

**EXPLORING THE RELATIONSHIP BETWEEN
SELF-EFFICACY AND AGGRESSION IN A
GROUP OF ADOLESCENTS IN THE PERI-
URBAN TOWN OF WORCESTER**

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DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own original work, and that I have not previously in its entirety or in part submitted it at any university for a degree.

Date: _____

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ABSTRACT

Adolescence is a trying developmental stage and the high levels of violence that many adolescents are exposed to in South Africa could negatively influence their well-being. Self-efficacy is reported to be an important protective factor for adolescent well-being. Hence, the first aim of this study was to determine the nature of the relationship between perceived self-efficacy and self-reported aggression in an adolescent sample. The second aim was to explore whether there are differences in perceived self-efficacy and self-reported aggression pertaining to gender, age and residential area respectively.

Three high schools in the peri-urban area of Worcester from mid to low socio-economic communities were selected and 344 (13 – 19 years) Afrikaans speaking high school learners were randomly sampled. The Self-efficacy Questionnaire for Children and the Aggression Questionnaire were used to measure self-efficacy and aggression.

The findings from this research indicate that there was a significant negative relationship between self-efficacy and aggression. However, a positive correlation was found between emotional self-efficacy, verbal aggression and hostility for the total group. Females and peri-urban adolescents scored significantly higher in the total self-efficacy scale and subscales, namely, academic, social and emotional self-efficacy than the males and rural adolescents. Males also reported significantly higher physical aggression scores than females, whereas females reported significantly higher hostility scores.

OPSOMMING

Adolessensie is 'n moeilike ontwikkelingsfase en die hoë vlakke van geweld waaraan sommige adolessente in Suid-Afrika blootgestel word kan 'n negatiewe invloed op hulle welstand hê. Daar is bevind dat selfdoeltreffendheid 'n belangrike beskermende faktor vir adolessente se welstand is. Die eerste doelwit van hierdie studie was om die aard van die verwantskap tussen selfbeskrywende selfdoeltreffendheid en selfgeraporteerde aggressie te bepaal. Die tweede doelwit was om vas te stel of daar moontlike verskille ten opsigte van selfbeskrywende selfdoeltreffendheid en selfgeraporteerde aggressie op grond van ouderdom, geslag en woonbuurt bestaan.

Drie hoërskole in die Worcester omgewing uit middel- tot lae sosio-ekonomiese gemeenskappe was gebruik en uit die drie skole is 344 (13 – 19 jarige) Afrikaanssprekende leerders ewekansig gekies. Die “Self-efficacy Questionnaire for Children” en die “Aggression Questionnaire” was as meetinstrumente in hierdie studie gebruik.

Die resultate van hierdie studie toon dat daar 'n beduidende negatiewe verwantskap tussen selfdoeltreffendheid en aggressie bestaan. Daarenteen was daar 'n positiewe verwantskap tussen emosionele selfdoeltreffendheid, verbale aggressie en vyandigheid vir die totale groep. Meisies en nie-landelike adolessente het beduidend hoër vlakke van totale selfdoeltreffendheid en sy subskale, naamlik, akademiese, sosiale en emosionele selfdoeltreffendheid, in vergelyking met seuns en landelike adolessente gerapporteer. Seuns het beduidende hoër vlakke van fisiese aggressie in vergelyking met meisies gerapporteer. Daarenteen rapporteer meisies beduidend hoër vlakke van vyandigheid.

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CHAPTER 1

INTRODUCTION

1.1 Background and context of study

Worldwide there is concern for the mental health of adolescence and the various negative social stressors that impact on their well-being (World Health Organisation, 2002). Mental health is regarded as a fundamental part of the overall well-being of not only individual adolescents, but also of their families, communities and indeed, whole countries (World Health Organisation, 2001). Mental health is a complex phenomenon and involves more than “merely the absence of disease or infirmity” and has been broadly defined in diverse cultures to involve concepts such as perceived self-efficacy, autonomy and self-actualisation (World Health Organisation, 2001, p. 3). The World Health Organisation (WHO) (2001) further suggests that it is a condition of total physical, psychological and communal well-being. As this definition infers, mental health does not stand alone, but is influenced by both physical and social factors.

As the WHO (2001) stipulates, self-efficacy is an important factor in developing and maintaining a healthy overall well-being. Especially during the adolescent developmental phase, the strengthening of self-efficacy beliefs is of paramount importance (Bandura, 1994). Generally, adolescence is known as a period of immense change in all areas that contribute to a sense of identity, including physical, emotional, social and intellectual areas of development (Vera, Shin, Montgomery, Mildner & Speight, 2004). Vera et al. (2004) maintain that self-efficacy is important for the development of social competencies during adolescence, which in turn help adolescents to negotiate social problems without the use of violence. Thus the concept of self-efficacy is closely aligned to adolescent mental health. Furthermore, Rappaport (quoted in Cowen, 1994) states that people who have a sense of

control over their lives benefit in that they gain a greater sense of enjoyment in living, and have confidence in their ability to handle life's difficulties and pressures. This sense of being in control of one's life is a fundamental developmental task that adolescents have to master during this phase, especially in contexts of violence.

The pervasiveness of crime and violence, especially among adolescents, is a worldwide problem and the same is true of the South African society (Leoschut & Burton, 2006). A study by Ward, Flisher, Zissis, Muller and Lombard (2001) in Cape Town revealed rates of victimisation among adolescents to be as high as 50 per cent, and 82 percent witnessed violence. The effects of exposure to violence on adolescents are numerous and include the tendency for social relationships to suffer, perceptions of self-efficacy to waver, substance abuse and for delinquent behaviour to take root (Leoschut & Burton, 2006). Thus the experience of violence in adolescence may impede their development and hinder their difficult transition from adolescence to adulthood.

1.2 Research problem

The primary aim of this study was to determine the nature of the relationship between adolescents' self-perceived efficacy and self-reported aggression. The secondary aim was to look at possible differences between gender, age and residential contexts pertaining to self-reported aggression and self-perceived efficacy among this group.

1.3 Rationale of study

The South African society has been described as violent (Leoschut & Burton, 2006) and this combined with a host of other stressors such as poverty, high unemployment levels and HIV/Aids, among others, could negatively influence mental health and well-being. Thus the aim of this research is to contribute towards an understanding of the nature of

adolescents' aggressive behaviours, and whether aggression influences the levels of self-efficacy of adolescents. It could also contribute towards motivation for the initiating of practical interventions and strategies to enhance the well-being of adolescents (Poggenpoel & Myburgh, 2002).

1.4 Definition of constructs

Adolescence is the developmental stage between childhood and adulthood and could begin from 11 years and ending at 21 (Louw, Van Ede & Louw, 1998). Because of the extended adolescent phase, some adolescents reach a stage where they are regarded as psychologically mature, however, they may still be economically dependent on their parents and are thus socially still regarded as adolescents (Dacey & Travers, 1994). Thus, many researchers are inclined to explain adolescence in terms of three phases namely, early adolescence (11-14 years), middle adolescence (14-18 years) and late adolescence (18-21 years) (Louw et al., 1998). For the purposes of this research, the adolescent sample will be divided into the categories of early and middle adolescence.

Self-efficacy is defined as a person's belief of his ability to produce a required effect (Bandura, 1977). It could thus be said that self-efficacy as a construct is concerned with one's judgement of what one can do with the skills and abilities one possesses (Cowen et al., 1991; Muris, 2002). Self-efficacy as a concept is related to but distinct from the constructs of self-esteem and self-concept. According to Maddux (1995), self-concept can be defined as the sum total of beliefs about oneself or the cognitive evaluations one has of one's abilities (Salmivalli, 2001). Self-esteem, on the other hand, is regarded as a global estimation of one's worth (Salmivalli, 2001) or the sum total of the evaluation of the beliefs one has of oneself (Maddux, 1995). Consequently, someone with a high self-esteem may feel good about themselves and their self-concept may hold the beliefs that he or she is

good at art, but terrible at sports. Positive self-concept is narrowly connected with a positive self-esteem (Farmer, Jarvis, Berent & Corbett, 2001). Therefore, people who believe that they are competent in a number of areas tend to feel good about themselves overall. Self-efficacy differs from both constructs of self-concept and self-esteem in that it is not conceptualised as a personality trait, but is defined and measured in fairly specific contexts and behaviours (Maddux, 1995). Although, lately a more generalised notion of self-efficacy has been developed, the term is more useful when operationalised and measured as a specific behaviour (Maddux, 1995). Generally, beliefs about one's self-efficacy is important to a healthy self-concept and self-esteem, and increased self-efficacy often leads to an increased self-esteem (Maddux, 1995).

Aggression is defined by Baron and Richardson (1994) as “any form of behaviour directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment” (p.11). Similarly, Geen (2001) describes aggression as the intentional harming of one person by another, with the aggressor having the expectation to cause such harm and the victim motivated to evade it. Likewise, the World Health Organisation (2002) defined 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 of resulting in injury, death, psychological harm, mal-development or deprivation. (p.5)

The common idea of these definitions of aggression and violence is the intention to harm or injure another party. Also important in these definitions is that an act of aggression need not only be physical in nature for it to be labelled as aggressive or violent. Any behaviour acted out with the express intention to cause harm to another could be construed

as aggression, for example spreading vicious gossip or damaging someone's property. Therefore the terms aggression and violence will be used interchangeably in this study.

There are different kinds of aggressive behaviour and some of these definitions are presented. Affective aggression manifests when the main motive of the aggressive act is to inflict harm and is usually accompanied by strong emotions like anger (Geen, 2001). Conversely, instrumental aggression does not necessarily involve strong emotions but is rather an act of aggression employed as a mean to obtain something, such as defending oneself or forcing your will onto others, through the use of violence (Geen, 2001). These two kinds of violence are not mutually exclusive and may occur in the same act of violence and at different levels of intensity. Reactive aggression is generally acted out in response to provocation and can be seen as self-defence (Geen, 2001). Proactive aggression, on the other hand, is acted out without any provocation, for example bullying. Such aggressive acts specifically intend to inflict harm to another individual and are motivated to obtaining possessions, asserting power, guaranteeing the approval of peer groups and among others (Geen, 2001; Guerin & Hennessy, 2002)

1.5 Outline of the thesis

In Chapter Two a literature review is presented regarding the importance of adolescent mental health and explores how self-efficacy serves as a possible protective factor during adolescent development. How self-efficacy and aggression are delineated as concepts in this study is also discussed and finally, the possible effects of the demographic variables of gender, age and socioeconomic area on self-efficacy and aggression are presented.

In Chapter Three the Social Cognitive and Self-efficacy theories are discussed to explain the construct of self-efficacy. Various biological views and psychological perspectives of

aggression, including Psychoanalysis, Social Information Processing theory, Social learning theory and the Ecological model are also presented.

Chapter Four covers the aims and research design of the study; description of the sample and the measuring instruments used. Furthermore, it explains the research process and the ethical considerations that were taken into account for this research. Finally, the methods used for the data analysis are described.

In Chapter Five the results of the analyses of variance comparing self-efficacy and aggression to the three demographic variables of gender, age and socio-economic area, respectively, are given. This is followed by a Pearson correlation exploring the nature of the relationship between self-efficacy and aggression; and finally, the analyses of variance are given comparing the aggression levels of groups with high and low total-, academic-, social- and emotional self-efficacy. The hypotheses are ordered according to the hypotheses in Chapter Four.

Chapter Six reports the findings of the various statistical analyses of the data and compares these to similar research results and hypotheses about possible inconsistencies between the present study's findings and the literature. The possible limitations of the present study are discussed as well as recommendations for the improvement of the current study made.

CHAPTER 2

LITERATURE REVIEW

This chapter commences with a literature review on adolescence, as well as the significance of self-efficacy in healthy adolescent development. This is followed by a discussion of self-efficacy as a construct and its differing domains of self-efficacy and how it relates to gender, age and socio-economic environment is then considered. Thereafter, aggression as a risk factor to adolescent mental health is discussed and how gender, age and socio-economic environment influence such behaviour.

2.1 Adolescent mental health and self-efficacy as protective factor

Adolescence is traditionally known as a period of storm-and-stress, implying the adolescent goes through intense struggles and contradicting feelings to be able to fulfil their developmental tasks (Louw et al., 1998). It is important to note that not all adolescents have this extreme storm-and-stress reaction and many deal with the developmental pressures appropriately (Bandura, Caprara, Barbaranelli, Gerbino & Pastorelli, 2003). However, there is evidence in the literature that self-reported aggressive and violent behaviour seems to be on the rise among the youth of today (World Health Organisation, 2002). Especially during early adolescence, feelings of anger associated with aggression seem to be difficult for this age group to handle and this could contribute to a host of mental health problems (Pipher, 1994). According to Bandura (1964), conflict occurring during adolescence is usually linked with the adolescents' social context and these could influence the completion of the developmental tasks during adolescence.

Before reaching adulthood, adolescents have to successfully negotiate the developmental tasks of adolescence (Louw et al., 1998). Parents, teachers and peers have specific expectations and demands that they place on adolescents which are different from demands

placed on children (Bergman & Scott, 2001). Thus a 'new' identity must be formed and new levels of competencies acquired. These tasks include the further development of masculine or feminine gender roles, acceptance of a changed physical appearance and sexually maturing body, choice of and preparation for a vocation and the development of independence from parents and other adults. This all culminates in the most important developmental task, namely, the development of a personal identity.

According to Erikson's personality theory, adolescents need to successfully negotiate the task of identity versus identity confusion (Louw et al., 1998). This requires adolescents to define who they are, what is important to them and what direction they want their lives to take. To achieve this, they need to be given more control over their lives and freedom to make their own choices, than was afforded to them during childhood. By mastering these tasks, adolescents negotiate a more integrated sense of self, greater autonomy, self-control and free will (Geldard & Geldard, 1999). According to Bandura (1994), these mastery experiences (or lack thereof), influence the strength of the personal self-efficacy beliefs acquired during this transitional period. This could influence the efficacy beliefs that adolescents may harbour about their own capabilities which in turn could influence the outcome of this developmental phase. Perceived self-efficacy thus plays a decisive role in the developmental outcomes of adolescence as it challenges the adolescent's capacity to cope (Caprara, Steca, Cervone & Artistico, 2003).

Perceived self-efficacy can be defined as an adolescent's belief in his/her ability to bring about a desired action and to produce given accomplishments (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Muris, 2002). Adolescents' belief in their efficacy to manage their own functioning and to exercise control over events that have an effect on their lives is one of the most important facets of human agency (Bandura et al., 1999). To be an agent is to intentionally make things happen by one's own actions, thus influencing

one's own life and environment in a meaningful manner (Bandura, 2001; Bandura, 2002). Therefore perceived self-efficacy, according to Bandura (1989a), is an essential part of personal agency which contributes to the continual process of empowering oneself. Similarly, self-efficacy is regarded as an integral part of an adolescent's self-worth (Dukes & Martinez, 1994). A differentiation in self-efficacy beliefs takes place as adolescents have more diverse life experiences and they realise that they have more competencies in different domains. This perceived competence in certain domains plays a vital role in adolescents' self-esteem and self-worth. Their perception of their competence is significant to their ongoing academic achievement (Gonida, 2006) as well as their participation in sport (Papaioannou, 2006). Catalano and Hawkins (1996) suggest that both academic achievement and participation in sport serve as protective factors during adolescence.

Furthermore, perceived self-efficacy plays an important role in the development of adolescents' social competencies (Vera et al., 2004). Social competencies refer to the range of interpersonal skills, such as anticipating the consequences to one's actions, that help adolescents to integrate feelings and achieve social as well as interpersonal goals (Caplan et al., 1992). Self-efficacy is regarded as the critical link between having information and abilities and then acting on this knowledge (Bandura, 1986). This link was explored by Orpinas, Parcel, McAlister and Frankowski (1995) who found that the youths' aggressive behaviours decreased and conflict resolution styles were improved by increasing self-efficacy and altering attitudes toward aggressive provocation. Thus self-efficacy could be seen as an important protective factor that promotes healthy adolescent development and social functioning (Cowen et al., 1991).

2.2 Self-efficacy as a construct

The concept of self-efficacy is imbedded in the psychological literature (Cowen et al., 1991). As can be seen from the discussion above, self-efficacy is an important factor in healthy adolescent development. But, although self-efficacy is related to concepts like self-esteem, defined here as “evaluations of one’s worth, value or importance” (Blascovich & Tomaka, 1991, p.2), it is believed that they have different antecedents and consequences (Bergman & Scott, 2001).

