

**Comparing adolescent self-regulation among
aggressors, victims and non-victims of bullying**

H Fivaz

 orcid.org/0000-0002-6828-9272

Dissertation submitted in partial fulfilment of the requirements
for the degree Master of Arts in Research Psychology at the North-
West University

Supervisor: Prof HB Grobler

Graduation: May 2019

Student number: 23480718

Preface

- The mini-dissertation adheres to the North-West University's article format regulations. The document has four sections. Section A provides a literature review and a general orientation to the study. Section B presents an article written to meet the requirements of the journal mentioned below. Section C provides a critical reflection on the study. Although Section B is an independent article, Section A and C provide additional information so that the reader can take a holistic view of the study. Section D contains the supporting documents as attachments.
- The article is intended for submission to the South African Journal of Psychology.
- The guidelines of the APA (6th edition) was followed for the manuscript and the reference lists.
- The tables that appear in the article have been inserted into the article for examination purposes.

Summary

Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying

Keywords: adolescent, Adolescent Peer Relations Instrument, bullying, self-regulation, Short Self-Regulation Questionnaire, victim.

The ability to self-regulate can play a vital role in adolescent development. Some researchers argue that self-regulation can be a predictor of physical and mental health in adolescents. This emphasizes the importance of studying adolescent self-regulation. Adolescence is a critical developmental phase during which adolescents face many challenges. A good ability to self-regulate can help adolescents transition through this period successfully.

Self-regulation has been linked to emotional, social and physical well-being and academic achievement. Multiple researchers show that self-regulation affects an individual's relationships, contributes to social success, achieving goals and living a well-adjusted life. Individuals struggling with their self-regulatory abilities are more likely to show signs of substance abuse, risky sexual behaviour, depression, anxiety, high impulsivity, lack of control and reduced attention.

Peers undeniably have an influence on an adolescent's self-regulatory abilities. Negative behaviour such as bullying can affect self-regulation negatively. The lack of self-regulatory abilities may lead to transgressive behaviour instead of pro-social behaviour. Research states that self-control, a main factor of self-regulation, is one of the main causes of bullying behaviour and even criminal behaviour. Bullying behaviour can lead to adolescents withdrawing from social groups, in turn contributing to inadequate social skills.

Many bullying prevention programmes explain that adequate social skills can be taught to help adolescents prevent bullying behaviour or cope with it in a healthy way. Adequate social skills include the ability to self-regulate (includes self-control and mindfulness), to

resolve conflict and to manage anger. Therefore, it can be assumed that self-regulation and bullying may be interlinked.

The goal of this research study was to determine and compare the differences in adolescent self-regulation of aggressors, victims, and non-aggressors/victims of bullying using a quantitative research design. Five hundred and eighty-three ($M_{age}=15.23$, $SD_{age}=1.24$) adolescent learners from seven local high schools in Kimberley participated in the study. The results categorized 480 learners as aggressors and 100 learners as non-aggressors. Five hundred and one learners were classified as victims and 79 as non-victims.

Reliability testing for the Short Self-Regulation Questionnaire (SSRQ) showed high reliability with a Cronbach's $\alpha=0.775$. High reliability for the Adolescent Peer Relation Instrument was also recorded with a Cronbach's $\alpha=0.781$ and Cronbach's $\alpha=0.806$ for Section A (Aggressors) and Section B (Victims) respectively. Exploratory and confirmatory factor analysis confirmed the construct validity of the questionnaires.

Independent T-tests showed statistically significant differences in self-regulation and aggressors and non-aggressors ($p<0.05$) with a medium effect size ($d=0.39$). Additionally, there is statistically significant differences in the self-regulation of victims and non-victims of bullying ($p<0.05$), with a small effect size ($d=0.31$). An ANOVA test resulted in a significant difference in the self-regulation of different races ($p<0.05$), especially between black pupils and white pupils, and white pupils and coloured pupils.

There is a positive correlation between grade and self-regulation, suggesting that as grade increases, so does self-regulation. A negative correlation between grade and bullying indicates that as grade increases, bullying behaviour decreases.

Lastly, Spearman's Rho showed a statistically significant negative relationship ($p<0.01$) between self-regulation and bullying behaviour, indicating that as self-regulation increases, being an aggressor ($r=-.281$) and victim ($r=-0.159$) of bullying decreases.

The results of this limited research study suggest that there is a definite correlation between self-regulation and bullying behaviour. However, the direction of the correlation is still unknown. Further research is necessary to determine causality between self-regulation and bullying behaviour.

Opsomming

’n Vergelyking van die selfregulering van adolessente aggressors, slagoffers en nie-slagoffers van boeligedrag

Sleutelwoorde: Adolessent, *Adolescent Peer Relations Instrument*, boeligedrag, *Short Self-Regulation Questionnaire*, selfregulering, slagoffer

Die vermoë om te selfreguleer speel ’n belangrike rol in adolessente ontwikkeling. Sommige navorsing dui daarop dat selfregulering fisieke gesondheid en geestesgesondheid kan voorspel. Dit is daarom belangrik om die verskynsel te bestudeer. Tydens die kritiese ontwikkelingsfase van adolessensie kom adolessente voor verskeie uitdagings te staan. ’n Goeie vermoë om te selfreguleer kan bydra daartoe dat adolessente die fase suksesvol deurleef.

Navorsing het self-regulasie verbind met die bevordering van emosionele, sosiale en fisiese welstand en akademiese prestasie. Verskeie studies wys daarop dat selfregulasie ’n individu se verhoudings beïnvloed, tot sosiale sukses bydra, hulle help om doelwitte te bereik en tot ’n goed aangepaste lewe kan lei. Individue wat sukkel met selfregulasie is meer geneig om tekens van middel misbruik, riskante seksuele gedrag, depressie, angs, hoë impulsiwiteit, gebrek aan beheer en verswakte aandag te toon.

Portuurverhoudinge het ’n onmiskenbare invloed op ’n adolessent se selfregulerende vermoëns, dus kan negatiewe gedrag soos boeligedrag skadelike gevolge hê vir selfregulering. ’n Tekort aan selfregulerende vermoëns kan tot oortredende gedrag in plaas van pro-sosiale gedrag lei. Navorsing toon dat selfbeheersing, ’n hoof element van selfregulering, een van die hoof oorsake van boeligedrag en selfs kriminele gedrag is. Boeliery kan lei daartoe dat adolessente hulself vanuit sosiale groepe onttrek, wat weer lei tot onvoldoende sosiale vaardighede.

Verskeie voorkomende programme gemik op boeliery verduidelik dat voldoende sosiale vaardighede aangeleer kan word om boeliedrag te voorkom of om boeliery op 'n gesonde wyse te hanteer. Voldoende sosiale vaardighede sluit die vermoë om te selfreguleer (insluitende selfbeheersing en selfbewustheid), konflikhantering en woedebestuur in. Dus kan die afleiding gemaak word dat selfregulasie en boeliedrag mekaar beïnvloed.

Die doel van die navorsing was om die verskille in die selfregulasie van adolessente aggressors, slagoffers en nie-slagoffers van boeliery te bepaal en te vergelyk met behulp van 'n kwantitatiewe navorsingsontwerp. Vyf-honderd drie-en-tagtig ($G_{\text{ouderdom}}=15.23$, $SA_{\text{ouderdom}}=1.24$) adolessente leerders uit sewe plaaslike hoërskole in Kimberley het deelgeneem aan die studie. Die resultate het 480 leerders as aggressors in boeliery gekategoriseer en 100 leerders as nie-aggressors. Vyf-honderd en een leerders is geklassifiseer as slagoffers van boeliery en 79 as nie-slagoffers.

