think you would tell those people who heard about your private affairs, that what your friend told them about you, is not true?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would
6

b) If you told those people who heard about your private affairs, that what your friend told them about you, is not true, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

3. Imagine you told a good friend that you were interested in going out with someone. Now, you see your friend flirting with this person.

a) If you were in that situation, do you think you would get back at your friend by spreading rumors about them?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you did get back at your friend by spreading rumors about them, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

4. Imagine that you get into an argument with someone. Other people are there encouraging you and this other person to fight by saying, "Fight, fight, fight."

a) If you were in that situation, do you think you would say, "I'm not going to fight"?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you said "I'm not going to fight," how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

5. Imagine that someone is "fake" (insincere) with you, sometimes acting like a friend and sometimes saying mean things about you. You can't trust them because they change how they act all the time.

a) If you were in that situation, do you think you would also be fake towards to them?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you acted fake towards them, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

6. Imagine that you and a friend are joking with each other. You accidentally say something that you didn't think would cross the line, but your friend takes offense and gets really mad at you. You didn't mean it, you were just joking around, and now your friend wants to fight with you.

a) If you were in that situation, do you think you would say you were sorry for what you said, and tell your friend that you didn't mean it?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you said you were sorry and didn't mean it, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

7. Imagine that you get into an argument with someone. Other people are there encouraging you and this person to fight by saying, "Fight, fight, fight."

a) If you were in that situation, do you think you would fight the person?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you fought the person, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

8. Imagine a teacher at school caught you smoking. The teacher warns you to not smoke again on the school premises.

a) If you were in that situation, do you think you would listen to the teacher?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you listened to the teacher, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

9. Imagine that you told a friend something private, and they told it to other people. This friend promised they wouldn't tell anyone but they went behind your back and told other people.

a) If you were in that situation, do you think you would tell something your friend told you in private to other people to get back at them?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you told something private that your friend told you to others in order to get back at them, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

10. Imagine two of your friends are fighting, and they try to involve you in it. You feel pressure from both sides because they each want you to take their side.

a) If you were in that situation, do you think you would stop talking to both of your friends until they regained their friendship?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you stopped talking to both of them until they regained their friendship, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

11. Imagine a student at school robbed you of your possessions (e.g. school bag, cell phone etc.).

a) If you were in that situation, do you think you would report this student to a teacher?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you reported this student to a teacher, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

12. Imagine that someone said something which is disrespectful about your family.

a) If you were in that situation, do you think you would spread rumors about them?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you did spread rumors about them, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

13. Imagine that you and a friend are joking with each other. You accidentally say something that you didn't think would cross the line, but your friend takes offense and gets really mad at you. You didn't mean it, you were just joking around, and now your friend wants to fight with you.

a) If you were in that situation, do you think you would fight your friend?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you fought your friend, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

14. Imagine that you told a friend something private, and they told it to other people. This friend promised that they wouldn't tell anyone but went behind your back and told other people.

a) If you were in that situation, do you think you would talk to your friend about why they broke their promise not to tell other people about your private affairs?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you talked to your friend about why they broke their promise not to tell other people about your private affairs, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

15. Imagine another teen started a rumor about you and other people are keeping it going and making the rumor worse.

a) If you were in that situation, do you think you would fight the person that started the rumor about you?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you fought the person that started the rumor about you, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

16. Imagine two of your friends are fighting, and they try to involve you in it. You feel pressure from both sides because they each want you to take their side.

a) If you were in that situation, do you think you would choose sides with the friend you liked better?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you chose sides with the friend you liked better, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

17. Imagine that thugs got into your school. These thugs then robbed you, other students and teachers.

a) If you were in that situation, do you think you would report these thugs to the police?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you reported these thugs to the police, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

18. Imagine somebody is spreading a rumor about another teen and you got blamed for it. Now you have a big problem with this person who thinks you were talking about them behind their back.

a) If you were in that situation, do you think you would talk about it with the person the rumor was about and explain that you didn't start the rumor?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you talked about it with the person the rumor was about and explained that you didn't start the rumor, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

19. Imagine another teen started a rumor about you and other people are keeping it going and making the rumor worse.

a) If you were in that situation, do you think you would spread a rumor about that person to get back at them?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you did spread a rumor about the person who started a rumor about you to get back at them, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

20. Imagine that a student at school said something racist towards you.

a) If you were in that situation, do you think you would report this student who said something racist towards you, to a teacher?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you reported this student who said something racist towards you, to a teacher, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

21. Imagine you told a good friend that you were interested in going out with someone. Now, you see your friend flirting with this person.