According to Zimmerman (1995), perceived self-efficacy as a construct has four unique properties that contribute to its distinctiveness. Firstly, self-efficacy requires adolescents to make judgements about their ability to fulfil a specified task, not who they are or how they feel about themselves. Secondly, self-efficacy is associated with diverse areas of functioning such as academic, social and emotional spheres of functioning. An example of this diverse application is when an adolescent’s self-efficacy beliefs for academics may be high, but on the other hand it could be low for social interaction with peers. Thirdly, self-efficacy beliefs are context-dependent. This means that many factors, that have nothing to do with ability, either assist or impair the execution of activities. For example, an adolescent may have higher self-efficacy beliefs to ask for help in a classroom where the teacher encourages this, than in a classroom where one is ridiculed for asking help. Finally, self-efficacy measures are dependent on the mastery experiences of the adolescent and not the adolescent in comparison to peers. Thus an adolescent gives a rating on how he/she believes they will perform in solving differing levels of maths problems and not how they will do in comparison to their peers (Zimmerman, 1995). These unique properties should be kept in mind in the following discussion of the different domains of perceived self-efficacy.

According to Bandura and Schunk (1981), academic self-efficacy can be defined as an individual's own judgement of his/her capability to accomplish certain educational activities. Thus the higher adolescents' perceived academic efficacy is to complete educational requirements, the wider their possible career options become, the better they prepare themselves educationally and the more perseverance they tend to exhibit in career paths that prove to be challenging (Bandura, Barbaranelli, Caprara & Pastorelli, 2001). It is an adolescent's belief in his/her academic capabilities and not their actual marks that seem to shape the course of their future development.

It is interesting to note that there seems to be wide gender disparities with regard to the selection of future career goals. Males generally tend to rate high efficacy belief levels in traditionally male and females occupations (Bandura et al., 2001). In contrast, females tend to have a weaker sense of efficacy to master occupations, traditionally held by males. This is interesting, because according to Betz and Hackett (1981), males and females do not differ significantly in their ability to work with numbers as in maths or their verbal abilities when analysing standardised psychometric tests. Saunders, Davis, Williams and Williams (2004) found in an African American sample, an inequality between males and females regarding academic achievement. African American males were also thought to receive more corporal punishment and be suspended more than any other group when compared to other youths across gender and race (Gregory, 1997).

Bandura et al. (1999) found that perceived academic self-efficacy seems to be a mediator for risk behaviour and depression. Children with high levels of academic self-efficacy were found to achieve a high academic performance and displayed low levels of risk behaviours. It appears that high levels of self-efficacy promote academic achievements and change the way one constructs and reacts to failure, thereby decreasing susceptibility to negative peer influences and depression. Furthermore, high academic self-efficacy may contribute to the

adolescent successfully fending off peer pressure to engage in risk behaviours (Bandura et al., 2003). Conversely, Muris (2002) found that a low sense of academic self-efficacy is strongly associated to school phobia. Similarly, Taylor, Davis-Kean and Malanchuk, (2007) state that having a negative self-concept or rather, negative cognitive representation of oneself in a particular domain like academic abilities, may be linked to increased aggression in that context, for example the school. This negative self-concept could lead to a negative emotional state which in turn could result in the likelihood of aggression (Berkowitz, 1993). Thus having high academic self-efficacy may reduce the acting out of negative social behaviours and mediate affective mood states in adolescents.

Secondly, social self-efficacy beliefs, according to Bandura (quoted in Coleman, 2003), signify the ability to react competently in an interpersonal situation. This includes the ability to initiate and sustain friendships, co-operate with others and to deal with conflict situations in socially appropriate ways (Bandura et al., 1999). This knowledge of how to engage in social behaviours is acquired through the process of socialisation. Implicit in this knowledge is a range of behaviours that one uses successfully to elicit positive social interaction. During adolescence the peer group plays an important role in what is deemed socially acceptable and whether the adolescent is accepted into the peer group. It is important to note that the need to be accepted by the peer group is fundamental to this developmental stage (Geldard & Geldard, 1999). However the urge to be accepted by one's peer group could compel adolescents to conform either positively or negatively to the demands of the group.

In a study done by Matsushima and Shiomi (2003), high levels of social self-efficacy were found to correlate negatively with interpersonal stress and positively correlated with interpersonal stress coping. Consequently adolescents who acquired a strong sense of efficacy for coping with interpersonal demands were less vulnerable to peer pressure and

dysfunction (Caprara et al., 2003). Similarly, in a study done by Muris (2002) adolescents with high levels of social self-efficacy had a strong negative relationship to social phobia. Thus one could conclude that the higher adolescents' social self-efficacy the less interpersonal stress they are likely to experience, they may be less likely to develop social phobias and have enhanced social functioning.

The last domain, emotional self-efficacy, is defined as the perceived ability to cope with negative emotions (Muris, 2001). According to Bandura (1986), emotions often constitute the basis of social relationships and the duration of these relationships. During social interactions, socio-culturally constructed rules indicate when the demonstration of certain emotions is appropriate and when it is considered inappropriate (Bandura et al., 2003). However, negative emotions are a natural part of life and socially accepted behaviour demands that emotions such as anger, jealousy or belittling of others be effectively controlled. The inability to control such emotions could result in social sanctions. Consequently the belief that we have the ability to manage these negative emotions allows us to handle interpersonal relationships more effectively (Caprara et al., 2003).

Further, Muris (2002) found a significant relationship between self-efficacy and depression and anxiety in adolescents. It was found that low levels of, specifically emotional self-efficacy, were strongly linked with high levels of anxiety and depressive symptoms. Likewise Caprara, Regalia and Bandura (2002) found that the inability to control one's emotions could be a predictor for negative social behaviours when the quality of the familial relationship and the number of previous wrongdoings are taken into account. Participation in negative social behaviours may lead to the adolescent experiencing a sense of hopelessness and social withdrawal (Caprara et al., 2003). Thus a high emotional self-efficacy could be crucial in the maintaining of good mental health during adolescence. On the other hand, although believing that one can cope with negative emotions is seen as a

contributing factor to good mental health, some researchers hold that, not only does adolescents have to cope with negative emotions, but accept them as part of a healthy self-esteem (Salmivalli, 2001).

From this discussion of perceived self-efficacy and its different domains of academic, social and emotional self-efficacy, it can be deduced that perceived self-efficacy is an integral part of optimal adolescent development. Given that aggression is a negative affective state and is regarded as a socially unacceptable means of interacting, this study will explore the possible relationship between self perceived self-efficacy beliefs and self-reported aggression levels in a group of adolescents.

2.2.1 Differences in self-efficacy across gender, age and socio-economic contexts

In most research done on self-efficacy it has been established that gender consistently seems to be a differentiating factor. In a study done by Muris (2001) to test the reliability and validity of the Self-Efficacy questionnaire for Children, he found that girls reported lower scores on the total score of the scale, as well as on the emotional self-efficacy subscale than boys. In a follow-up study, Muris (2002) confirmed these differences, where the girls in the former study, reported lower levels of self-efficacy on the total score as well as on the emotional self-efficacy subscale than the boys. These findings differ with those of Bandura et al. (1999), where gender differences were found regarding academic self-efficacy and where girls attained higher scores than boys. Similar results were found by Saunders et al. (2004) with African American adolescent females, who reported significantly higher levels of academic self-efficacy than adolescent males. However, in a study by Wettersten et al. (2005), no significant gender differences were found in academic self-efficacy. Also, in Bandura et al.'s (1999) study, the boys attained higher social self-efficacy scores than the girls. Contrary to this finding, a study by Coleman (2003)

exploring perceptions of middle childhood of social self-efficacy and peer relationships, found that females in her study had significantly higher social self-efficacy scores than boys. This was also substantiated by Vera et al. (2004) who found that adolescent females had significantly higher social self-efficacy scores compared to their male counterparts. Thus there seems to be significant gender differences with regards to the total self-efficacy and also on the different self-efficacy subscales.

Age was also found to be a differentiating factor in self-efficacy. In a study done by Peetsma, Hascher, Van der Veen and Roede (2005), adolescents' social self-concept or a cognitive representation of oneself in a particular domain, such as social abilities, was significantly higher in younger adolescents (12-13 years) than in older adolescents (14-16 years). Interestingly, in the same study academic self-efficacy was predictive of academic achievement across all age groups. Similarly, a more generalised self-efficacy was found to be significantly linked to future education and career orientation in a younger adolescent African American, rural sample than their older adolescent counterparts (Kerpelman & Mosher, 2004). However in a study to explore the influence of a generalised self-efficacy on depression, no significant differences in self-efficacy on the basis of age were found (Pössel, Baldus, Horn, Groen & Hautzinger, 2005).

Bergman and Scott (2001) contend that there is contradicting literature about the influence of socio-economic status on adolescent well-being. While a study by Amato and Booth (1997) stresses the importance of socio-economic environment on an adolescent's healthy development, other studies have found a lack of association between the two (West, 1997; West, MacIntyre, Annadale & Hunt, 1990). Bergman and Scott (2001) found that in their adolescent sample, socio-economic predictors linked with adolescents' residence and, for example, the father's unemployment, had unexpectedly little effect on the youth's mental well-being. Furthermore, according to Kerpelman and Mosher (2004), adolescents who

lack access to the necessary resources such as community centres, may be hampered in their successful attainment of their developmental tasks and identity formation. Adolescents may also be hindered through their residential location to build support networks that strengthen resilience, for example, the inadequate delivery of mental health services to isolated rural areas and economic instability in these communities (Markstrom, Marshall & Tryon, 2000). Thus, residential area also seems important to adolescents' healthy mental development. Tsuno and Yamazaki (2007) compared psychosocial factors of randomly selected rural and urban individuals in Japan and found that urban participants generally had higher socio-economic status than their rural counterparts. This finding, coupled with higher social support and self-efficacy scores, seems to have contributed to urban individuals having a higher sense of coherence and well-being than their rural counterparts in their study.

2.3 Aggression as a risk factor to adolescent mental health

Around the world adolescents' exposure to violence seems to have become a prevailing problem (Vermeiren, Schwab-Stone, Deboutte, Leckman & Ruchkin, 2003). This also holds true for South Africa as the recent crime statistics seem to indicate. Statistics from the Information Management Centre (2007) reveal that from April to March 2006/2007 there were 19 202 murders, 52 617 rapes, 218 030 assault with the intent to inflict grievous bodily harm and 210 057 common assault cases in South Africa. Figures like these result in analysts referring to South Africa as a country with a 'culture of violence'. According to Vogelmann and Simpson (1990), in a society where violence is seemingly endemic, it appears as if violence is sanctioned as a means to resolve problems and attain goals. From the statistics it would seem that the experience of violence and aggression in South Africa seems to be an everyday occurrence for many adolescents living in the urban as well as rural areas of South Africa (Leoshcut & Burton, 2006).

2.3.1 Violence contextualised in South Africa

It is important to understand that violence in South Africa is very much part of this country's history and heritage. South Africa's struggle with violence is a remnant of the apartheid system where violence was instrumental as a mechanism of oppression. During the 1980s' political violence reached a peak and continued throughout the 1990's (Hamber & Lewis, 1997). Furthermore, South Africa also has a history of male violence and especially domestic violence (Hamber & Lewis, 1997; Lucas, 2003). Violence in South Africa, it is suggested, can thus be ascribed to many causal factors including a patriarchal social order that seem to regard women and children to be of less importance (Lucas, 2003). A range of other psycho-social factors, such as not having sufficient coping skills to deal with frustration, aggressive parents that serve as models for aggressive behaviour, poor socio-economic circumstances and dysfunctional family relations also seem to contribute towards a climate of violence in South Africa (Poggenpoel & Myburgh, 2002). Further, the perception that there seems to be no negative consequences for criminal behaviour are also suggested as a possible cause for high crime levels (Hamber & Lewis, 1997).

Violence in the Western Cape is a worrying phenomenon. According to Leggett (2004b), the Western Cape Province appears to have four and a half times more reported crime than the Limpopo province. Recent figures show that the Western Cape's rate of murder has increased from 2,750 in 2005/2006 to 2,881 in 2006/2007 (Information Management, 2007). When compared to the figures for the murder rate in other provinces this figure is still fairly high and a cause for concern. The Western Cape's statistics for indecent assault, 2 806 in 2006/2007, is the highest in the country when compared to other provinces like Gauteng where 1 970 reported cases for indecent assault, is the second highest figure in this category. The Western Cape's 2006/2007 statistics, in the category assault with intent

to inflict grievous bodily harm, stands at 25, 905, which is lower when compared to the 2005/2006 figures of 28, 479. When compared with other provinces, these figures are still fairly high. It is interesting to note that the Western Cape, where there was relatively little political violence during the period 1990-1994, but an extensive past of gang and criminal violence, has the highest prevalence of violent crime in the country (Lucas, 2003).

Furthermore, according to Leggett (2004a), the causes for the high levels of violence in the Western Cape can be ascribed to among others, substance abuse, over-crowded living, gangsterism and interpersonal violence. The legacy of this violence, according to Leggett, is entrenched in the history of oppression and marginalisation in South Africa. Thus, it can be concluded that the high levels of violence in the Western Cape may influence the communities, families and the development of adolescents living in this province.

2.3.2 The impact of violence on adolescent mental health

According to Dawes (2003), statistics show that most of the non-natural deaths among 15-19 year olds are caused by shooting and stabbing. A survey conducted among a group of 11-14 year old learners from low-income settings revealed that 90% had witnessed some form of assault and a further 47% had been victims of assault. High and constant levels of exposure to violence could put adolescents at risk for developing an array of possible mental health problems such as depression, anxiety and anti-social behaviour (Ward et al., 2007).

Adolescents could be exposed to violence in a number of social contexts (Guerin & Hennessy, 2002; Hastings & Kelley, 1997). These contexts include their homes, schools, neighbourhoods, geographic regions, religious groups, culture and country. All these environments exert some influence over the development of adolescents, although this discussion will only focus on the home, school and community. According to Brown

(2002) and Angless and Shefer (1997), aggressive behaviour experienced by children in the home is most often the expression of displaced aggression and is linked with issues such as poverty, substance abuse and exposure to parental violence. Family poverty especially, may increase the stress that parents, in their role as caregivers, may feel (Guerin & Hennessy, 2002) and this in turn could increase their stress levels. This can have an influence on their disciplinary practices, the ability to supervise their children as well as the attachment relationship between parents and children. Adolescents, who witness aggression in their homes, between parents and are themselves victims of abuse, tend to exhibit increased aggressive tendencies (Richters & Martinez, 1993).

Violence in schools also seems to be a more frequent occurrence in South Africa. Zulu, Urbani, Van der Merwe and Van der Walt (2004) found these occurrences included brawling, stone-throwing, name-calling, knife attacks, armed robbery, sexual harassment and murder, among others. De Wet (2003) identified internal and external factors that contribute to violence in schools. Internal factors include low self-image, emotional problems and peer pressure. External factors include poverty, unemployment and the disintegration of communities. Zulu et al. (2004) contend that negative disruptions in the home, negative psychological as well as socio-economic factors are risk factors for violence in schools. Becker (2000) and Elliasov and Frank (2000) concur that adolescents, through their exposure to violence in schools, are at risk to develop psychological and social distress and this may be expressed through the adolescents' engaging in aggressive behaviour themselves.

Violence in communities in South Africa is not a new occurrence. Community violence is experienced in various ways, but gangs and gangsterism is most acutely felt and affects everyone in the community (Van Wyk, 2001). Adolescents tend to become involved in gangs for a plethora of reasons, some of which are lack of parental supervision, over-

crowded living conditions and even to escape violence in the home (Dissel, 1997; Leggett, 2004a). Exposure to this type of violence can lead to disruption of the adolescent's ability to master his/her environment, the ability to form relationships or thwart the adolescent's social development as a whole (Du Plooy, 2002; Pietersen, 2002).

2.4 Aggression as a construct

According to Buss and Perry (1992), aggressive behaviour has four different elements, namely physical aggression, verbal aggression, anger and hostility. Physical and verbal aggression refers to hurting or injuring another and is the instrumental part of aggressive behaviour. Anger which involves psychological arousal and preparing for aggressive behaviour represents the emotional component of aggression (Buss & Perry, 1992). According to Buss and Perry (1992), anger correlated relatively high with the other three subscales. They argue that a possible explanation for this was that anger acted as a psychological bridge of sorts between the instrumental and cognitive components of aggression. They state that most times anger is a prelude for aggressive actions. People are more likely to act aggressively when they are angry than when they are not. However, not all angry feelings lead to corresponding aggressive behaviour as anger can be expressed in many other ways, other than aggressive behaviour (Salmivalli, 2001). Lastly, hostility includes feelings of malice and unfairness and represents the cognitive component of aggression (Buss & Perry, 1992). Previously, hostility was seen as a negative attitude that involved the loathing and negative evaluation of others (Buss, 1961). Miller, Smith, Turner, Guijarro and Hallet (1996) found that the cognitive variables of cynicism and denigration (unfair criticism) to be distinct to the construct of hostility. According to Guerin and Hennessy (2002), children who exhibit higher levels of aggressive behaviour have slightly differing cognitions than their classmates and they tend to show less empathy to their peers who are in distress. These findings propose that aggressive children differ

from their peers in that they interpret the world as a threatening place, thus a place where they deem aggression to be acceptable. Thus it may be concluded that if adolescents interpret their world as a hostile place, they are more likely to behave aggressively.