Betroubaarheidstoetsing vir die *Short Self-Regulation Questionnaire* het 'n hoë betroubaarheid getoon met 'n Cronbach's $\alpha=0.775$. Hoë betroubaarheid is ook aangeteken vir die *Adolescent Peer Relations Instrument* met 'n Cronbach's $\alpha=0.781$ en 'n Cronbach's $\alpha=0.806$ vir Afdeling A (aggressors) en Afdeling B (slagoffers) onderskeidelik. Ondersoekende en bevestigende faktoranalise het die konstrugeldigheid van beide vraelyste bevestig.

Onafhanklike T-toetse het statisties beduidende verskille tussen selfregulering en aggressors en nie-aggressors van boeliery ($p<0.05$) getoon met 'n medium effekgrootte ($d=0.39$). Daarbenewens was daar statisties beduidende verskille tussen slagoffers en nie-slagoffers van boeliery en selfregulering ($p<0.05$) met 'n klein effekgrootte ($d=0.31$). 'n ANOVA toets het 'n beduidende verskil tussen selfregulering en ras aangedui, veral tussen swart en wit leerders, en wit en bruin leerders.

Daar is 'n positiewe korrelasie tussen graad en selfregulering, wat daarop dui dat soos graad ouderdom toeneem, neem selfregulering toe. 'n Negatiewe korrelasie tussen graad en boeliery dui daarop dat as graad toeneem, boeliery afneem. Laastens toon Spearman se Rho 'n statisties negatiewe verhouding tussen selfregulering en boeliery. Soos selfregulering verhoog, verminder die kans om 'n aggressor ($r=-.281$) of slagoffer ($r=-0.159$) van boeliery te wees.

Die resultate van hierdie beperkte navorsingstudie dui op 'n duidelike verband tussen selfregulering en boeliery, alhoewel die rigting van die korrelasie nog onbekend is. Verdere navorsing is nodig om die oorsaaklikheid tussen selfregulering en boeliery te bepaal.

Table of Contents

Preface	i
Summary	ii
Opsomming	v
Acknowledgements	xiii
Letter of Submission	xiv
Declaration by Student	xv
Guidelines for Authors	xvi
Declaration by Editor	xxi
SECTION A: BACKGROUND AND ORIENTATION	1
Self-regulation	1
Structure of Self-Regulation	2
Importance of Self-Regulation in Adolescents	4
Social Acceptance, Peer Relations and Self-Regulation	5
Bullying	6
Characteristics of Aggressors, Victims and Non-victims/Aggressors	7
<i>Aggressors.</i>	7
<i>Victims.</i>	7
<i>Non-victims/non-aggressors.</i>	8
Types of Bullying	8
Bullying in South Africa	9
Bullying and Peer Social Acceptance	10
Causes of Bullying	10
Causes of Bullying explained by Theoretical Frameworks and Theories	11

Consequences of Bullying	12
Problem Statement	14
Aims and Objectives	15
Method and Procedure	15
Research Approach and Design	15
Population and Sample	16
<i>Population.</i>	16
<i>Sampling Method.</i>	16
<i>Sample Size.</i>	16
<i>Sample Recruitment.</i>	17
Data Collection.....	17
Data Analysis	18
Ethical Considerations	25
Informed Consent	25
Voluntary Participation.....	25
Confidentiality and Anonymity.....	25
Record Keeping	26
Unbiased Results	26
Possible Risks.....	26
Cost and Remuneration.....	27
Conclusion	27
References	28

SECTION B 36

Comparing Adolescent Self-Regulation among Aggressors, Victims and Non-Victims of Bullying	36
Abstract	37
Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying	38
Bullying	38
<i>Aggressors, Victims and non-Victims/non-Aggressors.</i>	38
<i>Causes of Bullying.</i>	39
Self-Regulation.....	41
The Present Study.....	41
<i>Method</i>	42
<i>Participants.</i>	42
<i>Instruments.</i>	42
<i>Procedure.</i>	43
<i>Ethical Considerations.</i>	44
<i>Data Analysis.</i>	44
Results.....	44
Discussion	60
Conclusion	64
References	65
SECTION C: CRITICAL REFLECTION.....	70
Summary of Research	70
Evaluation of the Research Process	71

Data Collection.....	71
Data Analysis	73
Results.....	73
Limitations and Recommendations	74
Conclusion	74
SECTION D: APPENDICES.....	76
Appendix A: Permission Letter to the Department of Education	76
Appendix B: Permission Letter to the Principals.....	78
Appendix C: Parental Permission Letter	80
Appendix D: Adolescent Consent Form	83
Appendix E: Questionnaires	89
Questionnaire 1: Demographic Questionnaire.....	89
Questionnaire 2: Adolescent Peer Relations Instrument	90
Questionnaire 3: Short Self-Regulation Questionnaire	92

List of Tables

Table 1.1	<i>Pattern Matrix of Exploratory Factor Analysis of Section A - the Aggressor Scale.....</i>	20
Table 1.2	<i>Pattern Matrix of Exploratory Factor Analysis of Section B – the Victim Scale</i>	21
Table 1.3	<i>Pattern Matrix of Exploratory Factor Analysis of the SSRQ.....</i>	22
Table 1.4	<i>Goodness of Fit of the SSRQ after Confirmatory Factor Analysis.....</i>	23
Table 2.1	<i>Causes of Bullying Explained by Different Theoretical Frameworks and Theories.....</i>	40
Table 2.2	<i>Demographic profile of participants in terms of race, gender, grade, age and school</i>	45
Table 2.3	<i>Results of Reliability Testing using Cronbach’s Alpha</i>	47
Table 2.4	<i>Independent Group T-Test and Effect Sizes between Aggressors of Bullying and Self-Regulation</i>	51
Table 2.5	<i>Independent Group T-Test and Effect Sizes between Victims of Bullying and Self-Regulation</i>	53
Table 2.6	<i>ANOVA and Brown-Forsyth Results with Effect Sizes between Race, Self-Regulation and Bullying</i>	55
Table 2.7	<i>Correlation between Grade, Age, Self-Regulation and Bullying</i>	59
Table 2.8	<i>Correlation between Self-Regulation and Bullying using Spearman’s Rho.....</i>	60

Acknowledgements

Firstly, I would like to thank my **Heavenly Father**. Without Him none of this would have ever been possible. Thank you for giving me the strength I needed.

A special thanks to **Professor Herman Grobler**, my supervisor and compass. Thank you for all the patience, support and never-ending guidance over the last two years. Thank you for being so understanding and being such an exceptional mentor. I was truly blessed with you as my supervisor.

Professor **Suria Ellis**, thank you for your statistical input, guidance, time and patience. I learned so much!

I would like to sincerely thank all the **principals, teachers, secretaries and school counsellors** that made data collection so easy and so much fun. Thank you for showing interest in my research and for supporting me.

I want to express my gratitude to all the **participants and their parents** for their willingness to take part. Thank you for your contribution, you are truly appreciated.

To my parents whom I admire tremendously, **Jan and Maria**, thank you for the unconditional motivation, support, love and patience. Thank you for believing in me all these years and giving me the opportunity to reach my dreams. I am eternally grateful to have you by my side.

To my brother, **Erik**, thank you for keeping me grounded and having my back. You are and always will be someone I look up to.