a) If you were in that situation, do you think you would try to convince your friend that the person you like isn't suitable for them?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you tried to convince your friend that the person you like isn't suitable for them, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

22. Imagine another teen started a rumor about you and other people are keeping it going and making the rumor worse.

a) If you were in that situation, do you think you would approach that person who spread the rumor about you and insult them to their face?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you did approach that person who spread the rumor about you and insulted them to their face, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

23. Imagine a student at school robbed you of your possessions (e.g. school bag, cell phone etc.).

a) If you were in that situation, do you think you would fight the student who robbed you of your possessions?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you fought the student who robbed you of your possessions, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

24. Imagine a teacher at school caught you smoking. The teacher warns you to not smoke again on the school premises.

a) If you were in that situation do you think you would disobey the teacher?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you disobeyed the teacher, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

25. Imagine that thugs got into your school. These thugs then robbed you, other students and teachers.

a) If you were in that situation, do you think you would fight the thugs?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you fought these thugs, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

26. Imagine that a student at school said something racist towards you.

a) If you were in that situation, do you think you would fight the student who said something racist towards you?

1 Definitely would not **2** Probably would not **3** Might or might not
4 Probably would **5** Definitely would

b) If you fought the student who said something racist towards you, how well do you think things would work out?

1 Not at all **2** Not very well **3** Okay
4 Well **5** Really well

Annexure 3: Child Participant's Consent Form

INFORMED CONSENT DECLARATION
(Child participant)

Project Title: Factors influencing the responses and perceptions of responses of Indian South African adolescents towards problem situations in the Gauteng school setting.

Researcher's name: Soma Sundram Govender

Name of participant: ……

1. Has the researcher explained what he will be doing and wants you to do?

YES	NO

2. Has the researcher explained why he wants you to take part?

YES	NO

3. Do you understand what the research wants to do?

YES	NO

4. Do you know if anything good or bad can happen to you during the research?

YES	NO

5. Do you know that your name and what you say will be kept a secret from other people?

YES	NO

6. Did you ask the researcher any questions about the research?

YES	NO

7. Has the researcher answered all your questions?

YES NO

8. Do you understand that you can refuse to participate if you do not want to take part and that nothing will happen to you if you refuse?

YES NO

9. Do you understand that you may pull out of the study at any time if you no longer want to continue?

YES NO

10. Do you know who to talk to if you are worried or have any other questions to ask?

YES NO

11. Has anyone forced or put pressure on you to take part in this research?

YES NO

12. Are you willing to take part in the research?

YES NO

_____ _____

Signature of Child **Date**

Annexure 4: Parent and Guardian's Informed Consent Declaration

INFORMED CONSENT DECLARATION

(Parent or Guardian)

Project Title: Factors influencing the responses and perceptions of responses of Indian South African adolescents towards problem situations in the Gauteng school setting.

Soma Sundram Govender from the Department of Educational Psychology and Special Education, University of Zululand has requested my permission to allow my child/ ward to participate in the above-mentioned research project.

The nature and the purpose of the research project, and of this informed consent declaration have been explained to me in a language that I understand.

I am aware that:

1. The purpose of the research project is to:

    - To examine how gender, age and residential environment influence the responses made by Indian South African adolescents to problem situations in the Gauteng school setting.

    - To examine how gender, age and residential environment influence perceptions of responses made by Indian South African adolescents to problem situations in the Gauteng school setting.

2. The University of Zululand has given ethical clearance to this research project and I have seen/ may request to see the clearance certificate.

3. By participating in this research project my child/ward will be contributing towards identifying some of the factors that influence adolescents to use effective non-violent responses in violent conflict situations in the school setting. This study gives voice to what learners think are effective non-violent responses to violent situations and this study emphasises the importance of the learner's views.

4. My child/ward will participate in the project by completing a questionnaire.

5. My child's/ward's participation is entirely voluntary and if my child/ward is older than seven (7) years, s/he must also agree to participate.

6. Should I or my child/ward at any stage wish to withdraw my child/ward from participating further, we may do so without any negative consequences.

7. My child/ward may be asked to withdraw from the research before it has finished if the researcher or any other appropriate person feels it is in my child's/ward's best interests, or if my child/ward does not follow instructions.

8. Neither my child/ward nor I will be compensated for participating in the research.

9. There may be risks associated with my child's/ward's participation in the project. I am aware that my child may feel distressed after completing the questionnaire. The following measures will be taken in order to prevent any risks from participating in this study:
    - The questionnaire will be given to the school principal and parents to read through and approve before it is given to students to complete.
    - If the child becomes distressed after completing the questionnaire, free counselling will be provided.