2.4.1 Differences in aggression across gender, age and socio-economic contexts

Gender differences regarding aggressive behaviour is well documented (Krahé, 2001). It has always been found that men constantly outnumber women when it comes to being the perpetrators of criminal offences. Loeber and Stouthamer-Loeber (1998), state that the developmental course of aggressive behaviour in males and females differs. In adolescence females seem to become aggressive without any history of aggressiveness and their involvement in severe violence tends to peak before males. The adolescent stage is also associated with an increase in cross-gender aggressive behaviour. In middle childhood, direct physical aggressive behaviour is observed in arguments between girls as well as boys. During adolescence though, arguments between girls were observed to become less violent, in contrast to adolescent boys, whose disagreements continued to include physical aggressive behaviour (Loeber & Hay, 1997). In a study done by Bernstein and Gesn (1997) they found that all males scored marginally higher than females on all four facets of the Aggression Questionnaire (Buss & Perry, 1992), namely physical and verbal aggression as well as anger and hostility. In the same trend, Webster (2007) found that males reported higher physical aggression scores than females. Similarly, Ritter (2003) found that males reported significantly higher levels of physical as well as verbal aggression than their female counterparts. Likewise, Kristensson and Öhlund (2005) found adolescent males also had significantly higher values for physical and verbal aggression as well as hostility. Similar results were found by Von Collani and Werner's (2005) study, with the exception, that the females scored significantly higher with regard to anger than males. Miotto et al. (2003a) not only found that adolescent males scored significantly higher on the total

aggression score than adolescent females, but that all adolescents who reported suicidal feelings had significantly higher scores than those who did not. In Sullivan (2005), in a similar sample as the present study, the adolescent males scored significantly higher in physical aggression than the females, while the females, on the other hand, scored significantly higher on the hostility subscale than the males. Furthermore, Björkqvist, Lagerspetz and Kaukiainen (1992) found that there tends to be gender differences in the use of direct or indirect aggression amongst adolescents. Girls seem to be more indirect in their aggressive behaviour whereas boys tend to be more direct. These authors ascribe this to the fact that girls are known to mature faster verbally than boys, and are thought to have the increased verbal skills necessary for manipulation which is used in indirect forms of aggression. However, in a study done by Toldos (2005) it was found that boys were significantly more physically and verbally aggressive and no significant differences were found when it came to indirect aggression.

Aggression also seems to differ on the basis of age as a study by Archer and Haigh (1997) found a negative relationship between age and aggression. In a study by Archer (2004), hostility was inversely correlated with age, with hostility decreasing as age increased. In the same study verbal aggression was negatively correlated with age for males but not for females, and anger was negatively correlated with age across both genders, whereas physical aggression demonstrated no significant relationship with age. However in Toldos (2005), it was found that younger adolescents (14-15 years) used more verbal and indirect aggression than older adolescents. Particularly 14-year olds used verbal aggression more frequently than 17-year olds. However, in the same study no significant differences were found in physical aggression on the basis of age. Also no significant differences were found in the use of physical aggression in girls from 14-17 years. In boys from 14-17 years no significant differences were found on the basis of physical or verbal aggression.

Similarly, Miotto et al. (2003a) in a comparable age sample, found no significant differences with regards to aggression, in either of the genders on the basis on age.

Lastly, the socio-economic environments where adolescents live also seem to influence their behaviour (Ruchkin, Eisemann & Hägglöf, 1998). In a national South African study done by Leoschut and Burton (2006) it was suggested that youths that reside in metropolitan areas experience more exposure to violence than their urban counterparts, with rural youth having the least amount of exposure to violence. However, in a study done by Raine et al. (2006) it was found that participants coming from low socio-economic backgrounds at age 7, scored higher on proactive aggression when tested again at age 16. Similarly, Winslow and Shaw (2007) found that single family structure, lower family income-to-needs and higher maternal depressive symptomology were uniquely associated with living in lower socio economic areas. They also found that overt problem behaviour was positively correlated with disadvantaged neighbourhoods at age 6, but not younger. Conversely, in a study by Miotto et al. (2003b) no significant differences in aggression scores were found in either gender on the basis of socio-economic environment.

This literature review explored adolescent mental health and the importance of self-efficacy for healthy adolescent development. Self-efficacy as a construct and the effect of gender, age and socio-economic variables on self-efficacy were discussed. Furthermore, the expression of aggression in adolescence and the variables of gender, age and socio-economic contexts were discussed in relation to aggression among adolescents.

CHAPTER 3

THEORETICAL OVERVIEW

In the following chapter a theoretical overview of self-efficacy and aggression will be discussed in order to further the understanding of the reader of both concepts. Firstly, theories regarding self-efficacy will be discussed and thereafter, the Social Learning theory and Ecological Model will be used to explore aggression.

3.1 Theories on self-efficacy

3.1.1 Social Cognitive theory

Bandura's Social Cognitive theory facilitates understanding human beings' cognitions, actions and emotions and is grounded on the assumption that people are capable of self-reflection and also able to regulate themselves (Bandura, 1989a). This theory assumes that people are actively involved in shaping their reality, rather than just passively reacting to their environment (Maddux, 1995).

Central to the Social Cognitive theory is the notion of triadic reciprocal determinism (Bandura, 1989b). According to Bandura, behaviour can be categorised in terms of triadic reciprocal exchanges, namely, person-behaviour (P-B), person-environment (P-E) and behaviour-environment (B-E). Firstly, the P-B interaction is the interaction between a person's thoughts and affect with a person's behaviour. This principle postulates that what people think and feel influence how they act (Bandura, 1986). Their behaviour then in turn, partly has a reciprocal effect on their thought patterns and emotions.

Secondly, the P-E segment of the reciprocal relationship refers to the interaction of people's characteristics with their environment. People's expectations and beliefs are influenced by social influences that convey information to the individual through

modelling and instruction (Bandura, 1986). People, themselves, evoke different responses from their environment by their physical qualities such as their gender, age, race and physical attractiveness (Lerner, 1982). A person's role or status might also elicit different reactions, for example an adolescent who bullies others, will garner diverse reactions from his peers and teachers (Bandura, 1989b).

Lastly, the B-E segment of the interaction refers to the influence between behaviour and the environment. According to Bandura (1989b), people are both the product and producers of their environment. Sometimes, when a person is constrained within a physical or social environment, certain aspects of the situation may encroach on the freedom of the individual to behave as desired. How a person behaves draws the distinction between the potential and actual environment. For example, lecturers cannot have an effect on students if the students do not attend the lecturer's class. More often than not people tend to select activities in terms of their own competencies and thus create as well as select which behaviours are developed (Bandura, 1989b).

The three sources of information about human behaviour discussed above may exert a reciprocal influence on each other, to varying degrees (Stone, 1998). The influences that these three sources, cognition, behaviour and environmental events, have on each other are not necessarily at the same time or of equal strength. They are, however a prerequisite for the complete understanding of human behaviour. These interactions ultimately help us make sense of who we are by the varying information we get from the different interactions (Maddux, 1995). Different facets of psychology explore the different aspects of the triadic reciprocal relationship as described above, of which the Self-efficacy theory is an example of (Bandura, 1986).

3.1.2 Self-Efficacy theory

Bandura's (1986) Self-efficacy theory is mainly concerned with the personal cognition factor of the triadic reciprocal relationship. The theory purports to look at the effect of cognitive factors on behaviour and the environment as well as the effect that a person's behaviour and the environment have on a person's cognitions (Maddux, 1995). This theory asserts that all change, be it psychological or behavioural, is operationalised through the modification of an individual's sense of personal mastery or self-efficacy (Bandura, 1986). Originally self-efficacy was defined as a very specific expectation of adolescents' abilities in a specific setting. This definition has slightly changed and has been expanded to incorporate a more general form of self-efficacy, namely, adolescents' belief about their own capabilities to exercise control over events in their life (Bandura, 1989a). Self-efficacy beliefs are not about the abilities that adolescents possess, but their judgement of what they can do with those abilities. Thus self-efficacy beliefs are regarded as having a strong effect on adolescents' choice of activities, environments as well as the amount of effort and persistence they will invest in their behaviour when faced with adversity (Cowen et al., 1991; Pössel et al., 2005). Also, adolescents' beliefs about their personal efficacy are important aspects of their self-esteem and self-concept. If one's sense of competence is high for an ability that one values, then this will contribute to high self-esteem and visa versa (Maddux, 1995).

Self-efficacy theory holds that adolescents' beliefs about their personal competencies and abilities are produced through the interaction of information from six main sources namely, performance experiences, vicarious experiences, imaginal experiences, verbal persuasion, physiological arousal and emotional states (Bandura, 1977). Firstly, an adolescent's success or failure is a very influential source of self-efficacy information. If one succeeds at an ability or task, self-efficacy expectations are strengthened. Then again, failure at a

task or inability weakens self-efficacy expectations. This view is supported by Kerpelman and Mosher (2004) who found that there is a strong link between the future orientation of adolescents and self-efficacy. They found that if adolescents lack self-efficacy through repeated failure, then orientation towards future opportunities was small.

Secondly, vicarious experiences or observational learning is the act of learning from others by observing them. It plays an important role in acquiring behaviour without executing the actual behaviour (Stone, 1998). This also ties into the Social Learning theory of how aggressive behaviour is acquired. Vicarious experiences generally have weaker effects on self-efficacy expectations than direct personal experiences (Bandura, 1977). Thirdly, adolescents can influence their personal efficacy beliefs by imagining themselves or others behaving successfully or unsuccessfully in future situations. These images may be derived from actual or vicarious experiences gained by the adolescent.

Fourthly, verbal persuasion is believed to be a less effective way of influencing personal efficacy beliefs than direct or vicarious experiences. The effectiveness of verbal persuasion is dependent on the trustworthiness, attractiveness and expertness of the source of persuasion like one's parent, teacher or peer (Petty & Cacioppo, 1981). Vera et al. (2004) in their study to explore the relationship between conflict resolution styles and self-efficacy, found that girls in the study had higher social self-efficacy than boys. They posit that this could be due to verbal persuasion by girls' parents or teachers who view girls as more vulnerable to violent conflicts than boys.

Fifthly, physiological states influence self-efficacy beliefs when aversive physiological arousal is linked with poor performance or perceived failure. Therefore, the likelihood of adolescents doubting their competency increases when they experience disagreeable physiological arousal, more so, than if they were to experience a pleasant physiological

state (Maddux, 1995). Lastly, an adolescent's emotional state may be an additional source of information of their self-efficacy. Adolescents are more likely to have strong personal efficacy beliefs when their affect is positive rather when their affect is negative. For example, depression and anxiety may have a weakening effect on self-efficacy beliefs (Bandura et al., 1999).

3.2 Theories on aggression

3.2.1 Biological theories

Theories of aggression from a biological perspective suggest that the evolution of the human species plays a significant role in human aggression. These theories maintain that aggression and violence are the natural consequences of evolution. In order to survive, our forefathers had to be aggressive, thus they were in superior physical shape, which increased the likelihood of them procreating more so than their peaceful counterparts (Wilson & Daly, 1996). To illustrate this point, Geary (1998) found that jealousy seems to be a large contributing factor to homicidal violence amongst young males. These young males' jealousy of their girlfriends or wives is believed to be the evolution of particular psychological consequences in aid of strengthening the males' confidence of his paternity of any children born from the union. In addition, males aggressively compete with each other for what is considered scarce resources, in further efforts to secure reproductive opportunities (Geary, 1998). To date, such arguments have been largely dismissed by social psychologists, who are of the opinion that socio-cultural variables are stronger determinants of aggression than psycho-evolutionary ones (Geen, 2001). Additionally, they resist the notion that aggression and violence is seen as 'natural' behaviours, which somehow calls for the acceptance and even approval of such behaviour (Geen, 2001).

Biological attributes have been linked with varying levels of aggressive behaviour (Ritter, 2003). The most notable differentiating factor in support of evolutionary theory is gender and particularly the role of steroid hormones, particularly the male hormone testosterone. Although the interplay between these hormones and aggression is not simplistic, it is widely accepted that the level of steroid hormones in the body, seem to have an effect on aggression and is also affected by aggression (Archer, Biring & Wu, 1998; Miczek, Mirsky, Carey, Debold & Raine, 1994).

Furthermore, according to Raine (quoted in World Health Organisation, 2002) low heart rates may be linked to sensation-seeking and risk-taking behaviour. Particularly, adolescent males with low heart rates may be prone to aggressive behaviour in an attempt to increase stimulation and excitement levels. Likewise, LeBlanc and Frechette's (quoted in World Health Organisation, 2002) study of delinquency in Canada, indicated that nearly 50% of violent attacks by perpetrators in their youth were induced by thrill seeking compared to 50% brought about by rational objectives.

The influence of hormones, brain functioning and genetics lends further support to the biological foundation of aggression. Chatz (1972) found that the administration of estrogen to male sexual offenders significantly lowered their levels of aggression. Furthermore, Moffit et al. (1998) highlights the deregulation of neurotransmitters in particular. The hormone, serotonin and an irregular brain structure may result in increased aggressive behaviour. Likewise Vogel (2002), states that genetics and brain diseases are possibly linked as causal aspects to aggressive behaviour. He hypothesises that hormones like serotonin and testosterone can cause more aggressive behaviour in humans. However, most researchers acknowledge and agree that biological factors on their own do not wholly explain the phenomenon of aggression and that further research into the role that social and cultural factors play is necessary (Ritter, 2003).

3.2.2 Psychological theories

3.2.2.1 Psychoanalysis

According to Sigmund Freud, human beings are driven by inner forces and unconscious instincts, which influence behaviour. Thus, aggression is a manifestation of the unconscious forces within the individual (Olson & Hergenhahn, 2003). The two unconscious processes thought to play a role in aggressive behaviour is the death instinct (thanatos) and the life instinct (eros). Freud theorised that the death instinct, forms an integral part of an individual's psyche and is responsible for inducing aggressive behaviour through its destructive tendencies. In contrast the life instinct strives to encourage living organisms to find a connection with each other and thus form strong unities. It is hypothesised that these two conflicting instincts are in harmony with each other, except when developmental challenges are not satisfactorily met. Some of the critique levelled at psychodynamic theories is firstly, that they lack robustness on empirical grounds and secondly, it does not account for the complexity of human responsiveness (Bandura, 1973).

3.2.2.2 Social Information Processing theory

Huesmann's (1988) Social Information Processing theory states that aggressive behaviour is controlled by behavioural repertoires obtained through socialisation in the early years of development. From the behavioural experiences acquired over the years, adolescents develop social scripts (cognitive schemata pertaining to circumstances and happenings) that inform all forms of behaviour (Krahé, 2001). These scripts contain representational data about a given context and the range of behaviours that can be expected in that context as well as consequences of the various behavioural options one has in the situation (Krahé, 2001). Thus, all behaviour is attributed meanings which can be either positive or negative. For example a person with a history of aggressive behaviour may be more likely to

attribute hostile meaning to behaviour in a situation they view as threatening. Consequently this hostile attribution may elicit an aggressive script when the individual feels threatened. Therefore this person may be more likely to behave aggressively in future as this aggressive script is incorporated into his/her response repertoire (Krahé, 2001).

3.2.2.3 Social Learning theory

Social Learning theory has its roots in behaviourism and this perspective has a strictly mechanical view of behaviour (stimulus-response), which means only observable behaviour was used in experimental studies in an effort to conduct empirically rigorous research. However, in the effort to avoid unobservable constructs like drives, this particular perspective ignored determinants of man's behaviour that arises from his cognitive functioning (Bandura, 1973). Critique levelled against this theory includes the idea that humans are thinking beings that have the capacity to direct their own actions in a situation. People can symbolise certain environmental influences and use these representations to guide their action later. They can also predict the possible outcomes of their behaviour and thus change their behaviour accordingly. These capabilities point to the working of higher mental processes and also allow both insight and foresight in behaviour (Bandura, 1973).