Lastly, I would like to thank all my **friends** for their support. You all are truly exceptional people and I am blessed with you in my life.

Letter of Submission



Private Bag X1290, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Fax: 018 299-4910
Web: <http://www.nwu.ac.za>

For Registrar
Tel: 018-299 2621
Email: Thea.Joubert@nwu.ac.za

14 August 2018

Dear Ms H Fivaz (23480718)

NOTICE OF SUBMISSION

Note has been taken that you wish to submit your **dissertation/thesis** for examination. The registered title as it must appear on the examining copies and on the title page of the final copies is indicated below. An example of your title page will be sent together with this letter.

Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying

Your attention is drawn to the following matters regarding the above. You may submit on

- **1 September 2018 until 23 November 2018 to qualify for the Autumn graduation ceremony in 2019**

No submission for examination for this ceremony will be accepted after 26 November

You are required to submit your examination copy in the format mentioned below.

One electronic copy in Word format and one electronic copy in PDF format should be submitted on the eFundi website, under your faculty tab, in a drop box created for you for this purpose.

The following forms should be included when you submit for examination:

- The signed Solemn Declaration form
- A copy of your identity document/passport
- Personal particulars form (only applicable for PhD students)

Yours sincerely

Ms Thea Joubert
FOR REGISTRAR

Declaration by Student

I, Hesté Fivaz, declare herewith that the mini-dissertation titled Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying, which I submit to the North-West University, Potchefstroom Campus, is in compliance with the requirements set for the degree: Master of Arts in Research Psychology.

I declare that this mini-dissertation is my own work and sources have been referenced and acknowledged. This mini-dissertation has been language-edited in accordance with the requirements and has not already been submitted to any other university.

I understand and accept that the copies that are submitted for examination become the property of the University



Hesté Fivaz

Student number: 23480718

Guidelines for Authors

The South African Journal of Psychology will be considered for publication. Therefore the article will have to adhere to the following:

The *South African Journal of Psychology* publishes empirical, theoretical and review articles on all aspects of psychology.

Peer Review Policy

The South African Journal of Psychology operates a blind peer review process with each manuscript reviewed by at least two referees. All manuscripts are reviewed as rapidly as possible and the editorial team strives for a decision within 8-10 weeks of submission, although this is dependent on reviewer availability.

Where authors are invited to revise manuscripts for re-submission, the editor must be notified (by e-mail to sajp@psyssa.co.za) of their intention to resubmit and the revised manuscript should be re-submitted within four weeks.

Article Types

The *South African Journal of Psychology* considers submissions addressing South African, African or international issues, including:

- Manuscripts reporting on research investigations
- Review articles focusing on significant issues in Psychology

New submissions should not exceed 5500 words, including references, tables, figures, etc. Authors of manuscripts returned for revision and extension should consult the Editorial Office regarding amended length considerations.

All manuscripts should be written in English and include an abstract of not more than 250 words. The writing must be of a high grammatical standard, and follow the technical guidelines stipulated below. The publication guidelines of the American Psychological

Association 6th edition (APA 6th) must be followed in the preparation of the manuscript. Manuscripts of poor technical or language quality will be returned without review.

Declaration of Conflicting Interests

Within your Journal Contributor's Publishing Agreement you will be required to make a certification with respect to a declaration of conflicting interests. The *South African Journal of Psychology* does not require a declaration of conflicting interests but recommends you review the good practice guidelines on the SAGE Journal Author Gateway.

Research Ethics

Authors should specify the steps taken to facilitate ethical clearance – that is, the ways in which they comply with all ethical issues pertaining to their study, including obtaining informed consent. The manuscript must include the name of the institution that granted ethical approval for the research (if applicable).

Acknowledgements

In order to ensure a blind-review, acknowledgments should be included in the final stages of the manuscript review process, i.e. on final acceptance. Any acknowledgements should appear first at the end of your article prior to your Declaration of Conflicting Interests (if applicable), any notes and your references.

All contributors who do not meet the criteria for authorship should be listed in an 'Acknowledgements' section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, or a department chair who provided only general support. Authors should disclose whether they had any writing assistance and identify the entity that paid for this assistance.

Funding acknowledgement. To comply with the guidance for Research Funders, Authors and Publishers issued by the Research Information Network (RIN), the *South African Journal of Psychology* additionally requires all Authors to acknowledge their funding

in a consistent fashion under a separate heading. Please visit Funding Acknowledgements on the SAGE Journal Author Gateway to confirm the format of the acknowledgment text in the event of funding or state in your acknowledgments that: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Permissions

Authors are responsible for obtaining permission from copyright holders for reproducing any illustrations, tables, figures or lengthy quotations previously published elsewhere. For further information including guidance on fair dealing for criticism and review, please visit our Frequently Asked Questions on the SAGE Journal Author Gateway.

Manuscript Style

File types. Only electronic files conforming to the journal's guidelines will be accepted. Preferred format for the text and tables of your manuscript is Word DOC. Please also refer to additional guidelines on submitting artwork below.

Journal style. The *South African Journal of Psychology* conforms to the SAGE house style. Click here to review guidelines on SAGE UK House Style.

Research-based manuscripts should use the following format: The introductory/literature review section does not require a heading, thereafter the following headings /subheadings should be used: Method (Participants; Instruments; Procedure; Ethical considerations; Data analysis (which includes the statistical techniques or computerized analytic programmes, if applicable); Results; Discussion; Conclusion; References.

The “Ethical considerations” section must include the name of the institution that granted the ethical approval for the study (if applicable).

Reference style. The South African Journal of Psychology adheres to the APA reference style. Click here to review the guidelines on APA to ensure your manuscript conforms to this reference style.

Manuscript preparation. The text should be double-spaced throughout and with a minimum of 3cm for left and right hand margins and 5cm at head and foot. Text should be standard 12 point.

Keywords and abstracts: *Helping readers find your article online.* Authors should include (a) an Abstract of up to 250 words and (b) up to 6 alphabetised keywords. The title, keywords and abstract are key to ensuring readers find your article online through online search engines such as Google. Please refer to the information and guidance on how best to title your article, write your abstract and select your keywords by visiting SAGE's Journal Author Gateway Guidelines on How to Help Readers Find Your Article Online.

Corresponding author contact details. Provide full contact details for the corresponding author including email, mailing address and telephone numbers. Academic affiliations are required for all co-authors. These details should be presented separately to the main text of the article to facilitate anonymous peer review.

Guidelines for submitting artwork, figures and other graphics. For guidance on the preparation of illustrations, pictures and graphs in electronic format, please visit SAGE's Manuscript Submission Guidelines.

Figures supplied in colour will appear in colour online regardless of whether or not these illustrations are reproduced in colour in the printed version. For specifically requested colour reproduction in print, you will receive information regarding the costs from SAGE after receipt of your accepted article. The inclusion of photographs is generally discouraged.

Guidelines for submitting supplemental files. The South African Journal of Psychology does not currently accept supplemental files.

English language editing services. Non-English speaking authors who would like to refine their use of language in their manuscripts might consider using a professional editing

service. Visit English Language Editing Services on our Journal Author Gateway for further information.