10. The researcher intends publishing the research results in the form of a thesis. However, confidentiality and anonymity of records will be maintained and that my or my child's/ward's name and identity will not be revealed to anyone who has not been involved in the conduct of the research.

11. I will receive feedback in the form of a summary regarding the results obtained during the study.

12. Any further questions that I might have concerning the research or my participation will be answered by Soma Sundram Govender, cell number: 079 939 0036.

13. By signing this informed consent declaration I am not waiving any legal claims, rights or remedies that I or my child/ward may have.

14. A copy of this informed consent declaration will be given to me, and the original will be kept on record.

I, …….. have read the above information / confirm that the above information has been explained to me in a language that I understand and I am aware of this document's contents. I have asked all questions that I wished to ask and these have been answered to my satisfaction. I fully understand what is expected of my child/ward during the research.

I have not been pressurised in any way to let my child/ward take part. By signing below, I voluntarily agree that my child/ward ……, who is …….. years old, may participate in the above-mentioned research project.

……. …….

Parent/Guardian's signature **Date**

Annexure 5: Ethical clearance certificate

UNIVERSITY OF ZULULAND
RESEARCH ETHICS COMMITTEE
(Reg No: UZREC 171110-030)

RESEARCH & INNOVATION
Website: http://www.unizulu.ac.za
Private Bag X1001
KwaDlangezwa 3886
Tel: 035 902 6887
Fax: 035 902 6222
Email: MangeleS@unizulu.ac.za

ETHICAL CLEARANCE CERTIFICATE

Certificate Number	**UZREC 171110-030 PGM 2015/247**								
Project Title	**Factors influencing the responses and perceptions of responses of Indian South African adolescents towards problem situations in the Gauteng schools settings**								
Principal Researcher/ Investigator	SS Govender								
Supervisor and Co-supervisor	Prof PT Sibaya								
Department	Educational Psychology and Special Education								
Nature of Project	Honours/4th Year		Master's	x	Doctoral		Departmental		

The University of Zululand's Research Ethics Committee (UZREC) hereby gives ethical approval in respect of the undertakings contained in the above-mentioned project proposal and the documents listed on page 2 of this Certificate.

Special conditions: (1) The Principal Researcher must report to the UZREC in the prescribed format, where applicable, annually and at the end of the project, in respect of ethical compliance.
(2) Documents marked "To be submitted" (see page 2) must be presented for ethical clearance before any data collection can commence.

The Researcher may therefore commence with the research as from the date of this Certificate, using the reference number indicated above, but may not conduct any data collection using research instruments that are yet to be approved.

Please note that the UZREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the documents that were presented to the UZREC
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

Classification:

Data collection	Animals	Human Health	Children	Vulnerable pp.	Other
X			X		

Low Risk	Medium Risk	High Risk
	X	

The table below indicates which documents the UZREC considered in granting this Certificate and which documents, if any, still require ethical clearance. (Please note that this is not a closed list and should new instruments be developed, these would require approval.)

Documents	Considered	To be submitted	Not required
Faculty Research Ethics Committee recommendation	X		
Animal Research Ethics Committee recommendation			X
Health Research Ethics Committee recommendation			X
Ethical clearance application form	X		
Project registration proposal	X		
Informed consent from participants	X		
Informed consent from parent/guardian	X		
Permission for access to sites/information/participants	X		
Permission to use documents/copyright clearance			X
Data collection/survey instrument/questionnaire	X		
Data collection instrument in appropriate language		Only if necessary	
Other data collection instruments		Only if used	

The UZREC retains the right to

- Withdraw or amend this Certificate if
  - Any unethical principles or practices are revealed or suspected
  - Relevant information has been withheld or misrepresented
  - Regulatory changes of whatsoever nature so require
  - The conditions contained in this Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project

The UZREC wishes the researcher well in conducting the research

Professor Nokuthula Kunene
Chairperson: University Research Ethics Committee
14 March 2016
SS Govender - PGM 2015/247

CHAIRPERSON
UNIVERSITY OF ZULULAND RESEARCH ETHICS COMMITTEE (UZREC)
REG NO: UZREC 171110-30
14 -03- 2016
RESEARCH & INNOVATION OFFICE

Annexure 6: Letter of permission to conduct research in Gauteng school

For administrative use:
Reference no. D2016 / 309 A
Enquiries: Diane Buntting 011 843 6503

GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

GDE AMENDED RESEARCH APPROVAL LETTER

Date:	**6 October 2015**
Validity of Research Approval:	**8 February 2016 to 30 September 2016**
Previous GDE Research Approval letter reference number	**D2015 / 198 dated 10 July 2014**
Name of Researcher:	**Govender S.S.**
Address of Researcher:	**P.O. Box 11273; Lenasia South; 1835**
Telephone / Fax Number/s:	**011 855 5952; 079 939 0036; 011 559 3108**
Email address:	**sundramg2000@gmail.com**
Research Topic:	**Factors influencing the responses of Indian South African adolescents to violent situations in the school setting**
Number and type of schools:	**ONE Secondary School**
District/s/HO	**Johannesburg South**

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved. A separate copy of this letter must be presented to the Principal, SGB and the relevant District/Head Office Senior Manager confirming that permission has been granted for the research to be conducted. However participation is VOLUNTARY.