The Social Learning theory states that if a significant model, someone that is seen as a role model, is observed this could lead to the learning of behaviour and the maintenance of these behaviours through reinforcement (Geen, 2001). Youths observe frequent instances of aggression in their homes, schools, communities and also television. By seeing these aggressive behaviours, they gradually learn certain rules of conduct for example: one may get your own way by using force (Geen, 2001). The decision of whether or not the behaviour will be acted out depends on the consequences of the behaviour on the model. If the model's behaviour is to act aggressively towards peers and the consequence is that the

model gains power through his actions, then the behaviour as well as the consequence act as external stimuli that elicit aggressive behaviour (Krahé, 2001). Individual factors such as age, gender and the individual's value system also play a role in a repertoire of aggression. The degree to which an individual is willing to acquire behaviour depends on the extent of the correspondence of the behaviour with the individual's own value system (Bandura, 1973).

Bandura (1986) postulates that the process of social learning depends on the formation of mental images of events happening in the social environment. The rewards or punishments that an adolescent may receive for his learned behaviour (aggression) is presented in the form of certain expectancies about the possible future outcome of the aggressive behaviour and also the value that aggressive behaviour may have for the adolescent. For example, an adolescent that bullies his peers in order to attain certain results, will eventually come to believe that the continuance of his bullying behaviour, in similar settings, will continue to deliver worthwhile results (Geen, 2001). As a result, aggression is highly valued by the bullying adolescent and he/she is more likely to repeat the behaviour when suitable situational prompts are present (Geen, 2001). In addition to the high expectancy of reward following the use of aggression, the reinforced individual also develops a sense of confidence in being able to execute the necessary aggressive behaviours. These self-efficacy expectations are motivating factors for behaviour (Geen, 2001; Perry, Perry & Rasmussen, 1986).

3.2.2.4 Ecological model

Bronfenbrenner's (1979) Ecological model is an important model to view the diverse influences that impact on the adolescent's development. This model suggests that individuals are situated within an environment that consists of four mutually interacting

and influencing systems (Scileppi, Teed & Torres, 2000). The smallest system - the microsystems level - includes significant people that the adolescent comes into contact with on a daily basis. The next level is the mesosystem that includes the connection of two or more microsystems. The third level is the exosystem. This refers to settings that are further removed from the adolescent but could indirectly influence their well-being. These could include local community conditions, parents' employment or the media. The fourth and last level is the macro level and it includes broad societal factors such as culture, economic conditions and legislation that could influence the adolescent's well-being.

Thus, from an ecological perspective there are several contextual risk factors that could influence adolescents' behaviour. Firstly on the individual level there are various psychological and behavioural factors that might predispose an adolescent to be violent. These are attention problems, high risk-taking behaviour and low levels of achievement in school (World Health Organisation, 2002). Secondly, relationship level factors such as family influences and peer influences are very important. These include poor monitoring and supervision of children, parental conflicts, deprived socio-economic circumstances of the family and having delinquent friends could be risk factors for aggressive behaviour among adolescents (Guerin & Hennessy, 2002).

Thirdly, community level includes factors such as the presence of gangs and levels of crime and violence prevalent in the community. In the National youth victimisation study undertaken by Leoschut and Burton (2006) it was reported that many youths stay in close proximity to people who transgress the laws of the country. They found that especially young people from the Western Cape and North West province were most likely to know such offenders. Youths from the Western Cape were most likely than any other province to be familiar with someone that made a living by being involved with drug related activities. It seems that living in such circumstances, not only could threaten an adolescent's physical

and psychological well-being, but could also influence his/her sense of security. Lastly, the societal level comprises factors such as social changes, similar to the experience by South Africa – moving from an apartheid social structure to a democratic country. Also cultural factors like the patriarchal system and the prevailing culture of violence in South Africa, referred to previously in this paper, could influence the development of South African adolescents.

The abovementioned theories' efforts to explain behaviour, fall within the framework of the triadic reciprocal determinism outlined in Bandura's (1989a) Social Cognitive theory. The Social Learning theory, as well as the Ecological model, places the individual within an environment where both the environment and the individual reciprocally influence each other. Thus, through the presence of aggressive role models or a culture of violence in their communities, some adolescents may be negatively influenced through their exposure to violence, possibly putting them at risk for becoming aggressive themselves. Furthermore, the Social Learning theory, Social Information Processing theory and the Ecological model, also incorporate the person-behaviour segment of triadic reciprocal determinism. Individuals influence their own behaviour by their affect and thoughts and their affect and thoughts, in turn, is influenced by their behaviour. Hence, high risk taking behaviour, low academic achievement, aggressive social scripts developed through early socialisation and viewing aggressive behaviour as rewarding may all influence adolescents to regard aggression as acceptable behaviour and be more likely to act aggressively. In contrast to the abovementioned theories, the Psychodynamic and Biological paradigms tend to have a one-sided view of the causal mechanisms of behaviour. They explain behaviour through unconscious drives or biological determinants such as hormones and genetics, respectively.

Psychological theories help us to understand, explain and predict human behaviour. Thus, the self-efficacy theories, biological, psychological, Social Information and Social

Learning theories were explicated in this chapter to facilitate our understanding of the course and development of aggression amongst adolescents. The central assumptions of the Ecological model were also discussed in this section and formed the theoretical conceptualisation for this study.

CHAPTER 4

METHODOLOGY

This chapter describes the methodology employed in the present study. Firstly it presents the aims of the study and sets out the research questions for the study. Secondly the research design and the measuring instruments used as well as the descriptive statistics of each questionnaire are also presented. Thirdly, the procedure used to execute the research is given, followed by the ethical considerations that had to be taken into account in the carrying out of this study. The description of the data analysis methods used to examine the data concludes this section.

4.1 Aims of study

This study had two major aims. The primary aim was to determine the nature of the relationship between self-perceived efficacy and self-reported aggression among a sample of adolescents. The secondary aim was to look at possible differences between gender, age and socio-economic contexts pertaining to self-reported aggression and self-perceived efficacy.

Thus this research attempted to answer the following questions:

- 1) It is hypothesised that there is a significant difference in self-efficacy as measured by the Self-efficacy Questionnaire for Children between adolescent males and females in terms of:
 - a) Total self-efficacy
 - b) Academic self-efficacy
 - c) Social self-efficacy
 - d) Emotional self-efficacy

- 2) It is hypothesised that there is a significant difference in self-efficacy as measured by the Self-efficacy Questionnaire for Children between early and middle adolescence in terms of:
 - a) Total self-efficacy
 - b) Academic self-efficacy
 - c) Social self-efficacy
 - d) Emotional self-efficacy

- 3) It is hypothesised that there is a significant difference in self-efficacy as measured by the Self-efficacy Questionnaire for Children between adolescents living in peri-urban and rural environments in terms of:
 - a) Total self-efficacy
 - b) Academic self-efficacy
 - c) Social self-efficacy
 - d) Emotional self-efficacy

- 4) It is hypothesised that there is a significant difference in aggression as measured by the Aggression Questionnaire between adolescent males and females in terms of:
 - a) Total aggression
 - b) Physical aggression
 - c) Verbal aggression
 - d) Anger
 - e) Hostility

- 5) It is hypothesised that there is a significant difference in aggression as measured by the Aggression Questionnaire between early and middle adolescence in terms of:
 - a) Total aggression

- b) Physical aggression
 - c) Verbal aggression
 - d) Anger
 - e) Hostility
- 6) It is hypothesised that there is a significant difference in aggression as measured by the Aggression Questionnaire between adolescents living in peri-urban and rural environments in terms of:
- a) Total aggression
 - b) Physical aggression
 - c) Verbal aggression
 - d) Anger
 - e) Hostility
- 7) It is hypothesised that there is a significant relationship between aggression and self-efficacy as measured by the total scores and subscales of both the Aggression Questionnaire and Self-efficacy Questionnaire for Children.
- 8) It is hypothesised that there is a significant difference between groups of adolescents with high Total Self-efficacy and low Total Self-efficacy in terms of:
- a) Total aggression
 - b) Physical aggression
 - c) Verbal aggression
 - d) Anger
 - e) Hostility
- 9) It is hypothesised that there is a significant difference between groups of adolescents with high Academic Self-efficacy and low Academic Self-efficacy in terms of:

- a) Total aggression
 - b) Physical aggression
 - c) Verbal aggression
 - d) Anger
 - e) Hostility
- 10) It is hypothesised that there is a significant difference between groups of adolescents with high Social Self-efficacy and low Social Self-efficacy in terms of:
- a) Total aggression
 - b) Physical aggression
 - c) Verbal aggression
 - d) Anger
 - e) /Hostility
- 11) It is hypothesised that there is a significant difference between groups of adolescents with high Emotional Self-efficacy and low Emotional Self-efficacy in terms of:
- a) Total aggression
 - b) Physical aggression
 - c) Verbal aggression
 - d) Anger
 - e) Hostility

4.2 Research Design

This study incorporated a cross-sectional survey since it provides a static snapshot of self-reported functioning in terms of aggression and self-efficacy. This design typically does not allow for the establishing of temporal order, however it does not impede the testing of the hypothesis since a mutually predictive relationship rather than a one-tailed causality is

being tested (Dooley, 1995). A cross-sectional survey was done for this quantitative study in order to view the possible differences between self perceived self-efficacy and self-reported aggression in boys and girls in early and middle adolescence as well as differences in peri-urban and rural environments in this sample.

4.3 Sample

The population in this study were coloured, Afrikaans speaking high school learners from mid- to low socio-economic communities residing in and around a peri-urban town, Worcester in the Western Cape. Learners from the communities of Rawsonville, Esselenpark, Riverview, Roodewal and some surrounding farms in the area attend the secondary schools selected for this study. For this study, a distinction between rural and peri-urban is made. The term rural, denotes children of farm workers who are transported to school in town everyday, and the term peri-urban, describes children who live within the town. The proposed size of the sample was 360 high school learners ranging from grades eight to eleven. The size of the final sample used in this study was 344 learners and their ages range from thirteen years to nineteen years. For the purposes of this study the sample was divided into early adolescence consisting of thirteen to fourteen year olds and middle adolescence which includes fifteen to nineteen year olds (Thom, Louw, Van Ede & Ferns, 1999). The three participating schools in the study constituted the sampling frame from which this population was randomly sampled. This is a non-probability sample as all the schools in the area had unequal chances of being selected (Kaplan, 1987). According to Williams (2003), when researching populations that are very specific or uncommon, more often than not, non-probability sampling is used. This study focuses specifically on Coloured youths and as such, high schools with a more diverse learner population in terms of race were excluded. Table 1 presents the biographical data of the entire sample so as to give a general picture of who the participants are. Following this, Table 2 presents

information regarding the rural participants' use of leisure time, socio-economic environment and exposure to violence and Table 3 presents the information for the peri-urban participants. Separate group statistics were given to indicate other differential aspects in the experiences of the two groups.

Table 1

Demographic Profile of the Sample (N=344)

Variable	Categories	f	Percentage (%)
School	1	86	25
	2	134	39
	3	124	36
Gender	Male	142	41.3
	Female	189	54.9
	Missing data	13	3.8
Age	Early adolescence (13-14)	120	34.9
	Middle adolescence (15-19)	210	61.1
	Missing data	14	4.1
School grade	Gr. 8	90	26.5
	Gr. 9	79	23
	Gr. 10	83	24.1
	Gr. 11	87	25.3
	Missing data	5	1.5

According to Table 1, this sample is comprised of more female participants (54.4%) than male (41.3%) with the average age being 15 years. The larger portion of the sample (61%) falls into the middle adolescence category.

Table 2

Demographic Profile of the Rural Participants (n = 77)

Variable	Categories	f	Percentage (%)
Participating in Extramural Activity	Yes	36	46.8
	No	41	53.2
	Missing data	0	
Caregiver(s) with whom adolescents live	Parents	37	48.1
	Mom	20	26
	Dad	2	2.6
	Grandparents	5	6.5
	Aunt/Uncle	6	7.8
	Guardian	3	3.9
	Missing data	4	5.2
Education level of caregiver(s)	None	6	7.8
	Primary school	21	27.3
	High school	34	44.2
	Tertiary education	12	15.6
	Other	1	1.3
	Missing data	3	3.9
Are caregiver(s) gainfully employed?	Yes	71	92.2
	No	6	7.8
	Missing	0	
Places where participants have seen occurrences of violence during the last month	In my house	8	10.4
	In my school	31	40.3
	In my neighbourhood	19	24.7
	In my town	10	13
	None	22	28.6
	Missing data	2	2.6

Table 3

Demographic Profile of the Peri-urban Participants (n = 261)

Variable	Categories	f	Percentage (%)
Participating in Extramural Activity	Yes	134	51.3
	No	126	48.3
	Missing data	1	0.4
Caregiver(s) with whom adolescents live	Parents	153	58.6
	Mom	62	23.8
	Dad	2	0.8
	Grandparents	18	6.9
	Aunt/Uncle	11	4.2
	Guardian	12	4.6
	Missing data	3	1.1
Education level of caregiver(s)	None	8	3.1
	Primary school	27	10.3
	High school	151	57.9
	Tertiary education	63	24.1
	Other	3	1.1
	Missing data	9	3.4
Are caregiver(s) gainfully employed?	Yes	222	85.1
	No	37	14.2
	Missing	2	0.8
Places where participants have seen occurrences of violence during the last month	In my house	31	11.9
	In my school	97	37.2
	In my neighbourhood	121	46.4
	In my town	67	25.7
	None	65	24.9
	Missing data	2	0.8

When comparing Tables 2 and 3, it seems as though a higher percentage of rural adolescent's caregivers are formerly employed (92%) than their peri-urban counterparts (85%). Conversely, peri-urban adolescent's caregivers seem to have a higher rate of high school attainment - (57.9%), as well as tertiary qualification (24%) compared to their rural counterparts of whom 44% attained high school and 15.6% tertiary qualifications. Interestingly, 40.3% of rural adolescents reported a high incidence of witnessing violence in their own school compared to a lower 37.2% of peri-urban adolescents. In addition, 24.7% of rural adolescents indicated that they have witnessed violence in their own neighbourhood compared to a much higher 46.4% of peri-urban adolescents. It is noteworthy that a significant proportion of the entire sample reported a high incidence of witnessing violence in their own neighbourhood (41%) and in their own school (38.4%). .

4.4 Measuring Instruments

Three questionnaires were used in this study, namely, a biographical questionnaire, the Self-Efficacy questionnaire for Children (Muris, 2001) and the Aggression questionnaire (Buss & Perry, 1992). The measures were originally compiled in English, but were translated into Afrikaans through translation and back-translation, as this is the home language of all of the participants. Both of these measures are self-report measures as research has demonstrated that self-report questionnaires garner unique information about the psychological status and internalised cognitions of adolescents, especially with respect to aggression, self-esteem and related constructs (La Greca, 1990). Indeed, Gothelf, Apter, and Van Praag (1997) state that cognitive and varying aspects of aggressive behaviour are possibly best assessed using self-report measures. Likewise, Baldry and Winkel (2004) state that self-reported measures are reliable where issues of confidentiality are concerned amongst adolescents.

4.4.1 Biographical questionnaire

The biographical questionnaire was constructed by the researcher to gather information to describe the sample population. Data regarding socio-economic status, living environment, how participants spend their free time and extramural activities were gathered with this questionnaire. Participants were also questioned on their exposure to violence in the past month. (See Appendix A.)

4.4.2 Self-Efficacy questionnaire for Children

The *Self-Efficacy Questionnaire for Children* (SEQ-C) (Muris, 2001) was used to assess and measure self-efficacy across three domains. This 24-item scale is a shortened version and is based on the 37-item Perceived Self-Efficacy Scales (Bandura et al., 1999). Muris (2001) used three items of Bandura et al.'s Perceived Self-efficacy Scales and also added the Emotional self-efficacy subscale. (See Appendix B.) The first subscale of the SEQ-C, academic self-efficacy (8 items), refers to how one perceives one's ability to control one's own learning behaviour, to excel in academic subjects and to meet expectations of academic excellence. An example of a question measuring academic self-efficacy is "How well can you get teachers to help you when you get stuck on schoolwork?" The second subscale is social self-efficacy (8 items), which refers to the self-perceived ability to be assertive and initiate and sustain good peer relationships. An example of this sub-scale is "How well can you become friends with other learners?" The last subscale, emotional self-efficacy (8 items), refers to one's self-perceived ability to cope with negative emotions. An example of this subscale's questions is "How well do you succeed in cheering yourself up when an unpleasant event has happened?" Each item is scored on a 5-point Likert-scale where 1 represents 'not at all' and 5 represents 'very well' (Muris, 2001). The scoring ranges from 24 to 120. The higher the score obtained the higher the perceived self-efficacy

will be. The questionnaire was standardised on a group of Belgian Caucasian adolescents with ages ranging from 14 to 17 (Muris, 2001). The internal consistency of the scale is appropriate, as it scored .88 on Cronbach's alpha for the total self-efficacy score in a study done by Muris (2001). For the subscales of the same study the Cronbach alpha was .85 for the Social self-perceived efficacy scale; .88 for the Academic self-perceived efficacy scale and .86 for the Emotional self-perceived efficacy scale, all deemed acceptable levels of internal consistency. Mostert (2007) also used the SEQ-C on a South African sample and found Cronbach alphas of .83 for the total scale.