Further Information

Any correspondence, queries or additional requests for information on the Manuscript Submission process should be sent to the Editorial Office as follows:

Email: sajp@psyssa.co.za

(Retrieved from <https://us.sagepub.com/en-us/nam/south-african-journal-of-psychology/journal202212#submission-guidelines> on 21 March 2017)

Declaration by Editor



Director: CME Terblanche - BA (Pol Sc), BA Hons (Eng), MA (Eng), TEFL
22 Strydom Street Tel 082 821 3083
Baffle Park, 2531 cumlaudelanguage@gmail.com

DECLARATION OF LANGUAGE EDITING

I, Christina Maria Etrechia Terblanche, hereby declare that I edited the
research study titled:

**Comparing adolescent self-regulation among aggressors, victims
and non-victims of bullying**

for Hesté Fivaz for the purpose of submission as a postgraduate study for
examination. Changes were indicated in track changes and implementation
was left up to the author.

Regards,

CME Terblanche

Cum Laude Language Practitioners (CC)

SATI accr nr: 1001066

Registered with PEG

SECTION A: BACKGROUND AND ORIENTATION

Self-regulation

Baumeister and Vohs (2007) describe self-regulation as the self's ability to alter its behaviour. It is a process where people attempt to limit unwanted impulses and urges to advance desirable behaviour. According to King, McLaughlin, Silk and Monahan (2017), self-regulation is "the ability to control and re-direct emotions and behaviours in service of adaptive goals" (p.3). It is the ability to adjust one's behaviour, emotion, and cognition with the intention to meet both extrinsic and intrinsic demands (Edossa, Schroeders, Weinert, & Artelt, 2018). Kuhl, Kazén and Koole (2006) state that strong self-regulatory abilities promote good job performance, positive psychological well-being, and foster health-promoting behaviours.

Self-regulation can also relate to concepts such as self-control, behaviour regulation, decision-making, cognitive control, executive function, effortful control, impulsivity, and emotion regulation (Baumeister & Vohs, 2007; Ludwig, Haindl, Laufs, & Rauch, 2016; King et al., 2017), with behaviour regulation, executive functioning (cognitive regulation) and emotion regulation the most known. Behaviour regulation can be explained as the ability to monitor behaviour, to execute self-control and to keep attention to achieve a goal (Edossa et al., 2018; Ludwig et al., 2016). Executive functioning or cognitive regulation entails managing thoughts, attention shifting, action and staying focussed deliberately with the help of cognitive skills (Edossa et al., 2018; Miyake & Friedman, 2012). Lastly, emotional regulation involves observing, identifying and monitoring one's own emotions, and then evaluating and modifying those emotions to express emotional reactions to achieve a goal while facing different situations or activities or interacting with other people (Edossa et al., 2018; Strauss & Raubenheimer, 2016). However, researchers theorize on these facets of self-regulation differently. When defining the structure of self-regulation, some theories explain

that there is no clear differentiation between cognitive, behavioural and emotional regulation, as self-regulation is a domain-general ability (Edossa et al., 2018). The more widely accepted theory is that self-regulation is a multidimensional concept and comprises cognitive, behavioural and emotional self-regulation. The theory explains that all three factors exist on their own, but influence each other as well. For the purpose of this research study, self-regulation is seen as a multidimensional concept where behavioural regulation will be measured.

Structure of Self-Regulation

Baumeister and Vohs (2007) explain four factors of the self-regulation process. These factors include (1) standards, (2) monitoring, (3) self-regulatory strength, and (4) motivation. A clear and well-defined standard is required to measure existing behaviour for effective self-regulation. When a standard is set, monitoring is necessary to keep track of behaviour. The feedback loop theory Carver and Scheier (1998) explains a method of monitoring by carrying out a test that compares the self to the standard. If the self compares to the standard, behaviour continuous as is. However, if the self falls short of the standard, self-regulation processes start to change the behaviour until the behaviour is in line with the standard. Self-regulatory strength or willpower refers to the power and strength used to change the behaviour. It can sometimes be depleted after use. Another relatively new factor to be linked so self-regulation is motivation. Baumeister and Vohs (2007) state that even when all three factors are in order, without motivation a person will not self-regulate effectively to reach their goals.

Brown (2013) describes a process of self-regulation that involves three components, namely “(1) goal selection, (2) preparation for action, and (3) a cybernetic cycle of behaviour” (p.133). During goal selection an individual decides what they want to do or what they want to achieve and they set a goal. During the second stage, the individual prepares a

plan of action to achieve their goal. The cybernetic cycle of behaviour, also known as the control theory (Brown, 2013), explains how negative feedback adjusts behaviours and emotions when there is a discrepancy between the existing behaviour and the standard necessary to meet the goals. This process is also the feedback loop first described by Carver and Scheier in 1998.

This process is also known as TOTE as it involves four steps of self-regulation, called test-operate-test-exit. First, a person measures whether they are meeting the necessary standard by comparing (test) their current state to their desired state. If the two states are incongruent, action is undertaken (operate) to bring the current state to the desired state. Again, the two states are compared (test) to measure for discrepancies and if the desired state standard is met, the control transfers (exit) elsewhere to regulate another activity (Brown, 2013; Carver & Scheier, 1998).

Miller and Brown (1991, as cited by Hoyle & Davisson, 2011), explain self-regulation as the ability to “establish, execute, and sustain planned behaviour in the service of attaining one’s goal” (p. 35). They extend the number of processes involved in self-regulation to seven steps, creating the 63-item Self-Regulation Questionnaire (Miller and Brown, 1991, as cited by Chen & Lin, 2018). These steps include, “(1) receiving relevant information, (2) evaluating the information and comparing it to norms, (3) triggering change, (4) searching for options, (5) formulating a plan, (6) implementing the plan, and (7) assessing the plan’s effectiveness” (p. 2).

During the first step, the individual receives relevant information about their own behaviour. During step two the individual compare his or her behaviour to a standard, usually a personal standard or norm. This is similar to what is described in the structures of Baumeister and Vohs (2007) and Brown (2013) (Hoyle & Davisson, 2011). During steps three to six the individual undertakes a change process by first considering change, then

searching for and discussing alternative options, formulating a new plan and then implementing the new plan. Lastly the new plan's effectiveness is assessed. If the plan has been effective, behaviour will continue as is, but if the plan has been ineffective, the process will be repeated. Discrepancies or failure during any of these steps may lead to failure to self-regulate (Hoyle & Davisson, 2011).

Importance of Self-Regulation in Adolescents

Adolescence can be a confusing period as key developmental changes take place, confronting adolescents with unique experiences (Conover & Daiute, 2017; Strauss & Raubenheimer, 2016). Adolescence is a developmental phase where interpersonal relationships, decision-making and risk-taking are vital and play a significant role in long-term failures and successes. For adolescents to successfully manage this time period, they need the necessary physical, cognitive and psychological skills, including engaging in numerous activities, being socially connected and regulating and controlling their emotions and behaviour (Strauss & Raubenheimer, 2016).

Conover and Daiute (2017) state that a relationship between adult outcomes and adolescent self-regulation has been reported in previous research, emphasizing the effect of self-regulation on positive mental health, maintaining a job, academic achievement and creating healthy relationships. The ability to self-regulate is a vital contributor to social success, mental health and overall achievement (Steinberg, 2014). Edossa et al. (2018) state that strong self-regulation in adolescents also correlates with academic achievement in that the individual stays focussed for longer, control their activities, follow general classroom rules and solve academic problems.

According to King et al. (2017), better self-regulation is generally linked to better social functioning and academic performance, whereas poor self-regulation is linked to anxiety, depression, binge eating, risky sexual behaviour and substance abuse. Brown, Miller, and

Lawendowski (1999, as cited by Potgieter & Botha, 2009) claim that individuals with lower self-regulation may be more predisposed to psychological disorders due to their inability to adapt in challenging circumstances and to deal with stressors.