The following conditions apply to GDE research. The researcher has agreed to and may proceed with the above study subject to the conditions listed below being met. Approval may be withdrawn should any of the conditions listed below be flouted:

CONDITIONS FOR CONDUCTING RESEARCH IN GDE

1. *The District/Head Office Senior Manager/s concerned, the Principal/s and the chairperson/s of the School Governing Body (SGB.) must be presented with a copy of this letter.*

2015/10/07

Office of the Director: Knowledge Management and Research
9th Floor, 111 Commissioner Street, Johannesburg, 2001

2. *The Researcher will make every effort to obtain the goodwill and co-operation of the GDE District officials, principals, SGBs, teachers, parents and learners involved. Participation is voluntary and additional remuneration will not be paid;*
3. *Research may only be conducted after school hours so that the normal school programme is not interrupted. The Principal and/or Director must be consulted about an appropriate time when the researcher/s may carry out their research at the sites that they manage.*
4. *Research may only commence from the second week of February and must be concluded by the end of the THIRD quarter of the academic year. If incomplete, an amended Research Approval letter may be requested to conduct research in the following year.*
5. *Items 6 and 7 will not apply to any research effort being undertaken on behalf of the GDE. Such research will have been commissioned and be paid for by the Gauteng Department of Education.*
6. *It is the researcher's responsibility to obtain written consent from the SGB/s; principal/s, educator/s, parents and learners, as applicable, before commencing with research.*
7. *The researcher is responsible for supplying and utilizing his/her own research resources, such as stationery, photocopies, transport, faxes and telephones and should not depend on the goodwill of the institution/s, staff and/or the office/s visited for supplying such resources.*
8. *The names of the GDE officials, schools, principals, parents, teachers and learners that participate in the study may not appear in the research title, report or summary.*
9. *On completion of the study the researcher must supply the Director: Education Research and Knowledge Management, with electronic copies of the Research Report, Thesis, Dissertation as well as a Research Summary (on the GDE Summary template).*
10. *The researcher may be expected to provide short presentations on the purpose, findings and recommendations of his/her research to both GDE officials and the schools concerned;*
11. *Should the researcher have been involved with research at a school and/or a district/head office level, the Director/s and school/s concerned must also be supplied with a brief summary of the purpose, findings and recommendations of the research study.*

The Gauteng Department of Education wishes you well in this important undertaking and looks forward to examining the findings of your research study.

Kind regards

.....

Dr David Makhado

Director: Education Research and Knowledge Management

DATE: 2015/10/07

Office of the Director: Knowledge Management and Research
9th Floor, 111 Commissioner Street, Johannesburg, 2001

Annexure 7: Letter of permission to adapt questionnaire

Dear Mr. Gevnder:

I am pleased you found my research of interest. This email is to confirm that you have my permission to adapt the interview listing problem situations and responses I developed in my research for use in your thesis. My only request is that you cite this work as the source of any derivative measure. I would also appreciate receiving a copy of any completed work. I will be most interested in what you find.

I am attaching two articles that were the basis of the problem situations we used in those studies. I am also sending a measure we developed based on those studies. You might find it useful as you work on developing your questionnaire.

I wish you success with your project!

Sincerely,

Albert D. Farrell, Ph.D.
Professor and Director,
Clark Hill Institute for Positive Youth Development
Department of Psychology
Virginia Commonwealth University
P.O. Box 842018
Richmond, VA 23284-2018
804-828-8796
Email address: afarrell@vcu.edu

Annexure 8: Plagariarism report

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Annexure 9: Letter from the editor

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Website: gazelleediting.com
Co Reg No.: K2013225727

15 August 2016

Re: Editor's Letter

To whom it may concern,

This letter serves to confirm that I, Bronwyn King, chief editor of Gazelle Editing, have proofread the thesis on the topic of aggression and Indian South African adolescents by Soma Govender. Suggestions for improvements and possible changes have also been made.

Please contact me using the details above should you require any further information.

Sincerely,

Bronwyn King