4.4.2.1 Reliability of Self-Efficacy Questionnaire for Children in current study

The reliability of the SEQ-C, in other words, the ability of the questionnaire to accurately measure the construct that it is supposed to measure, in this case, self-efficacy for the current study is presented in Table 4.

Table 4

Measures of Internal Consistency for the SEQ-C and its Subscales

Scale	Cronbach's Alpha
Total Scale	.79
Academic Self-Efficacy	.74
Social Self-Efficacy	.56
Emotional Self-Efficacy	.58

For this present study acceptable Cronbach alphas were yielded for the total scale (.79) as well as for the Academic Self-efficacy subscale (.74) (George & Mallory, 1999). This compares favourably with the Cronbach alpha of .83 found by Mostert (2007) in a similar South African sample. The Cronbach alphas yielded for both the Social (.56) and

Emotional Self-efficacy (.58) subscales of the present study are, however, deemed as unacceptable. George and Mallory (1999) states that a Cronbach alpha equal to or exceeding 7.0 is deemed as acceptable for psychological research. Reasons for the low alphas may be that the learners did not fully understand the questions and were too shy to ask the researcher for assistance in the presence of their peers. It may also be that learners viewed the questionnaire as a test and rushed through the questionnaire in order to finish it quickly.

4.4.2.2 Descriptive statistics for the Self-Efficacy Questionnaire for Children

The descriptive results of the SEQ-C's subscale and total scores representing the levels of self reported self-efficacy are reflected in Table 5.

Table 5

Descriptive Statistics for the Scores Obtained for the Self-Efficacy Questionnaire for Children (N=344)

Scale	Minimum	Maximum	Mean	S.D.
Total Score SEQ-C	24	110	81.98	11.87
Perceived Academic Self-efficacy	10	38	27.60	4.98
Perceived Social Self-efficacy	10	40	27.78	4.81
Perceived Emotional Self-efficacy	11	40	26.60	5.08

As seen in Table 3 this sample obtained high mean self-efficacy scores in the total score as well as the subscales. Compared to Muris (2001), the present sample obtained slightly higher means on the Total self-efficacy score, Academic self-efficacy and Emotional self-efficacy subscales.

4.4.3 Aggression Questionnaire

The *Aggression Questionnaire* (AQ) (Buss & Perry, 1992) was used to assess the participants' self-reported aggression levels. This questionnaire was chosen as it is widely used and its validity well reputed (Vigil-Colet, Lorenzo-Seva, Codorniu-Raga & Morales, 2005). The AQ measures aggression on four scales, namely, Physical (9 items) and Verbal (5 items) aggression measures the instrumental and motor component of aggression. Examples of questions of these subscales, respectively, are "I can't control the urge to strike another person" and "I tell my friends openly when I disagree with them". The third subscale, Anger (7 items), measures the emotional side of aggression and "When frustrated I let my irritation show" is an example of an item on this subscale. Lastly, the subscale Hostility (8 items) measures the cognitive aspect of aggression, by asking "I am sometimes eaten up with jealousy" (Buss & Perry, 1992). The AQ has 29 items that measures aggression on a 4-point Likert-scale, where 1 represents 'never' and 4 'always' (Buss & Perry, 1992). (See Appendix C.) The learner chooses the response that most suits the regularity of their aggressive behaviour. The range of scores that can be achieved is from 29-120. Items 14, "I am an even tempered person" and 23 "I can think of no good reason for hitting a person" were reversed scored. A higher score indicates a higher aggression level. The AQ is appropriate for the sample population as it has been standardised for school children between the ages of 9 – 18 (Buss & Perry, 1992). They reported appropriate internal consistencies of the sub-scales with Physical Aggression reflecting .85; Verbal Aggression .72; Anger .83 and Hostility .77. The Cronbach alphas for the total score of the AQ was .89 which is excellent and indicates considerable internal consistency among scales (Buss & Perry, 1992). The reliability of the total AQ score was found to be .80 in the same study and the test-retest ability of the sub-scales was shown to be .80; .76; .72 and .72 in the Physical, Verbal, Anger and Hostility sub-scales, respectively (Buss &

Perry, 1992). These coefficients propose adequate stability over time for scales with a relatively small number of items.

The AQ was translated into Afrikaans as predominately Afrikaans schools were chosen for the study and it was expected that all of the children's home language would be Afrikaans. Sullivan (2005) utilised the Afrikaans version of the AQ in a study on a similar sample of South African adolescents which makes comparison between the two samples possible. He reported Cronbach alphas for the translated AQ, of .66 for the total score, .59 for the Physical Aggression subscale, .57 for the Verbal Aggression subscale, .51 for Anger subscale and .56 for the Hostility subscale.

4.4.3.1 Reliability of Aggression Questionnaire in current study

The following table presents the reliability of the AQ for this sample.

Table 6

Measures of Internal Consistency for the AQ and its Subscales

Scale	Cronbach's Alpha
Total Scale	.81
Physical Aggression	.65
Verbal Aggression	.57
Anger	.59
Hostility	.62

The alpha coefficient attained in this study for the total AQ scale is .81, which is deemed as good internal consistency of the measure by George and Mallory (1999). The Cronbach alphas yielded for the Physical Aggression (.65) and Hostility (.62) subscales are considered low. Compared to what Sullivan (2005) reported, using a similar population as the current study, the alphas in this study is higher for the total scale as well as for the

Physical Aggression and Hostility subscale. This possibly means that the present sample had a better understanding of the questions asked in the AQ than the sample in Sullivan's study. The alpha coefficient yielded for both the Verbal Aggression (.57) and Anger (.59) subscales are regarded as unacceptable.

4.4.3.2 Descriptive statistics of the Aggression Questionnaire

Table 7 illustrates the prevalence of self-reported aggression in the present sample through the analysis of the minimum, maximum, mean and standard deviation of the AQ.

Table 7

Descriptive Statistics for the Aggression Questionnaire Scores (N=344)

Scale	Minimum	Maximum	Mean	S.D.
Total Score AQ	34	96	59.90	11.64
Physical Aggression	10	32	18.68	4.65
Verbal Aggression	5	20	10.10	2.77
Anger	7	25	13.84	3.73
Hostility	8	29	17.28	4.07

The relatively high mean scores on the total score (59.90) as well as the subscales namely, physical aggression (18.68), verbal aggression (10.10), anger (13.84) and hostility (17.28) imply that the current sample has relatively similar levels of aggression when compared to Sullivan (2005).

4.5 Procedure

Approval to conduct the research was granted by the Stellenbosch University Ethical Board and thereafter the Western Cape Department of Education was approached for permission to conduct the research. (See Appendix D.) After permission was granted from

the relevant authorities, the researcher approached the school principals for permission to conduct the research at the different schools. Once this was granted, all the practical arrangements and the liaison with the class teachers were made. The research was conducted over two days at each school.

The first day the researcher introduced herself to the relevant classes, explained the research being undertaken and the due process of informed consent. Ample time was given for any queries or questions that participants had. Each of the four classes was seen separately during lesson time. Informed consent forms were given to the participants for them and their parents to sign. (See Appendix E.) The next day the researcher collected all the signed forms and only those participants who had parental/guardian consent participated in the research. After handing out the questionnaires, the researcher clarified the instructions with the learners and allowed time for any questions. The researcher assisted with the first three questions of the Biographical questionnaire to help facilitate a clearer understanding among participants on how to complete the questionnaires. A period of 60 minutes was set aside for completion of the questionnaires. After the participants completed the questionnaires, the researcher thanked them. Time was allowed for debriefing which allowed a satisfactory conclusion of the research. The researcher conducted all the research herself to ensure the uniformity of the research process.

4.6 Ethical Considerations

The researcher took care to conduct the research in an ethically sound manner. The participants had to have a signed consent form from their parents/ guardian to be able to participate in the study. Participants were assured of anonymity and confidentiality. Thus their answers to some questions of a sensitive nature would be confidential and not traced

back to a specific individual. Furthermore the researcher undertook to report the results to each of the schools and the Western Cape Education Department.

4.7 Data Analysis

The questionnaires were typed into a data file using the Statistical Package for Social Sciences (SPSS) (George & Mallory, 1999). After this was done statistical procedures were run to answer the stated research questions. A correlation matrix was run to check for any co-variants that may have an influence on the results of the research questions and none were found. For questions one to six and eight to eleven analysis of variance (ANOVA) was used to test for significant differences between the average scores, attained on the SEQ-C and AQ, of selected groups. This is regarded as the most suitable method as this study wishes to compare the mean scores of two or more separate groups to gauge whether the average score of one group is significantly higher than the other group/s (Howitt & Cramer, 2003). For research question seven, Pearson's correlation was employed in order to determine the nature and the significance of the relationship between self-efficacy and aggression. The results of these computations are tabulated in the ensuing chapter.

CHAPTER 5

RESULTS

This chapter presents the results of the statistical analyses of the data gathered in an effort to answer the research questions and subsequent hypotheses outlined in Chapter 4. The results were presented in an order that correspond with the ordering of the research questions.

5.1 Research question 1

This question hypothesized significant gender-based differences in Self-efficacy, as estimated by the SEQ-C, both on the total and subscales scores. An ANOVA was employed to test for significant differences between males and females on the respective SEQ-C scores. Table 8 presents the findings for the gender-based group comparisons.

Table 8

Means and Results of Analyses of Variance for Gender Differences Regarding Self Perceived Self-efficacy

Form of Self Perceived Self-efficacy	Males (n=142)	Females (n=189)	<i>df</i>	<i>F</i>	<i>p</i>
	Mean Score (SD)				
Total (Overall) self efficacy	79 (12.51)	84.20 (11.08)	330	16.03	.00**
Perceived Academic Self-efficacy	26.35 (4.93)	28.52 (4.93)	329	15.79	.00**
Perceived Social Self-efficacy	27.18 (5.03)	28.25 (4.65)	329	4.02	.05*
Perceived Emotional Self-efficacy	25.47(5.38)	27.43 (4.61)	329	12.72	.00**

* $p < 0.05$

** $p < 0.01$

The findings reported above suggest that significant differences were found in overall self-perceived self-efficacy, as well as on academic, social and emotional self-efficacy at a .01 alpha level. Similarly a significant difference was found in perceived social self-efficacy at a .05 alpha level. Thus the null hypotheses are rejected and the alternative hypotheses are accepted. Female learners consistently scores significantly higher than male learners in this study in their perceived overall self-efficacy, as well as academic, social and emotional self-efficacy.

5.2 Research question 2

The second research question posited that there would be significant differences between age-based groups, i.e. early and middle adolescents, in terms of perceived self-efficacy as measured by the SEQ-C. An ANOVA was employed to test the hypothesized differences for significance and the results are reflected in Table 9 below.

Table 9

Means and Results of Analyses of Variance for Age Differences Regarding Self-Perceived Self-efficacy.

Form of Self Perceived Self-efficacy	Early adolescence (n=120)	Middle adolescence (n=210)	<i>df</i>	<i>F</i>	<i>p</i>
	Mean Score (SD)				
Total (Overall) self efficacy	82.57 (11.41)	81.74 (12.14)	1	0.37	.55
Perceived Academic Self-efficacy	28.28 (4.84)	27.23 (5.08)	1	3.36	.07
Perceived Social Self-efficacy	27.71 (4.78)	27.87 (4.86)	1	0.09	.77
Perceived Emotional Self-efficacy	26.58 (5.10)	26.64 (5.10)	1	0.01	.92

The results tabulated in Table 7 above indicate that no significant differences were found in perceived overall self-efficacy, as well as academic, social and emotional self-efficacy between groups on the basis of age. Since a main effect for age could not be supported empirically, the findings necessitate the acceptance of the null hypotheses for age-based differences in self-efficacy, as estimated by the SEQ-C.

5.3 Research question 3

The third research question hypothesised that significant differences would be found in perceived self-efficacy between groups on the basis of residential area. Table 10 below contains the results from the ANOVA testing for residential-based differences in perceived self-efficacy.

Table 10

Means and Results of Analyses of Variance for Residential Area Differences Regarding Self Perceived Self-efficacy

Form of Self Perceived Self-efficacy	Rural (n=77)	Peri-urban(n=261)	<i>df</i>	<i>F</i>	<i>p</i>
	Mean Score (SD)				
Total (Overall) self efficacy	78.88 (12.60)	83.07 (11.55)	337	7.47	.00**
Self Perceived Academic Self-efficacy	26.82 (5.59)	27.90 (4.79)	336	2.83	.09
Self Perceived Social Self-efficacy	26.90 (4.81)	28.11 (4.81)	336	3.77	.05*
Self Perceived Emotional Self-efficacy	25.17 (4.87)	27.05 (5.11)	336	8.26	.00**

* $p < 0.05$

** $p < 0.01$

Table 8 indicates that learners from peri-urban areas reported significantly higher estimates of perceived overall self-efficacy and emotional self-efficacy at an alpha level less .01 than

learners from rural areas. Similarly, significant differences in perceived social self-efficacy were reported between peri-urban and rural learners at an alpha level of .05. Thus the null hypotheses for the abovementioned comparisons were rejected and the alternative hypotheses accepted for the residential-based differences in overall, social and emotional self-efficacy. The null finding for residential-based differences in perceived academic self-efficacy ($p > .05$) indicates learners did not report differentially on their perceived academic self-efficacy. Thus the null hypothesis is accepted and the alternative hypothesis was rejected.

5.4 Research question 4

The fourth research question hypothesised that there would be significant differences in Aggression, as measured by the AQ (overall total as well as on the subscales), between males and females. Table 11 summarises the results from the ANOVA employed to test for significance.

Table 11

Means and Results of Analyses of Variance for Gender Differences Regarding Aggression

Form of Aggression	Males (n=142)		Females (n=189)		<i>p</i>
	Mean	SD	<i>df</i>	<i>F</i>	
Total (Overall) aggression	60.25	(11.81)	330	0.26	.61
Physical Aggression	20.10	(4.72)	329	24.34	.00**
Verbal Aggression	9.91	(2.77)	329	0.79	.37
Anger	13.75	(3.81)	329	0.08	.78
Hostility	16.49	(4.12)	329	9.82	.00**

** $p < 0.01$

From Table 9 it becomes apparent that male adolescents reported significantly higher levels of physical aggression than female adolescents ($p < .01$), whereas female adolescents reported significantly higher levels of hostility than male adolescents ($p < .01$). Thus the alternative hypotheses for physical aggression and hostility are accepted and the null hypotheses rejected. Null findings were reported for the hypothesized gender-based differences in anger, verbal aggression, and overall aggression ($p > .05$). The null hypotheses have been accepted and the alternative hypotheses rejected.

5.5 Research question 5

This research question posited age-based differences in aggression, as measured by the AQ. An ANOVA was employed as the test for significance and the results have been tabulated in Table 12.

Table 12

Means and Results of Analyses of Variance for Age Differences Regarding Aggression

Form of Aggression	Early adolescence	Middle adolescence	<i>df</i>	<i>F</i>	<i>p</i>
	(n=120)	(n=210)			
	Mean Score (SD)				
Total (Overall) aggression	60.83 (11.74)	59.21 (11.75)	1	1.46	.23
Physical Aggression	19.03 (4.60)	18.47 (4.79)	1	1.08	.30
Verbal Aggression	10.23 (2.91)	10.04 (2.74)	1	0.35	.55
Anger	14.06 (3.64)	13.66 (3.84)	1	0.85	.36
Hostility	17.51 (4.38)	17.03 (3.86)	1	1.05	.31

Null findings were reported for all hypotheses subsumed in research question five and the null hypotheses have been accepted ($p > .05$). Thus it appears that there were no significant differences in the levels of aggression reported by early and middle adolescents in the study.

5.6 Research question 6

This question hypothesised that significant residential-based differences would be found in aggression, as measured by the AQ (both total score and subscales). An ANOVA was employed as the test of significance and the results have been tabulated in Table 13.

Table 13

Means and Results of Analyses of Variance for Residential Area Differences Regarding Aggression

Form of Aggression	Rural (n=77)	Peri-urban (n=261)	<i>df</i>	<i>F</i>	<i>P</i>
	Mean Score (SD)				
Total (Overall) aggression	60.17 (11.40)	59.83 (11.69)	337	0.05	.82
Physical Aggression	18.31 (4.48)	18.78 (4.68)	336	0.60	.44
Verbal Aggression	9.96 (2.74)	10.13 (2.74)	336	0.22	.64
Anger	14.05 (3.85)	13.74 (3.70)	336	0.43	.51
Hostility	17.84 (4.32)	17.19 (3.98)	336	1.54	.22

Null findings were reported in Table 11 for all the residential-based hypotheses of difference in aggression subsumed in question six. Thus the null hypotheses were all accepted and the alternative hypotheses were rejected. The findings suggest that adolescents from rural and peri-urban areas did not report significantly differently in the levels of overall aggression, physical and verbal aggression, anger, as well as hostility.