Social Acceptance, Peer Relations and Self-Regulation

The “need to belong” theory explains the fundamental psychological need to be accepted by others and to avoid rejection. According to this theory social exclusion and rejection impair self-regulatory abilities (King et al., 2017). Baumeister and Vohs (2007) attribute the need for social acceptance to the basic need for survival and reproduction. Social exclusion and rejection correlate with reduced attention and control, as well as high impulsivity, all of which are factors of self-regulating behaviour (Hrbackova & Safrankova, 2016; King et al., 2017).

Self-regulation is imperative for meeting social expectations and situational demands, achieving goals, and building and maintaining social relationships (Ludwig et al., 2016). The social bonding theory emphasizes the importance of social relationships by stating that social relationships are necessary to live meaningful and well-adjusted lives (McCleary, 2011).

According to King et al. (2017), “sensitivity to social feedback increases during adolescence, while peer relationships not only become more important and occupy more time but are less stable, resulting in greater opportunities to experience acceptance and rejection by peers” (p.4). Adolescents who are able to control their impulses and reflect on their actions are more likely to get along with others, to be accepted and to have friends (Bandy & Moore, 2010).

Garner and Hinton (2010) explain that children who struggle with emotional and behavioural self-regulation may become prone to problematic peer relations. Adolescents with good self-regulating abilities may experience success in school and social relationships, while adolescents with poor self-regulating abilities can be more destructive. An adolescent’s

ability to self-regulate is definitely modified by social and peer relations (Baumeister, DeWall, Ciarocco, & Twenge, 2005). A logical consequence is that behaviour such as bullying can influence an adolescent's self-regulation.

Bullying

The first research on bullying can be traced to pilot studies done in the early 1970s in Scandinavia by psychologist Dan Olweus. Olweus (1993) describes bullying as a set of physical, verbal and/or social behaviours that an individual or a group of individuals direct at peers. This is done in a hostile manner, with repetition, and in the action, the aggressors abuse real and fictitious power. The intent is also to harm the victim. Carr-Gregg and Manocha (2011) explain that bullying can be seen as a form of aggression. Bullying is used to control others or abuse the power in relationships by using repeated physical or psychological oppression. It is important to distinguish between bullying and normal social behaviour. Bullying does not include mutual disagreements or arguments, random acts of intimidation and aggression, single episodes of dislike, spite, nastiness or social rejection (Carr-Gregg & Manocha, 2011).

For behaviour to be defined as bullying the following criteria must be met (Benitez & Justicia, 2006):

- an imbalance of power between the victim and the aggressor, to be understood as a dishonest, domineering, opportunistic and illegitimate use of power over one's opponent;
- incidence and duration of the bullying situation, with a minimum incidence of once per week and a minimum duration of six months;
- intentionality and proactive character of the aggression, since one is seeking to obtain some social, material or individual benefit, without prior provocation; and
- the intent to harm (p. 154)

Participants in bullying play specific roles (Sampaio et al. 2015), which includes the aggressors (bullies), the victims, the bystanders and the non-victims/non-aggressors. For the purpose of this study, only aggressors, victims and non-victims/non-aggressors are discussed to pursue the aim of comparing the self-regulation of the above-mentioned groups. Since the scope of the study was limited, the three groups were chosen as a starting point for research on self-regulation and bullying behaviour. A bully or an aggressor is an individual who uses aggression and manipulation to maintain power (Benitez & Justicia, 2006), where a victim is usually on the receiving end of the aggression and manipulation. A non-victim/non-aggressor is an individual who is neither the bully nor the bullied person.

Characteristics of Aggressors, Victims and Non-victims/Aggressors

Aggressors. A bully can be aggressive, passive or anxious. Research states that an aggressive bully's personality is more violent as they can be hot-tempered, domineering and impulsive, and have little empathy for others (Protegerou & Flisher, 2010). Researchers initially thought that bullies have a low self-image, poor social skills and a lower social intelligence. However, further research showed that bullies have a superior theory of mind, have good self-image and are master manipulators, especially when it comes to gaining support from their peer group and social environment while bullying others (De Wet, 2005).

Passive bullies, on the other hand, are often the followers of the aggressive bully, as they are easily dominated and will most likely feel guilty after bullying another individual (Smith, 2004). Passive bullies prefer to stay with the aggressive bully to protect themselves and to maintain their social status (De Wet, 2005). There are also anxious bullies who have few friends, are emotionally unstable and uncertain and are both aggressive and anxious due to poor self-esteem and self-image (De Wet, 2005).

Victims. Passive victims of bullying are usually characterized as having low self-esteem, having little physical strength, potentially suffering from depression and anxiety,

overly sensitive and having poor social skills (Powell & Ladd, 2010, Protegerou & Flisher, 2010). Victims can be submissive in nature, can be quieter and only have a few or even no friends. Protegerou and Flisher (2010) explain that adolescents who live with an over-protective family or an enmeshed family, may be more prone to being bullied as self-assertion and independence is not emphasized. According to Powell and Ladd (2010), adolescents with weight problems and concerns about physical appearance are also more likely to be bullied.

Literature also refers to proactive victims who generally respond with more aggression than a passive victim, which can result in them bullying others. This is known as a bully/victim (Pellegrini & Bartini, 2001; Powell & Ladd, 2010, Van Dijk, Poorthuis, & Malti, 2016). These types of victims also struggle with friendships and social relationships. They therefore tend to be lonely and insecure, and have overall poor social skills. According to Powell and Ladd (2010), bullies/victims do not bully to gain power or social status, but rather in retaliation to being bullied.

Non-victims/non-aggressors. According to Radliff, Wang and Swearer (2015) non-victims/non-aggressors perform better overall than victims and aggressors of bullying. They show lower levels of avoidance, suicidal ideations, negative behaviour and depression and higher levels of self-esteem. Non-victims/non-aggressors are not as sad and hopeless as victims, and not as dominating, demanding and aggressive as aggressors (Fox & Boulton, 2005). They are also more socially adequate and have a strong support system.

Types of Bullying

There are five recognized types of bullying, broadly divided into the categories of direct or indirect bullying. Direct bullying includes physical and verbal bullying, while indirect bullying refers to psychological bullying and cyberbullying. Social bullying can be either direct or indirect. The first type is physical bullying where one person pushes, hits,

trips, pokes, kicks or damages the victim's belongings (Carr-Gregg & Manocha, 2011; James & Gililand, 2013). The second type is verbal bullying, where bullies use insults, name calling, or hate speech such as racist or homophobic remarks (Carpenter & Ferguson, 2009). Social bullying includes spreading rumours, lying, scapegoating, mimicking, playing a nasty joke or deliberately excluding someone (Wang, Brittan, McDougall, & Vaillancourt, 2015). Psychological bullying involves manipulation, threatening and stalking (Carr-Gregg & Manocha, 2011). Cyberbullying involves technology such as social media platforms to bully others socially, verbally or psychologically by posting hurtful messages and rumours anonymously (Powell & Ladd, 2010).

Bullying in South Africa

Bullying in South Africa is “embedded in the broader picture of the spiralling violence in South Africa” (p.15) as it occurs at all levels of society, for instance at schools, at home, within the rest of the family, at tertiary institutions, and even in the workplace (Maree, 2005). Timm and Eskill-Blokland (2011) state that in a study done across South Africa, bullying was clearly prevalent, especially in high schools. Forty-one per cent of learners nationally said they have been bullied in some way. The learners came from different parts of the country: 36.3% from Cape Town and Durban, 11.8% from rural schools in Mpumalanga, and 61% of learners came from Tshwane.