5.7 Research question 7

This research question posited that there would be a significant relationship between self-efficacy and aggression, as measured by the total scores as well as the subscales of both the Self-efficacy Questionnaire for Children and Aggression Questionnaire. Table 14 summarises the results of the Pearson correlations performed to test for significant associations between the various scores obtained on the SEQ-C and AQ respectively.

Table 14

Pearson Correlation Coefficients for Total and Subscale Scores of both Self-efficacy Questionnaire for Children (SEQ-C) and Aggression Questionnaire (AQ) (N=344)

Variables	AQ	Subscales			
	Total score	Physical aggression	Verbal aggression	Anger	Hostility
SEQ-C Total score	-.037	-.059	.063	-.117*	.025
Academic Self- efficacy	-.153**	-.144**	-.061	-.172**	-.075
Social Self- efficacy	-.037	-.039	.082	-.138**	.008
Emotional Self-efficacy	.098	.039	.130*	.027	.124*

* p<0.05

** p<0.01

Significant correlations were found between overall self-efficacy and anger ($r = -.117$); and emotional self-efficacy and verbal aggression ($r = .13$), as well as emotional self-efficacy and hostility ($r = .12$) at an alpha level $< .05$. Significant correlations were reported between social self-efficacy and anger ($r = -.14$); academic self-efficacy and overall

aggression ($r = -.15$), academic self-efficacy and physical aggression ($r = -.14$), as well as academic self-efficacy and anger ($r = -.17$) at an alpha level $< .01$.

The results indicate that overall self efficacy was inversely correlated with anger. That is, that increased perceptions in self-efficacy are significantly correlated with decreases in anger. Emotional self-efficacy and verbal aggression, as well as hostility were significantly correlated in a positive direction suggesting that increments in perceived self-efficacy were significantly associated with increments in verbal aggression and hostility.

Inverse significant correlations were reported between academic self-efficacy and overall aggression, physical aggression, as well as anger. These findings suggest that increased academic self-efficacy was associated significantly with decreased overall aggression, physical aggression and anger. Similarly an inverse correlation was reported between social self-efficacy and anger suggesting that anger decreases as perceived social self-efficacy increases. The correlations reported above though significant, remain modest.

5.8 Research question 8

This research question tested whether significant differences in aggression, as measured by the AQ, were empirically supported between groups of adolescents with high and low levels of perceived Self-efficacy. In other words, were there significant differences in aggression based on levels of perceived self-efficacy? The high and low self-efficacy scores were obtained by, respectively, adding and subtracting one standard deviation point from the mean score. This was done for research questions eight to eleven. Table 15 reflects the results of the ANOVA employed to test for the hypothesised differences. .

Table 15

Means and Results of Analysis of Variance for Differences in Aggression between Groups with High and Low Total Self-efficacy scores.

Form of Aggression	High Total Self- efficacy scores (n=61)	Low Total Self- efficacy score (n=51)	<i>df</i>	<i>F</i>	<i>p</i>
	Mean Score (SD)				
Total (Overall) aggression	55.22 (12.24)	60.21 (12.70)	341	5.05	.01**
Physical Aggression	16.31 (3.91)	18.33 (4.99)	341	9.27	.00**
Verbal Aggression	9.90 (2.68)	9.84 (2.93)	341	0.58	.56
Anger	12.06 (3.84)	14.69 (3.85)	341	7.92	.00**
Hostility	17.00 (4.21)	17.30 (4.95)	341	0.14	.87

** $p < 0.01$

Significant differences were found in overall aggression, Physical aggression and Anger on the basis of perceived self-efficacy at alpha levels $< .01$. The low self-efficacy group consistently reported higher levels of overall aggression, physical aggression and anger than the high self-efficacy group. Thus the alternative hypotheses for the hypothesized differences in overall aggression, physical aggression and anger were accepted.

5.9 Research question 9

This question tested whether there would be significant differences in aggression between groups of adolescents with high or low levels of Academic Self-efficacy. Table 16 reports on the results of the ANOVA employed to test for significance.

Table 16

Means and Results of Analysis of Variance for Differences in Aggression between groups with High and Low Academic Self-efficacy scores.

Form of Aggression	High Academic Self-efficacy scores (n=53) Mean Score (SD)	Low Academic Self-efficacy score (n=71) Mean Score (SD)	<i>df</i>	<i>F</i>	<i>p</i>
Total (Overall) aggression	54.49 (9.79)	61.94 (11.56)	341	7.43	.00**
Physical Aggression	16.53 (4.27)	18.94 (4.72)	341	7.02	.00**
Verbal Aggression	9.19 (2.26)	10.04 (2.80)	341	3.81	.02*
Anger	12.68 (3.45)	15.03 (3.49)	341	6.46	.00**
Hostility	16.09 (2.85)	17.9 (4.65)	341	3.23	.04*

* $p < 0.05$

** $p < 0.01$

The findings reflected in Table 14 significant differences between high- and low academic self-efficacy groups in terms of verbal aggression and hostility at alpha levels $< .05$. The findings also indicate significant differences between high- and low academic self-efficacy groups in terms of overall aggression, physical aggression and anger at alpha levels $< .01$. Adolescents with high academic self-efficacy consistently reported lower levels of overall aggression, verbal aggression, hostility, physical aggression, and anger than learners with low academic self-efficacy. Thus the null hypotheses subsumed in this research question were rejected and the alternative hypotheses accepted.

5.10 Research question 10

The tenth research question hypothesised that significant differences in aggression will be reported between adolescents with high and low perceived Social Self-efficacy. Table 17 reports on the results of the ANOVA employed to test for significance.

Table 17

Means and Results of Analysis of Variance for Differences in Aggression between groups with High and Low Social Self-efficacy scores.

Form of Aggression	High Social Self-efficacy scores (n=39) Mean Score (SD)	Low Social Self-efficacy score (n=58) Mean Score (SD)	<i>df</i>	<i>F</i>	<i>p</i>
Total (Overall) aggression	56.31 (13.26)	59.03 (11.76)	341	2.60	.08
Physical Aggression	17.13 (4.81)	18.50 (4.96)	341	2.73	.07
Verbal Aggression	9.90 (2.72)	9.59 (2.60)	341	1.52	.22
Anger	12.21 (4.22)	14.28 (3.37)	341	4.43	.01**
Hostility	17.08 (3.92)	16.67 (4.52)	341	.92	.40

** $p < 0.01$

From Table 15 it becomes evident that adolescents with high levels of perceived social self-efficacy reported significantly lower levels of anger than adolescents with low levels of perceived social self-efficacy at an alpha level $< .01$. The null hypothesis was rejected and the alternative hypothesis was accepted. Null findings for the remainder of the hypothesised differences in overall aggression, physical aggression, verbal aggression and hostility were reported and the null hypotheses accepted consequently.

5.11 Research question 11

This question tested whether there was a significant difference in aggression between groups of adolescents with high and low Emotional Self-efficacy. The hypothesised differences were tested for significance by means of an ANOVA and the tabulated results are reflected in Table 18.

Table 18

Means and Results of Analysis of Variance for Differences in Aggression between groups with High and Low Emotional Self-efficacy scores.

Form of Aggression	High Emotional Self-efficacy scores (n=48) Mean Score (SD)	Low Emotional Self-efficacy score (n=67) Mean Score (SD)	<i>df</i>	<i>F</i>	<i>p</i>
Total (Overall) aggression	60.63 (14.63)	57.87 (11.25)	341	1.29	.28
Physical Aggression	18.40 (4.84)	18.30 (4.86)	341	.48	.62
Verbal Aggression	10.81 (3.10)	9.46 (2.57)	341	3.44	.03*
Anger	13.65 (4.46)	13.36 (3.40)	341	.88	.42
Hostility	17.77 (4.70)	16.75 (4.74)	341	.94	.39

* $p < 0.05$

A significant difference was found in Verbal aggression between the High Emotional self-efficacy group and the Low Emotional self-efficacy group at an alpha level $< .05$. The null hypothesis was rejected and the alternative hypothesis accepted for the hypothesised difference in verbal aggression between groups based on the level of emotional self-efficacy. The results indicate that the high emotional self-efficacy group reported significantly higher levels of verbal aggression than the low emotional self-efficacy group.

Null findings for the hypothesized differences in overall aggression, physical aggression, anger and hostility were reported ($p > .05$). Consequently the null hypotheses for these hypothesized differences were accepted whilst the alternative hypotheses were rejected.

The ensuing chapter will provide an integrated discussion of the results.

CHAPTER 6

DISCUSSION, LIMITATIONS AND RECOMMENDATIONS

The present study endeavoured to determine the nature of the relationship between self-perceived self-efficacy and self-reported aggression. Furthermore, an effort was made to establish if there were any significant difference between perceived self-efficacy and self-reported aggression with regards to gender, age and residential area. These hypotheses were tested using a variety of statistical methods and the results were presented in the preceding chapter. This chapter discusses these results further by comparing it to other existing research, where possible, and suggesting reasons for the results concurring with or contradicting with the existent body of literature. This chapter ends with the limitations of the study with recommendations for future studies. The discussion will follow the ordering of the hypotheses in the previous results chapter.

6.1 Discussion

6.1.1 Research question 1

The first research question asked whether there are significant differences in self perceived self-efficacy between males and females in terms of their overall self-efficacy, academic self-efficacy, social self-efficacy and emotional self-efficacy scores. The findings indicate that gender does serve as a differentiating factor as female learners scored significantly higher than male learners in this study, in their overall self-efficacy, as well academic, social and emotional self-efficacy. Thus the null hypotheses were rejected and the alternative hypotheses accepted. This is similar to the findings by Bandura et al. (1999), where female learners reported higher academic self-efficacy than male learners and that of Saunders et al. (2004), who found that African American female learners reported higher

academic self-efficacy than their male counterparts. Coleman's (2003) findings were similar to this study, in that adolescent females had significantly higher social self-efficacy than adolescent males and Vera et al.'s (2004) study also yielded comparable results as they also found female learners reporting significantly higher social self-efficacy than male learners. A potential reason for girls attaining higher academic self-efficacy than boys may be due to the fact that girls seem to receive more verbal persuasion, regarded as a source of self-efficacy, than boys from parents and teachers (Vera et al., 2004). Female learners seem to be regarded as more vulnerable to violence than males, thus they appear to need more verbal encouragement, such as praise for work well done, to be successful in their studies (Kerpelman & Mosher, 2004; Vera et al., 2004). Furthermore, Björkqvist et al. (1992) alluded to female learners seeming to mature faster verbally, than male learners. This might give females the necessary skills and confidence in their ability to initiate and sustain friendships, thereby making them potentially more socially self-efficacious than their male counterparts.

This study's results are, however, contradicting to Muris (2001) where female learners reported lower overall, as well as lower emotional self-efficacy. These findings were repeated in Muris's (2002) findings as female learners, once again, reported lower overall and emotional self-efficacy than male learners. This inconsistency may be due to the low Cronbach alpha's yielded for the emotional self-efficacy subscale influencing the reliability of the subscale in the present South African sample. As discussed in the literature, South Africa has undergone immense political changes the past ten years. In South Africa's new democracy it seems that there has been a vast focus on women's rights on a national- and local government level. According to the Ecological model, the adolescent is set within four mutually, interactive systems. Thus it might be inferred that female adolescents, in the micro system, are influenced by the focus on women's rights on

the macro government level, thereby having a positive influence on how female adolescents view women and their abilities, thus raising their beliefs about what they can accomplish with their own skills and abilities i.e. their self-efficacy beliefs.

6.1.2 Research question 2

The second research question endeavoured to test whether there are significant differences in self-efficacy between early and middle adolescence in terms of their overall self-efficacy, academic-, social- and emotional self-efficacy scores. The results of this study indicate that no significant differences in overall self-efficacy, academic, social or emotional self-efficacy were found between groups on the basis of age. This finding requires the acceptance of the null hypothesis for age-based differences in self-efficacy as approximated by the SEQ-C, since a main effect for age could not be empirically supported. This current study found similar results to Pössel et al. (2005) as no significant differences in overall self-efficacy on the basis of age were found. Likewise, Peetsma et al. (2005) found academic self-efficacy to be predictive of academic achievement of all adolescents irrespective of age.

On the other hand, Kerpelman and Mosher (2004) did find overall self-efficacy to be more significantly linked to future education and career aspirations amongst early adolescents than middle adolescents in an African American sample. Furthermore, Peetsma et al. (2005) found that adolescents' social self-concepts, a construct related to, but distinct from self-efficacy, was significantly higher in early adolescence than middle adolescence. It might be that this study's null finding, with regards to age-based differences in self-efficacy may be, in part, a consequence of the relative unequal numbers of participants in each age cohort used in the current study. It might also be inferred that self-efficacy was looked at in relation to aggression in the current study, a risk factor to adolescents, whilst

the abovementioned studies looked at the construct of self-efficacy as it related to more neutral constructs such as future educational beliefs.

Another possible reason for this null outcome might be that there may be a scarcity of positive role models for this sample due to the current culture of violence in South Africa (Leoschut & Burton, 2006). The Self-efficacy theory posits that the strongest sources of self-efficacy are through an adolescent's own success or failure and also through vicarious learning experiences. Thus, it seems reasonable to infer that the longer adolescents are exposed to positive role models the more self-efficient they might be. However, due to the culture of violence in South Africa, adolescents are more likely to be exposed to negative violent experiences, either as victims or perpetrators, and thus threatening all adolescents' self-efficacy and security, regardless of age.

6.1.3 Research question 3

The third question tried to test if there would be a significant difference in self-efficacy between adolescents living in peri-urban and rural environments in terms of their overall self-efficacy, academic-, social-, and emotional self-efficacy scores. The present study revealed that significant differences were to be found on the overall self-efficacy, social and emotional self-efficacy in terms of living in a rural or peri-urban environment. Thus the null hypotheses for the abovementioned comparisons were rejected and the alternative hypotheses accepted for the residential-based differences in perceived overall, social and emotional self-efficacy. The null finding for residential-based differences in perceived academic self-efficacy indicates that learners did not report differentially on their perceived academic self-efficacy. Thus the null hypothesis was accepted and the alternative hypothesis rejected.

This significant difference in rural and peri-urban adolescents' self-efficacy could be attributed to adolescents living in town having a relatively higher socio-economic status than their counterparts living on rural farms and thus being more exposed to positive verbal encouragement from parents, teachers and peers. It might also be that rural adolescents have less recreational opportunities, thus fewer occasions to engage socially with their peers. Mental health services might be more easily accessible to peri-urban adolescents than those living in a rural context which may hamper rural adolescents' successful attainment of their developmental tasks (Markstrom et al., 2000; Kerpel & Mosher, 2004).

This study found similar results to Tsuno and Yamazaki's (2007) study in confirming the importance of residential context for adolescents. Their study compared psychosocial factors of randomly selected rural and urban individuals in Japan. Their findings indicate that urban participants generally had higher overall self-efficacy than their rural counterparts. This finding, coupled with higher socio-economic status and social support, seems to have contributed to urban individuals having a higher sense of well-being than their rural counterparts. The sample mentioned above is from a different culture and cannot really compare with the current sample. However, it is interesting that they found differences in rural and urban individuals' socio-economic status and self-efficacy. Possibly this could be applied to this sample for the same reasons. The inference might be made that disparities in socio-economic status between the rural and peri-urban adolescents may exist, in this study, due to the rural adolescents' parents being farm workers. However, this study did not test for this and thus more research in this area is required. This may related to Amato and Booth's (1997) study, which stressed the importance of socio-economic context on an adolescent's healthy development.

It is interesting to note that there were no significant differences pertaining to academic self-efficacy. This may be due to adolescents regarding a school education and passing grade twelve as an important goal to secure employment in future.

6.1.4 Research question 4

The fourth question tested whether there is a significant difference in aggression between adolescent males and females in terms of their overall aggression, physical- and verbal aggression, anger and hostility. It is apparent from the findings in this study that male learners reported significantly higher levels of physical aggression than female learners, whereas female learners reported significantly higher levels of hostility than male learners. Thus the alternative hypotheses for physical aggression and hostility were accepted and the null hypotheses rejected. Null findings were obtained for the hypothesised differences in overall aggression, verbal aggression and anger. The findings in this study reiterate the well-researched assumption in the literature that males tend to be more physically aggressive than females (Krahe, 2001). This study's finding is comparable to Webster (2007) who found that males reported significantly higher physical aggression levels than their female counterparts. Similarly, Ritter (2003) reported males had higher levels of physical and verbal aggression than females. Likewise, Bernstein and Gesn (1997) found that males scored marginally higher in all four subscales of the AQ namely, physical and verbal aggression, anger and hostility. In the same trend, Kristensson and Öhlund (2005) reported adolescent males to have significantly higher physical- and verbal aggression as well as hostility. The current finding is parallel to what Sullivan (2005) found in his study with a comparable South African sample. Compared to Sullivan's (2005) sample, the current study's sample is analogous in aggression as the physical aggression mean score of the males and the hostility mean score of the females are similar to that of Sullivan's sample.

Bandura's (1973) Social learning theory maintains that behaviour may be learned through the observation of a role model. Given the pervasive nature of violence in South Africa (Leoschut & Burton, 2006), adolescents are overly exposed to violence and thus may learn to act aggressively through observation of family members or peers in schools. South Africa has a patriarchal social order and men may tend to be more aggressive towards women and children and thus aggression may seem to be normalised for adolescent males (Lucas, 2003). Adolescent females, however, seem to display hostility towards individuals, rather than act out aggressively against them, either physically or verbally. Thus adolescent females are also aggressive, but they tend to express their aggression differently than their male counterparts do. This concurs with Björkqvist et al.'s (1992) findings that females tend to be more indirect in their aggressive behaviour whereas males seem to be more directly aggressive. It might be deduced that girls tend to show their aggression in a more socially appropriate way than boys in order to avoid possible social sanctions imposed on them such as, girls should not get involved in fist fights. On the other hand, it may be that boys are more aggressive because the context demands it. Over 70% of the sample in this study has reported that they witnessed violence in their neighbourhoods and schools, thus the boys being more physically aggressive might be to defend themselves.

6.1.5 Research question 5

The fifth hypothesis investigated whether there would be a significant difference in aggression between early and middle adolescence in terms of their overall aggression, physical aggression, verbal aggression, anger and hostility. Null findings were reported for all the hypotheses included in this question. Hence, it appears that there were no significant differences in the levels of aggression amongst adolescents in this study on the basis of age. This result is comparable to Miotto et al. (2003a), who found no significant differences in overall aggression amongst an adolescent sample with regards to age.

Similarly, Toldos (2005) found no significant differences in physical aggression amongst adolescents on the basis of age. Likewise, Archer (2004) also found no significant difference in physical aggression amongst adolescents on the basis of age.

Conversely, in the same study, Archer (2004) found that age inversely correlated with overall aggression and anger, as well as verbal aggression in males. This study's seemingly conflicting findings with the above literature could be due to the prevalence of violence in South Africa. It appears as if all participants in this study tend to display similar levels of aggression. Thus it might be inferred that all the participants were exposed to the same levels of violence (Leoschut & Burton, 2006). The Ecological model (Bronfenbrenner, 1979) posits that individuals are structured within and influenced by the systems they live in. Thus, due to adolescents being exposed to violence on different levels, violence in society could be deemed as normal and may contribute to adolescents of all ages, presenting the same adaptive levels of aggression.

6.1.6 Research question 6

The sixth research question explored whether significant differences in aggression existed between adolescents living in peri-urban and rural environments in terms of their overall aggression, physical aggression, verbal aggression, anger and hostility. Null findings were reported for all the residential-based hypotheses included in question six. Thus, the null hypotheses were all accepted and the alternative hypotheses were all rejected. In essence, it could be assumed that adolescents from rural and peri-urban areas did not report significantly differentially in the levels of overall aggression, physical and verbal aggression, anger as well as hostility. Since the term rural was used to delineate adolescents whose parents are farm workers in this study, the inference could be made that rural adolescents seem to live in low socio-economic circumstances. Low socio-economic

circumstances are linked with poverty which, in turn is linked to adolescents witnessing violence in their homes, thus exhibiting higher aggressive tendencies (Guerin & Hennessy, 2002; Richters & Martinez, 1993). Likewise, Winslow and Shaw (2007) reported adolescents living in lower socio-economic contexts, are positively correlated with overt problem behaviour from the age of six. Similarly Raine et al. (2006) reported that participants from low socio-economic contexts scored higher on proactive aggression when tested at age 16 than they did when tested at age 7.

However, analogous to this study, Miotto et al. (2003a) found no significant differences in aggression in either gender with regards to socio-economic context. The null findings reported in this study are confounding. It might be a result of the unequal numbers of rural adolescents relative to peri-urban adolescents in this study that has this confounding effect. Since the aggression level between rural and peri-rural adolescents in this study shows no dissimilarities, it could be inferred that they are exposed to the same level of violence daily, in environments rural and peri-urban adolescents have in common, such as schools. It could also be argued that the separation of peri-urban and rural in this study is a superficial one with regards to the differences in aggression levels of rural and peri-urban adolescents.

6.1.7 Research question 7

The seventh research question tested whether there is a significant relationship between self-efficacy and aggression, as measured by the total scores as well as the subscales of both the Self-efficacy Questionnaire for Children and Aggression Questionnaire. All the relationships discussed, though significant, remain modest.

The results of the study show that a significant, inverse relationship exists between overall self-efficacy and anger. This indicates that an increase in self-efficacy correlates with

decreases in anger. Emotional self-efficacy and verbal aggression as well as hostility were significantly correlated in a positive direction suggesting that an increase in perceived emotional self-efficacy were significantly associated with increases in both verbal aggression and hostility. This might be attributed to an increase in self-efficacy that could contribute to higher self-esteem. This sample has exposed to over 70% of violence in their neighbourhoods and schools. Thus, it may be that the need to be tough and survive in these environments coupled with high self-efficacy could result in adolescents having higher verbal aggression and hostility as it is deemed as necessary to survive in violent contexts. Thus aggression may be normalised in this way and even deemed desirable. According to the Social learning theory, adolescents learn through the actions of their role models and during this developmental stage, adolescents' peers are their role models and set the standard for what is deemed desirable. Thus, if adolescents are exposed to aggression through their peers, the chances are higher that they will exhibit aggressive behaviour.

This finding could also be explained by the fact that the higher adolescents' perceived emotional self-efficacy is, the more tolerant they could be of experiencing negative emotions such as anger and hostility. Thus they are more likely to show their anger and be hostile towards others. It could also be that they express their aggression in more socially acceptable ways rather than physically fighting.

A significant inverse relationship was reported between perceived academic self-efficacy and overall aggression, physical aggression and anger. These results indicate that an increment in perceived academic self-efficacy was significantly associated with a decline in overall aggression, physical aggression and anger. This might be because adolescents with high academic self-efficacy have more confidence in their ability to excel academically and realise the importance of a good academic background for future successes. Hence, they would be less likely to exhibit aggressive behaviour. It might also

be that adolescents with higher self-efficacy have access to positive role-models and that they learn from them vicariously and that these role models verbally encourage and support adolescents to do well.

An inverse correlation was reported between perceived social self-efficacy and anger. This finding suggests that increases in perceived social self-efficacy were associated with decreases in anger. The inference could be made that adolescents who have confidence in their ability to social interact, have more control over their exhibition of anger. This might be because adolescents who are more socially confident could possibly have more friends and seem to be happier, thus less likely to flare up in anger than their less socially confident counterparts.

Orpinas et al. (1995) reported similar findings to the present study. They found that by improving adolescents' perceived social self-efficacy beliefs, the youth's aggressive behaviours decreased and their conflict resolution styles improved. Hence, perceived self-efficacy can be seen to play an important role in the development of adolescents' social competencies. Likewise, Gonida (2006) found that adolescents' view of their own competency is vital for their continuing academic achievement as well as their partaking in sport (Papaioannou, 2006). Both of these two factors are regarded as protective factors during adolescence (Catalano &, Hawkins, 1996). Thus self-efficacy may be seen as a protective factor and, as such, serves as a buffer during adolescence against risk factors like aggression. It is important to note that this research question is of a correlational nature, thus causal interpretations of the data are not allowed for. In other words, it is not certain whether a low self-efficacy results in high levels of aggression or whether high levels of aggression leads to the undermining of self-efficacy beliefs.

According to Bandura (1994), adolescence needs to be accompanied by more freedom, and adolescents need greater control over their lives, to be able to make their own decisions. This, in turn, will facilitate in adolescents a more integrated sense of self as well as greater autonomy (Geldard & Geldard, 1999). These mastery experiences will inform adolescents' perceived self-efficacy beliefs which in turn may influence the outcome of the developmental stage as it challenges adolescents' capacity to cope with academics, social competencies and managing negative affect.

Lastly, it is important to note that the Cronbach alpha's of the social self-efficacy, emotional self-efficacy, verbal aggression and anger subscales was deemed as unacceptable in this sample as they were all under .7 (George & Mallory, 1999). This could be due to some of the meaning of the items being lost through translation. Thus the reliability of these specific subscales may also be called into question.

6.1.8 Research question 8

The eighth research question tested whether there is a significant difference between groups of adolescents with high overall self-efficacy and low overall self-efficacy in terms of their overall aggression, physical and verbal aggression as well as anger and hostility. This study's findings show that significant differences were found in overall and physical aggression as well as anger on the basis of overall self-efficacy. The low self-efficacy group consistently reported significantly higher levels of overall and physical aggression as well as anger than the high self-efficacy group. This calls for the acceptance of the alternative hypotheses for the hypothesised differences in overall and physical aggression in addition to anger. This finding may point to self-efficacy, seemingly mediating the aggression levels of adolescents. As pointed out in the theory chapter, perceived self-efficacy beliefs are adolescents' judgments about what they can achieve with the abilities

they have. For this reason perceived self-efficacy beliefs seems to have a strong effect on adolescents' choice of activities, environments as well as the amount of effort and persistence they will put in a certain behaviour when faced with obstacles (Cowen et al., 1991; Pössel et al., 2005). Thus high self-efficacy beliefs may contribute to a healthy self-esteem and self-concept in adolescents, giving them confidence to handle stressors and conflicts without having to resort to aggressive tactics (Maddux, 1995).

6.1.9 Research question 9

The ninth research question tested whether there is a significant difference between groups of adolescents with high and low academic self-efficacy, respectively, with regards to their overall aggression, physical and verbal aggression, anger and hostility. The present study found that significant differences between high- and low self-efficacy groups existed on the basis of overall aggression, physical- and verbal aggression, as well as anger and hostility. Adolescents with high academic self-efficacy consistently reported significantly lower levels of overall aggression, verbal aggression, hostility, physical aggression and anger than learners with low academic self-efficacy. Therefore, the null hypotheses considered in this research question were rejected and the alternative hypotheses accepted. This result is corroborated by Bandura et al. (1999), who found that academic self-efficacy seems to be a mediator for risk behaviour. In their study, learners with high levels of academic self-efficacy were found to achieve high academic performance and low levels of risk behaviours. A high level of academic self-efficacy seemingly changes the way adolescents perceive and react to failure, thereby possibly decreasing the susceptibility to negative peer influences and acting out of negative social behaviours (Bandura et al., 2003). As repeated elsewhere in this study, during the stage of adolescence the need to belong is very important for healthy adolescent development. Thus, adolescents' peer groups are important contributors in sanctioning what is socially acceptable behaviour.

Hence, the assumption could be made those adolescents with a significantly high academic self-efficacy are more confident in their abilities to do well in their academics and this may serve as a mediator for withstanding peer pressure to conform to socially unacceptable behaviour. It may be that these adolescents already feel like they are being accepted by peers and teachers, because of their belief and consequent ability to excel academically.

Taylor et al. (2007) showed a low self-concept may be linked to increased aggression. A negative self-concept could lead to a negative emotional state that in turn could result in the likelihood of aggression (Berkowitz, 1993). A negative self-concept could also contribute to a negative self-esteem, thereby increasing the risk that adolescents may exhibit aggressive behaviour. Thus it would seem that perceived academic self-efficacy is a possible important mediator for aggression in adolescents.

6.1.10 Research question 10

The tenth research question explored whether there is a significant difference between groups of adolescents with high social self-efficacy and low social self-efficacy in terms of their overall aggression, physical- and verbal aggression, anger and hostility scores. The current study reports that adolescents with high levels of perceived social self-efficacy reported significantly lower levels of anger than adolescents with low levels of perceived social self-efficacy. Thus the null hypothesis was rejected and the alternative hypothesis was accepted. Null findings for the remainder of the hypothesised differences in overall aggression, physical- and verbal aggression and hostility were reported and therefore the null hypothesis is accepted. This outcome seems to indicate that adolescents who have low beliefs about their own social competency tend to exhibit higher anger. Thus it would seem that adolescent's who have high perceived social self-efficacy or in other words, the ability to initiate and sustain friendships and deal with conflict in a socially appropriate way, are

more likely to be able to deal with their own and others' anger in a socially suitable way. It could be assumed that they have enhanced coping skills than adolescents with low social self-efficacy. Hence, enhanced coping skills and social competencies could contribute to higher self-esteem. Thus, high self-esteem and the more successful experiences adolescents might have to cope with negative emotions, the more these experiences contribute to their social self-efficacy.

This is comparable to Matsushima and Shiomi (2003) who found that high levels of perceived social self-efficacy are negatively correlated with interpersonal stress. It is important to note that during adolescence the peer group plays an important role in what is seen as socially acceptable and the need to be accepted by the peer group is important to this developmental stage (Geldard, & Geldard, 1999). Consequently, Caprara et al. (2003) found that adolescents who had a strong perceived social self-efficacy were less vulnerable to peer group values and dysfunction. During the adolescent stage, the peer groups values are important, thus whether a peer group has good or bad values is important as it may influence the adolescents behaviour. Hence, if an adolescent belongs to a group that deems aggression and anti-social behaviour as desirable, the adolescent may be more likely to engage in such behaviour to be able to stay in the group. In addition, Muris's (2002), findings showed a strong, negative relationship between perceived social self-efficacy and social phobia. Thus it seems that the higher adolescents' perceived social self-efficacy is, the less likely it is that they will develop social phobias, go through interpersonal stress and engage in negative social behaviours.

6.1.11 Research question 11

The last research question tested whether or not there is a significant difference between groups of adolescents with high emotional self-efficacy and low emotional self-efficacy

with regards to their overall aggression, physical- and verbal aggression, anger and hostility. The present research study found a significant difference in verbal aggression between high- and low perceived emotional self-efficacy groups. The results indicate that the high emotional self-efficacy group reported significantly higher levels of verbal aggression than the low perceived emotional self-efficacy group. Thus the null hypothesis was rejected and the alternative hypothesis accepted. Null findings in relation to the rest of the hypothesised differences in overall aggression, physical aggression, anger and hostility were reported.

Contrary to the current study's findings, Caprara et al. (2002) found that an inability to control one's aversive emotions such as anger or jealousy, in other words, low perceived emotional self-efficacy, could be a predictor for negative social behaviours. Thus Caprara et al. (2003) contend that the participation in negative social behaviours may lead to the adolescent experiencing a negative emotional state such as a sense of hopelessness, social withdrawal or may even result in the possibility of aggression (Berkowitz, 1993). These studies assert the vital part of high levels of perceived emotional self-efficacy in the maintaining of healthy mental wellness in adolescence. This study's seemingly contradicting finding suggests that verbal aggression and emotional self-efficacy seems to be positively correlated. It might be that if adolescents' capacity to cope with negative emotions like anger, is high, the likelihood may exist that they are more comfortable and better able to handle feelings of anger, thus scoring higher on the anger subscale. The high levels of verbal aggression found in adolescents with high emotional self-efficacy may also be due to the context of violence that the adolescents in this sample find themselves in. As stated before, this sample has reported a high incidence of being exposed to violence in their respective neighbourhoods (41%) and schools (38.4%). Being verbally aggressive

may be demanded of these adolescents as a means of self-defense, in which case being verbally aggressive could be construed as being a protective factor in this context.

Primarily, this study set out to explore the relationship between self-efficacy and aggression in adolescents. The results of the study show that self-efficacy and aggression seem to have a complex relationship. In the present study, the relationship is characterised by significant negative correlation between overall self-efficacy and anger with decreases in anger correlating with increases in overall self-efficacy. A strong negative relationship was also found between perceived academic self-efficacy (increases) and overall aggression, physical aggression and anger (decreases). Conversely, increases in perceived emotional self-efficacy seem to have been positively associated with increases in verbal aggression and hostility.

Secondarily, the differences in self-efficacy and aggression with regards to gender, age and socio-economic status was explored. Results showed that female participants attained higher total self-efficacy and subscale scores in the SEQ-C than their male counterparts. Furthermore, peri-urban adolescents had significantly higher total self-efficacy and subscale scores than their rural counterparts, except for perceived academic self-efficacy. No significant differences were found in aggression with regards to age or socio-economic circumstances. This is an interesting result as current literature shows that differences in aggression levels do occur when participant's age and socio-economic circumstances are taken into account. Significant differences in aggression were found between genders as males scored significantly higher in the physical aggression subscale and females scored significantly higher in the hostility subscale. This result is corroborated in current literature.