In 2012 the National School Violence Study in South Africa concluded the following: (1) 13% reported being bullying; (2) 14% reported threats of stigmatization; (3) 13.3% reported being forced into activities against their will; (4) 12.2% reported threats of violence; (5) 6.3 % reported being assaulted; and (6) 4.7% reported rape and sexual abuse (Veriava, Thom, & Hodgson, 2017).

Bullying and Peer Social Acceptance

The social identity developmental theory explains that for an adolescent, being a member of a group is vital for forming self-worth and a sense of identity (Protegerou & Flisher, 2010). Adolescents need friendships to address self-esteem and social identity concerns. The social bonding theory also supports the importance of peer relations, with McCleary (2011) arguing that adolescents who want to live meaningful and well-adjusted lives need to have quality peer relationships (Sampaio et al., 2015). Unfortunately, bullying emerges in peer and social groups. Williams and Guerra (2011) explain that learners negotiate affiliations and peer status hierarchies in their social groups, which can lead to bullying behaviour. Bullying is therefore embedded in all social interactions.

When learners are bullied, they tend to withdraw, leading to fewer friends and inadequate social skills (Williams & Guerra, 2011). Milsom and Gallo (2006) emphasize the importance of adolescents learning the social skills necessary to cope with the adjustments of everyday life, such as peer acceptance and rejection. These skills include anger management, conflict resolution and self-regulation.

Causes of Bullying

Veriava et al. (2017) explain that there is not one, but several external intersecting factors that lead to bullying and school violence as behaviour is shaped and influenced by contextual factors. In South Africa, some of these factors include exposure to violent media; substance abuse; intolerance; discrimination, poverty, socio-economic factors and family violence. According to Moon, Hwang and McCluskey (2011), poor self-control is one of the main reasons for aggressive and criminal behaviour. According to UNESCO (2017), the root causes of bullying could be internal and external, such as gender and social norms, and conflict, deprivation, marginalization and income inequality. Thornberg (2011) states that an adolescent victim is usually seen as an individual that does not fit in with the rest of their

peers. Therefore, environmental aspects and individual factors should be considered when explaining the causes of bullying.

Environmental factors include an adolescent's home, school and community. Research has shown that bullies usually live in a home where violence is accepted and where violence is used to solve problems. Parents can also be distant, pay no attention to their children, or use an authoritarian parenting style (Olweus, 1993; Timm & Eskell-Blokland, 2011). Personal risk factors for bullies include being without supervision from parents (Smith, 2016), without positive role models, being fascinated by violence, and having a physical appearance that allows them to bully other learners.

Most bullying behaviour takes place at school. A school can foster bullying climate if the school does not take immediate action (Smith, 2016). Bullying can take place in schools where there is no clear policy on bullying behaviour and no intervention strategies in place.

According to Thornberg (2015) adolescents with special education needs and disabilities are more likely to be bullied. This includes adolescents with hearing impairments, speech-language impairments, autism, attention deficit hyperactivity disorder, and adolescents with poor motor skills. Gender norms also play a role in popularity and status, especially when it comes to the issue of sexuality with adolescents that are gay, lesbian and bisexual. UNESCO (2017) also states that gender, physical appearances, sexual orientation, gender identity and expression, and disability makes adolescents vulnerable to bullying.

Causes of Bullying explained by Theoretical Frameworks and Theories

Bandura (1977, as cited by Hong, Espelage, Hunter, & Allen-Meares, 2016) explains that the development of bullying comes from the social learning theory. Behaviour is learned from others, the learner therefore learns observationally through modelling. When observing behaviour, an individual forms an idea of how to act in different situations, meaning that

when youths are exposed to violent behaviours, whether at home or in the community, they may adapt their own behaviour to act accordingly (Hong et al., 2016).

Within the social constructionist and interactionist frameworks, researchers demonstrate that victims are socially defined by their bullies (Thornberg, 2015). The victims are seen as different, odd and deviant. Bullies often use labels such as “nerd”, “moron”, “ugly”, “disgusting”, “retarded”, “a liar” and “whore” to address their victims and even justify their behaviour.

Researchers who work from a sociocultural theoretical framework explain that adolescents build friendships and relationships to maintain a peer culture (Maunder & Crafter, 2017; Thornberg, 2015). Within this culture there are social norms for expectations and behaviours in different situations (Repo, 2015). If an adolescent starts acting in a way that is not allowed within the social norms, conflict may arise, and the adolescent may be excluded from their group and be negatively categorized.

The social anthropological and sociological frameworks focus more on the social structure of bullying than the individual pathology (Hong et al., 2016), explaining that school culture can be a cause of bullying. Schools can create a conflicting culture full of intolerance for diversity and a culture of disrespect (Thornberg, 2015).

The social dominance theory explains bullying as a way to establish and maintain social dominance and power imbalance by using agonistic and aggressive strategies to position themselves better socially (Thornberg, 2015). Hemphill, Heerde and Gomo (2014) explain that a power imbalance may be perceived, such as social status, or be actual, for instance age or size.

Consequences of Bullying

De Wet (2005) states that aggressors and their victims suffer negative short- and long-term consequences. When an adolescent bullies others it may be a predictor of

maladjustment, poor health, and future behavioural misconduct. Research has shown that in the long run, bullying behaviour influences close relationships and behavioural problems, with a correlation between bullying and criminal convictions as adults (Protogerou & Flisher, 2010). Bullies can suffer from a number of mental illnesses, including conduct disorder, psychosomatic complaints, suicide and depression. They are also more likely to partake in risky and self-destructive behaviours and are more antisocial (Moon et al., 2011).

Victims of bullying experience lower levels of psychological well-being. Victims live in constant fear of the next bullying incident and feel unhappy overall. They feel sad and angry and suffer from low self-esteem (Rigby, 2003; Sampaio et al., 2015). Being bullied can lead to mental health problems, including substance abuse. Victims experience poor social adjustment, especially within their school environment, which in turn makes them more vulnerable to bullying (Rigby, 2003). They also experience psychological distress in terms of anxiety, depression, and suicidal thoughts, and in some cases even suicide (Rigby, 2003; Timm & Eskell-Blokland, 2011). Victims can also suffer physically, including psychosomatic symptoms (De Wet, 2005; Rigby, 2003). Adolescents may have difficulty falling asleep, experience chronic pain, and have heart palpitations, headaches, stomach aches and somatization. Being a victim of bullying causes stress through the increase of cortisol levels, which in turn can affect an adolescent's hormones and immune system (Rigby, 2003). In the long run bullying affects the ability to socialize with other adults. The victim may also suffer from clinical depression and even post-traumatic stress disorder. A victim can also experience future potential damage to existing relationships with peers, the individual's sense of self, and the capacity to trust others (Cowie & Smith, 2008; Goodboy, Martin, & Goldman, 2016).

“Bullying thus not only infringes on the child’s right to receive education in a safe and secure school environment, but may also have dire consequences for a child’s academic, relational, emotional and behavioural development” (De Wet, 2005, p. 709).

Problem Statement

Prior research states that bullying negatively affects specific outcomes of self-regulation, such as creating healthy relationships, social functioning, academic achievement and mental health (Conover & Daiute, 2017; Edossa et al., 2018; King et al., 2017; Steinberg, 2014). Research also confirms that social exclusion correlates with high impulsivity, reduced attention and control, which are also factors of low self-regulation (Hrbackova & Safrankova, 2016; King et al., 2017). Being bullied at school can be a form of social exclusion, therefore it can be assumed that bullying behaviour has a negative effect on an adolescent’s ability to self-regulate.

In South Africa self-regulation has been studied across cultures, ages and different scenarios, especially addictive behaviours and violence prevention (Gould & Ward, 2015; Potgieter & Botha, 2009; Protogerou & Flisher, 2012, Vosloo, Potgieter, Temane, Ellis & Khumalo, 2013). However, little research has been done to determine if there is a significant direct link between self-regulation and bullying behaviour (Jakesova, Gavora, & Kalenda, 2016).

Contribution of the Study

Identifying possible differences in self-regulation between aggressors, non-victims and victims of bullying may provide valuable insight that could be incorporated into future bullying prevention programmes. The Short Self-Regulation Questionnaire can identify the specific step of self-regulation with which an individual may excel or struggle, which in turn can contribute to therapeutic processes. The study may explain vulnerable traits that can lead to bullying or being bullied because of specific self-regulatory behaviour.

On completion of this study, the participating high schools will be informed of the bullying situation at their schools for further investigation if necessary. The results will also contribute to the knowledge of bullying behaviour in Kimberley, Northern Cape, as previous studies on bullying mostly included learners from the Free State, Gauteng, KwaZulu-Natal, Mpumalanga and the Western Cape (De Wet, 2005; Laas & Boezaart, 2014; Timm & Eskell-Blokland, 2011).

The research question is: How do adolescent self-regulation compare among aggressors, victims and non-victims of bullying?

Hypothesis

H₀: There are no differences when comparing the self-regulation among aggressors, victims and non-victims.

H_a: There are significant differences when comparing self-regulation among aggressors, victims and non-victims.

Aims and Objectives

The aims of this study are to examine and compare:

- Self-regulation in aggressors of bullying
- Self-regulation in victims of bullying
- Self-regulation in non-victims/non-aggressors of bullying

Method and Procedure

Research Approach and Design

The aim of the study was to determine and compare possible differences in self-regulation between aggressors, victims and non-aggressors/non-victims of bullying. Questionnaires were administered to gather data on the participants' levels of self-regulatory ability and to categorize the participants into aggressors, victims and non-aggressor/non-victims of bullying. In light of the aim of the study, a quantitative research approach seemed

appropriate, using a cross-sectional survey design. A cross-sectional survey design can be used with exploratory and descriptive studies where the goal is to determine the extent of a problem or whether a problem even exists (Fouché, Delpont & De Vos, 2011).

Population and Sample

Population. Adolescents in local high schools in Kimberley, South Africa formed the population for this study. Prior research has been conducted on bullying in the Western Cape, Gauteng, KwaZulu-Natal, Free State and Mpumalanga (De Wet, 2005; Laas & Boezaart, 2014; Timm & Eskill-Blokland, 2011), with no research available on the Northern Cape. The Northern Cape hosts 2.07% of a total of 4.5 million learners in South Africa, with over 15 000 learners (Grade 8 to 12) in Kimberley, distributed across 1 independent school and 19 public schools (Department of Education, 2016). Even though the Northern Cape has a rich cultural, social and political history (Bezuidenhout & Bradshaw, 2013), it is frequently overlooked due to the small population. Leggett (2004) also states that the Northern Cape is one of the most violent provinces in South Africa.

Sampling Method. A purposive sampling technique was used to select participants who met a predetermined set of criteria (Wilson & Maclean, 2011). The set of criteria included that the adolescents had to be enrolled in a local high school and be between the ages of 14 and 18; had to be between Grade 8 and 11; and had to have a good understanding of English to complete the questionnaire.

Sample Size. There are over 10 000 high school learners in Kimberley when excluding the Grade 12s. Therefore, a minimum of 370 learners was necessary for a 95% confidence rate (Simon & Goes, 2013). Seven principals gave permission for the research to be conducted at their schools and 585 learners participated in the study. The data is representative of a random sample from the population. The requirements of being accurate to a 5% level of significance with 80% power were met.

Sample Recruitment. Before the sample was selected the researcher got all authorizations, including ethics approval from the North-West University (NWU-00031-18-S1) and the Department of Education (See Appendix A).

After sending permission forms to the selected schools (See Appendix B) and receiving permission from seven principals to enter their schools, all learners received a parental consent form to give to their parents or legal guardians (See Appendix C). The research was explained to the teachers. Teachers also received a letter explaining the research to read to the learners to ensure that every learner received the correct information. The consent form explained the research in detail and provided contact information if the parents or legal guardians had any queries. Only the learners with consent from their parents or legal guardians were allowed to take part in the study. Since the parental consent forms and the adolescent assent forms provided the exact same information, the learners received and signed the adolescent assent forms on the day of data collection (See Appendix D).

Data Collection

After receiving the parental consent forms, each principal decided on a date, time and location where the learners could complete the questionnaires (See Appendix D) separately from the rest of the learners. Where more than one location was used, teachers or staff assisted the researcher. The researcher explained the study to the teachers and staff to ensure that the correct information would be explained to the learners and that the information gathered would be treated as confidential. The teachers or staff also signed a form stating that they explained the research and that the learners understood what was expected of them.

Prior to completing the questionnaire, the research was once again explained to the learners and emphasis was placed on the voluntary nature of the study. Following this the learners signed the adolescent consent forms.

Three questionnaires were used to collect data. The first questionnaire was a demographic questionnaire establishing race, gender, grade and age for the purposes of descriptive analysis. The name of the high school was also asked as to categorize the learners according to school for feedback purposes.

The Adolescent Peer Relations Instrument (APRI) (Parada, 2000) consists of 36 items measuring aggressive (Section A) and victim (Section B) behaviour with reference to bullying. Both sections have three subscales, verbal, social and physical. The APRI has not yet been standardized in South Africa, but showed high reliability in a study done in Australia with a Cronbach's $\alpha=0.95$ for the aggressors' section and a Cronbach's $\alpha=0.83$ for the victim section. For the subscales, a Cronbach's α range of 0.83–0.92 was recorded.

The SSRQ consists of 31 items measuring the seven steps of self-regulation, namely (1) receiving relevant information, (2) evaluating the information and comparing it to norms, (3) triggering change, (4) searching for options, (5) formulating a plan, (6) implementing the plan, and (7) assessing the plan's effectiveness. Neal and Carey (2005) recorded a high correlation between the SSRQ and the SRQ ($r=0.91$).

Data Analysis

A total of 583 questionnaires were submitted for analysis. The questionnaires that were incomplete were excluded per section. Both questionnaires were tested for reliability and validity using Cronbach's alpha and factor analysis.

The SSRQ showed satisfactory reliability with a Cronbach's $\alpha=0.775$. The APRI showed a high reliability for Section A with a Cronbach's $\alpha=0.781$ and for Section B with Cronbach's $\alpha=0.806$. Explanatory factor analysis using principal component analysis with Oblimin with Kaiser Normalization as rotation methods was conducted on both questionnaires. For both questionnaires, the sampling adequacy was confirmed using the

Kaiser-Meyer-Olkin measure, resulting in a KMO=0.895 for the SSRQ, KMO=0.888 for Section A (aggressors) and KMO=0.922 for Section B (victim) of the APRI.

The factor analyses validated the original subscales of the APRI to a large extent (See Table 1.1 and 1.2).