This study has attempted to contribute to a better understanding of adolescent well-being in terms of the nature of adolescents' aggressive behaviours, and whether aggression influences the levels of self-efficacy of adolescents. The current results have shown that high total self-efficacy is linked to low total aggression, physical aggression and anger in adolescents. Moreover, high academic self-efficacy is strongly linked to low levels of total aggression, physical and verbal aggression as well as anger and hostility. These results could contribute to the understanding of the importance of self-efficacy in adolescent development and to initiate interventions and strategies to enhance adolescent well-being.

6.2 Limitations of the study and recommendations

Several changes in the research process could be made to improve the accuracy of the data. Firstly, while self-reporting measures of aggression and self-efficacy are found to be reliable means of attaining this information, it is limited by the sample's understanding and interpretation of the items on the measuring instrument (Baldry &, Winkel, 2004). Furthermore, the learners' comprehension of the items on the measuring instruments was called into question, as some of the words in the questionnaire may not have been understood by the learners. It is advisable to conduct a focus group to be able to observe how the learners perceive the items on the questionnaires. This was not possible in the present study as the participants were only available to the researcher for a limited time range.

Secondly, this study would have been enhanced with the inclusion of other measuring scales related to the concept of self-efficacy in an effort to better describe the possible moderating effects between self-efficacy and aggression. In addition, multiple perspectives, including the perceptions of significant others such as adolescents' parents or teachers should be considered in an attempt to gain a more well-rounded perception of

learners' perceived self-efficacy beliefs. This study does show, however, that there is a relation between the two concepts. Further studies should be done to evaluate the present study's results and to elucidate the possible mediating effect with which the association between self-efficacy and aggression is realised.

Thirdly, the two scales used in this study, namely the Self-efficacy Questionnaire for Children (SEQ-C) and the Aggression Questionnaire (AQ), were generally found to be reliable measures. The Cronbach alphas of the SEQ-C subscales of social self-efficacy (.56) and emotional self-efficacy (.58) though, were deemed as unacceptable for research purposes by George and Mallory in the current sample (1999). Similarly, the Cronbach alphas of the AQ's verbal aggression (.57) and hostility subscale (.62) were deemed as unacceptable (George & Mallory, 1999) for the present sample. It is recommended that the items in these scales be further refined in more simple language before used in future studies, especially when translated, as some of the meaning may be lost during translation. However, the perception of the adolescents is a more significant predictor of outcome on self-efficacy and aggression. Thus it was important for this study to ascertain their perspectives using these self-reporting measures.

Fourthly, the sample used in this study was not randomly selected. The drawback to this is that the findings are not always generalisable to the general South African public. Thus, the use of a random sample, for example the inclusion of schools with a more racially heterogeneous learner profile, could contribute to the findings being more able to generalise to general population.

6.3 Conclusion

To conclude, more research is needed to explore the link between self-efficacy and aggression in adolescents. The exploration of what adolescents living in adverse social

conditions may consider to be necessary self-efficacy beliefs and behaviours to survive in their contexts is a possible topic for future research. Comparing adolescents from more urban communities with their rural counterparts is also an interesting research area regarding self-efficacy beliefs. Furthermore, there is a need to extend the socio-demographic groups that the SEQ-C has been used to include younger children and late adolescence. The further developing of the SEQ-C could lead to it being used as a treatment evaluation measure. The SEQ-C could provide information as to how successful a given intervention actually was in achieving its goal. More research developing the construct of self-efficacy and how it relates to other psychological risk factors, could harness the important role that self-efficacy could play in the comprehending and the progression of adolescent psychological well-being.

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APPENDIX A**ALGEMENE INSTRUKSIES:**

1. Jou naam word nie gevra nie, wees dus eerlik.
2. Niemand sal weet dit is jou antwoorde nie.
3. Beantwoord asseblief al die items.

Baie dankie vir jou samewerking.

Demografiese inligting

Merk asseblief die gepaste antwoorde met 'n X

1. Geslag

Manlik 1

Vroulik 2

2. Ouderdom

13 jaar	1
14 jaar	2
15 jaar	3
16 jaar	4
17 jaar	5
Ander (spesifiseer):	6

3. Graad

Gr. 8	1
Gr. 9	2
Gr. 10	3
Gr. 11	4

4. Neem jy aan buitemuurse
aktiwiteite (bv. sport)
deel?

Ja 1

Nee 2

5. Indien jy "Ja" antwoord op vraag 4, watter aktiwiteite doen jy? (skryf neer)

6. By wie bly jy? _____

7. Ouderdom van ouer(s)/voog?

Jonger as 20	1
20's	2
30's	3
40's	4
50's	5
60 en ouer	6

8. Het jou ouer(s)/voog 'n werk? Ja 1

Nee 2

Ander:

9. Watter werk doen jou ouer(s)/voog?

10. Wat is jou ouer(s)/voog se hoogste kwalifikasie?

Geen	1
Laerskool	2
Hoërskool	3
Naskoolse opleiding	4
Ander:	5

11. Bly jy in 'n huis?

2

Ja 1

Nee

Ander:

12. Hoeveel mense bly altesaam in jou woonplek?

13. Wat is jou woonbuurt se naam?

14. Het jy enige vorm van geweld (baklei ens.) die afgelope maand gesien...

In jou huis?	1
In jou skool?	2
In jou buurt?	3
In die dorp?	4
Geen	5

APPENDIX B**SEQ-C****INSTRUKSIES:**

- Dui met 'n X aan hoe dikwels die volgende gedrag van toepassing op jou is.
- Beantwoord asseblief al die items.
- Kies asseblief een antwoord by elke item.
- Daar is geen regte of verkeerde antwoorde nie.

Hoe goed kry jy dit reg om...	Nooit	Selde	Soms	Gereeld	Altyd
1. Jou juffrou vir hulp te vra wanneer jy jou skoolwerk te moeilik vind?	1	2	3	4	5
2. Te sê wat jy dink al stem jou klasmaats nie saam met jou nie?	1	2	3	4	5
3. Jouself weer op te beur nadat iets onaangenaams gebeur het?	1	2	3	4	5
4. Te studeer as jy ook nog ander lekkerder dinge het om te doen?	1	2	3	4	5
5. Weer rustig te raak nadat jy baie bang gevoel het?	1	2	3	4	5
6. Maats te maak met ander leerders?	1	2	3	4	5
7. 'n Hoofstuk uit jou kop te leer vir 'n toets?	1	2	3	4	5
8. Met iemand wat jy nie goed ken nie te gesels?	1	2	3	4	5
9. Te keer dat jy senuweeagtig word?	1	2	3	4	5
10. Elke dag jou huiswerk heeltemal te voltooi?	1	2	3	4	5

	Nooit	Selde	Soms	Gereeld	Altyd
11. Goed saam te werk met ander leerders?	1	2	3	4	5
12. Jou gevoelens te beheer?	1	2	3	4	5
13. Elke periode goed op te let?	1	2	3	4	5
14. Iets te sê as ander leerders iets doen waarvan jy nie hou nie?	1	2	3	4	5
15. Jouself op te kikker as jy moedeloos voel?	1	2	3	4	5
16. Ten minste bevredigend te presteer in al jou vakke?	1	2	3	4	5
17. 'n Groepie leerders van 'n snaakse insident te vertel?	1	2	3	4	5
18. 'n Vriend te vertel dat jy sleg voel?	1	2	3	4	5
19. Daarvoor te sorg dat jou ouers tevrede is met jou skoolprestasies?	1	2	3	4	5
20. Bevriend te bly met ander leerders?	1	2	3	4	5
21. Nie te dink aan onaangename dinge nie?	1	2	3	4	5
22. Goed te vaar in 'n toets?	1	2	3	4	5
23. Te sorg dat jy nie stry met ander kinders nie?	1	2	3	4	5
24. Jou nie te bekommer oor dinge wat dalk kan gebeur nie?	1	2	3	4	5

APPENDIX C**AQ****INSTRUKSIES:**

- Dui met 'n X aan hoe dikwels die volgende gedrag van toepassing op jou is.
- Beantwoord asseblief al die items.
- Kies asseblief net een antwoord by elke item.
- Daar is geen regte of verkeerde antwoorde nie.

VRAE:	Nooit	Party keer	Baie keer	Altyd
1. Ek raak soms vreeslik jaloers.	1	2	3	4
2. Ek stry maklik met ander mense.	1	2	3	4
3. Ek kan myself nie keer as ek iemand wil slaan nie.	1	2	3	4
4. Ek sal vir mense in hul gesig sê as ek nie met hulle saamstem nie.	1	2	3	4
5. As iemand lank genoeg met my sukkel sal ek hom/haar slaan.	1	2	3	4
6. As ek gefrustreerd is, sal ek dit wys.	1	2	3	4
7. Ek voel die lewe behandel my sleg.	1	2	3	4
8. As iemand aan my slaan, sal ek terug slaan.	1	2	3	4
9. As iemand my kwaad maak sal ek vir hulle sê wat ek van hulle dink.	1	2	3	4
10. Ek voel soos 'n bom wat wil ontplof.	1	2	3	4
11. Ek voel ander mense kry beter kans in die lewe as ek.	1	2	3	4
12. Ek raak in "fights" betrokke.	1	2	3	4
13. Ek stry met mense as hulle nie met my saamstem nie.	1	2	3	4

	Nooit	Party keer	Baie keer	Altyd
14. Ek is 'n maklike mens om oor die weg mee te kom.	1	2	3	4
15. Ek voel bitter oor dinge.	1	2	3	4
16. Ek sal geweld ('violence') gebruik (slaan, skop, baklei) om my regte te beskerm.	1	2	3	4
17. Mense sê ek stry maklik met ander.	1	2	3	4
18. My vriende sê ek het 'n vinnige humeur ('temper').	1	2	3	4
19. Ek weet dat mense agter my rug van my praat.	1	2	3	4
20. Daar is mense wat my te ver dryf dat ons op die ou end baklei.	1	2	3	4
21. Ek raak maklik kwaad vir geen rede nie.	1	2	3	4
22. Ek vertrou nie vreemde mense wat te vriendelik is nie.	1	2	3	4
23. Ek kan aan goeie redes dink om iemand te slaan.	1	2	3	4
24. Ek sukkel om my humeur ('temper') te beheer.	1	2	3	4
25. Ek voel dat mense agter my rug vir my lag.	1	2	3	4
26. Ek het al mense wat ek ken gedreig.	1	2	3	4
27. As mense te vriendelik is met my, wonder ek wat hulle wil hê.	1	2	3	4
28. Ek het al so kwaad geword dat ek goed gebreek het.	1	2	3	4
29. Ek raak gou kwaad, maar koel weer vinnig af.	1	2	3	4

APPENDIX D

Mrs Michéle Willemse
P.O. Box 424
WORCESTER
6849

Dear Mrs M. Willemse

RESEARCH PROPOSAL: EXPLORING THE RELATIONSHIP BETWEEN SELF-EFFICACY AND AGGRESSION IN A GROUP OF ADOLESCENTS.

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **01st August 2006 to 14th August 2006.**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December 2006).
7. Should you wish to extend the period of your survey, please contact Dr R. Cornelissen at the contact numbers above quoting the reference number.
8. A photocopy of this letter is submitted to the Principal where the intended research is to be conducted.
9. Your research will be limited to the following schools: **Worcester Secondary, Esselenpark Secondary and Breërivier High.**
10. A brief summary of the content, findings and recommendations is provided to the Director: Education Research.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to:

**The Director: Education Research
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000**

We wish you success in your research.

Kind regards.

Signed: Ronald S. Cornelissen
for: **HEAD: EDUCATION**
DATE: 05th July 2006

APPENDIX E

UNIVERSITEIT STELLENBOSCH INWILLIGING OM DEEL TE NEEM AAN NAVORSING

Leerders

U word gevra om deel te neem aan 'n navorsingstudie wat uitgevoer word deur Michéle Willemse (Bpsig), van die Sielkunde Departement aan die Universiteit Stellenbosch. Resultate sal deel word van 'n Meesters navorsingstesis. U is as moontlike deelnemer aan die studie gekies omdat u 'n leerder is by een van die geselekteerde skole naamlik Worcester Senior Sekondêr, Esselenpark Senior Sekondêr of Hoërskool Breërivier.

1. DOEL VAN DIE STUDIE

Die doel van hierdie studie is om verdere insigte te verkry in adolose se agressiewe gedrag en of hierdie gedrag adolose se waargenome self-effektiwiteit enigszins beïnvloed. Hierdie navorsing het dit ook ten doel om 'n bydra te lewer met betrekking tot die inisiëring en beplanning van praktiese intervensies en strategieë om aggressiewe gedrag van adolose teen te werk.

Hierdie navorsing is 'n eksploratiewe studie wat die aard van die verhouding tussen aggressie en waargenome self-effektiwiteit ondersoek. Meer spesifiek, sal hierdie studie kyk of 'n adolose se akademiese, sosiale en emosionele self-effektiwiteit beïnvloed word deur hul aggressie vlakke. Die moontlike verskille tussen geslagte met betrekking tot aggressie vlakke en waargenome self-effektiwiteit sal ook ondersoek word.

2. PROSEDURES

Indien u inwillig om aan die studie deel te neem, vra ons dat u die volgende moet doen:

U as leerder die brief te lees en onderteken en ook u ouers vra om dit te teken en dan so gou moontlik weer terug bring skool toe. Hierdie brief sal dan toestemming gee aan die navorser (Michéle) om vraelyste aan die leerder uit te deel. Die invul van die vraelyste sal ongeveer 'n half uur neem gedurende 'n uitgesette tyd in die skool soos ooreengekom met die skoolhoof. Die vraelyste sal dan weer opgeneem word deur die navorser.

3. MOONTLIKE RISIKO'S EN ONGEMAKLIKHEID

Van die vrae in die demografiese afdeling is van 'n persoonlike aard, maar anonimiteit is verseker, want geen identifiseerbare inligting soos naam, van of adres van deelnemer word verlang nie.

4. MOONTLIKE VOORDELE VIR PROEFPERSONE EN/OF VIR DIE SAMELEWING

Die navorser onderneem om die resultate van hierdie studie bekend te maak aan die skool sowel as die Wes-Kaapse Departement van Onderwys. Die bevindinge van hierdie studie sal hopelik bydra tot verbeterde insig met betrekking tot aggressie in adolose en sodoende 'n bydra lewer tot die bestaande literatuur en ook tot die samelewing in die geheel.

Die navorser onderneem ook om haar dienste as geregistreerde berader aan die leerders te verleen indien die invul van die vraelyste enige negatiewe sielkundige gebeurtenisse by die leerder laat ontstaan.

5. VERGOEDING VIR DEELNAME

Deelnemers sal geen geldlike of materiële vergoeding kry vir hul deelname nie.

6. VERTROULIKHEID

Vertroulikheid sal gehandhaaf word deur middel van die feit dat geen identifiserende inligting verlang word nie; dus is die vraelystes geheel en al anoniem.

7. DEELNAME EN ONTTREKKING

U kan self besluit of u aan die studie wil deelneem of nie. Indien u inwillig om aan die studie deel te neem, kan u te eniger tyd u daaraan onttrek sonder enige nadelige gevolge. U kan ook weier om op bepaalde vrae te antwoord, maar steeds aan die studie deelneem. Die ondersoeker kan u aan die studie onttrek indien omstandighede soos byvoorbeeld die vraelys is nie volledig ingevul nie, dit noodsaaklik maak.

8. IDENTIFIKASIE VAN ONDERSOEKERS

Indien u enige vrae of besorgdheid omtrent die navorsing het, staan dit u vry om in verbinding te tree met die Meesters student Michéle Willemse. Sy kan gekontak word by die volgende nommer van die Sielkunde Departement (021) 8083466 tussen kantoor ure (8:00 – 17:00).

9. REGTE VAN PROEFPERSONE

U kan te eniger tyd u inwilliging terugtrek en u deelname beëindig, sonder enige nadelige gevolge vir u. Deur deel te neem aan die navorsing doen u geensins afstand van enige wetlike regte, eise of regsmiddel nie.

VERKLARING DEUR PROEFPERSOON OF SY/HAAR REGSVERTREENWOORDIGER

Die bostaande inligting is aan my, _____, gegee en verduidelik deur Michéle Willemse in Afrikaans en ek is dié taal magtig. Ek is die geleentheid gebied om vrae te stel en my vrae is tot my bevrediging beantwoord.

Ek wil hiermee vrywillig in om deel te neem aan die studie.

Naam van deelnemer

Handtekening van deelnemer

Handtekening van ouer/voog

Datum