Table 1.1

Pattern Matrix of Exploratory Factor Analysis of Section A - the Aggressor Scale

Variable	Factor Loadings			Communalities
	Social	Verbal	Physical	
A11	0.732			0.506
A4	0.604			0.368
A18	0.600			0.348
A13	0.596			0.400
A10	0.583			0.502
A17	0.579			0.349
A8	0.434			0.377
A6	0.430		0.321	0.441
A1		-0.793		0.624
A5		-0.645		0.530
A14		-0.468		0.506
A3		-0.424		0.327
A7		-0.358	0.289	0.401
A12			0.770	0.585
A15			0.714	0.528
A9		0.401	0.584	0.497
A2		-0.371	0.581	0.499
A16			0.532	0.376

Note. Values less than 0.3 are not displayed

Table 1.2

Pattern Matrix of Exploratory Factor Analysis of Section B – the Victim Scale

Variable	Factor Loadings			Communalities
	1	2	3	
V1	0.842			0.700
V7	0.649			0.620
V18	0.579			0.584
V11	0.549		0.342	0.572
V4	0.529		0.329	0.555
V13	0.377		0.331	0.572
V16		0.761		0.609
V5		0.703		0.469
V15		0.676		0.474
V10		0.627		0.443
V2	0.382	0.556		0.549
V8		0.555		0.445
V12			0.817	0.626
V17		0.315	0.721	0.634
V6			0.656	0.546
V3	0.314		0.641	0.580
V9			0.586	0.519
V14	0.297		0.441	0.474

Note. Values less than 0.3 are not displayed

The seven subscales of the SSRQ could not be validated using exploratory factor analysis (See Table 1.3). Confirmatory factor analysis was therefore conducted and this did verify the seven steps (See Table 1.4).

Table 1.3

Pattern Matrix of Exploratory Factor Analysis of the SSRQ

Variable	Factor Loadings							Communalities
	1	2	3	4	5	6	7	
Q2N16	0.674							0.562
Q2N1	0.650							0.578
Q2N31	0.597							0.463
Q2N5	0.568							0.488
Q2N21	0.525		0.330					0.618
Q2N19	0.447	0.422						0.530
Q2N8	0.364			0.339				0.413
Q2N10		0.664						0.496
Q2N2		0.641						0.502
Q2N3		0.640						0.514
Q2N9		0.583						0.437
Q2N7		0.496				-0.423	0.309	0.574
Q2N4		0.409			-0.322			0.531
Q2N29			0.769					0.639
Q2N28			0.702					0.612
Q2N13			0.580					0.456
Q2N30			0.505			0.391		0.529
Q2N26	0.293		0.457					0.529
Q2N18			0.383					0.459
Q2N12				0.723				0.591
Q2N14				0.523				0.536
Q2N6		0.416		0.442				0.409

Variable	Factor Loadings							Communalities
	1	2	3	4	5	6	7	
Q2N17				0.439				0.417
Q2N15				0.295			-0.290	0.432
Q2N22					-0.644			0.575
Q2N11			0.319		-0.609			0.587
Q2N23					-0.553			0.466
Q2N27					-0.478	-0.313		0.475
Q2N20						-0.572		0.530
Q2N24							-0.844	0.717
Q2N25							-0.448	0.531

Note. Values less than 0.3 are not displayed

Table 1.4

Goodness of Fit of the SSRQ after Confirmatory Factor Analysis

	CMIN/DF	CFI	RMSEA [90% CI]
SSRQ	4.89	0.64	0.082[0.8;0.10]

The Minimum Sample Discrepancy was divided by Degrees of Freedom (CMIN/DF), resulting in a value of 4.888. According to Mueller (1996), ratios above 3, 4, or 5 can still represent a good model fit. A CFI of 0.636 is therefore relatively acceptable as values above 0.9 are seen as a good fit for the Comparative Fit Index (CFI). For the Root Mean Square Error of Approximation (RMSEA), a value of 0.082 was obtained with a 90% confidence interval [0.8; 0.10], indicating an acceptable fit. Any models with a RMSEA value of above 0.10 are not accepted (Blunch, 2008).

An independent Group T-test was performed to determine significant differences in the self-regulation of aggressors and non-aggressors of bullying, and self-regulation, victims and

non-victims of bullying. Cohen's Effect sizes were calculated to determine if the T-test differences was substantive. Sullivan and Feinn (2012) explain that the *p-value* can determine whether a significant effect exists between groups, whereas the effect sizes determine the substantive significance of those differences. The results indicated significant differences between being an aggressors and being a non-aggressor of bullying ($p<0.05$) with a medium effect ($d=0.39$). The results also showed a significant difference between being a victim and being a non-victim of bullying and self-regulation ($p<0.05$) with a small effect ($d=0.31$). Cramer's V was performed to conclude if the relationship between victims and aggressors of bullying was large enough to be important. The test indicated a medium effect ($w=0.274$).

The data was also tested with ANOVA and Brown-Forsyth to determine differences in the participants' demographic information, self-regulation and bully behaviour. Significant differences on gender and being an aggressor of bullying showed that males are more likely to be aggressors than females. A positive correlation between self-regulation and grade suggest that as the one increases, so does the other. There was negative correlation between grade and being an aggressor of bullying , especially between grade and physical violence.

There were significant differences in the different races' ability to self-regulate, especially between white and coloured learners. The results also showed significant differences in being an aggressor of bullying and race between black and white learners and white and coloured learners, and differences on being a victim of bullying and race between black and white learners.

Lastly, Spearman's Rho was performed to determine a correlation between self-regulation, aggressors and victims of bullying. The test resulted in a significant negative correlation ($p<0.01$, $r_{aggressor}=-.281$, $r_{victim}=-0.159$), suggesting that as bullying behaviour decreases, the ability to self-regulate increases.

Ethical Considerations

Informed Consent

Only after approval from HREC and the Department of Education had been obtained did the researcher continue with sample selection and data collection. When working with minors, the permission of a parent or legal guardian is necessary. Therefore, parental permission was first obtained from parents of the learners who were interested in the study. The researcher's contact information was written on the permission form should the parents or legal guardians have any questions. After parental permission had been received, the learners also signed an adolescent assent form.

Voluntary Participation

The anonymity and voluntary nature of this study was explained before the parental permission forms were distributed and before the adolescent consent forms were signed. The learners were informed that not taking part would not affect them negatively in any way. All principals, teachers and staff were informed that under no circumstances may any learner be forced or influenced in any way to take part.

Confidentiality and Anonymity

Bullying, especially when it involves minors, is a sensitive subject. Learners received the chance to express their views freely as the questionnaires were completed anonymously. However, when using questionnaires, the possibility of learners lying to put themselves in a better light socially, is always present. Before data collection the explanation emphasized honesty, as the goal of the study was not to individually report on any bullying behaviour. The learners were also assured that even though they wrote their names on their consent forms, the questionnaires would remain confidential as they provided no names on the questionnaire.

The researcher informed the teachers and staff who assisted that all information should be kept confidential and any paper trace after learner participation would only be available to the researcher. Since the participants completed the questionnaires as a group in a classroom, they were asked to respect their fellow participant and to keep their participation confidential.

Record Keeping

All the signed consent forms and assent forms and the questionnaires are safely stored at a locked location at the North-West University, Potchefstroom Campus. All information will be kept safely for seven years, after which it will be destroyed. Soft copies of the data collected, and analysis will be password-protected and stored on an external drive that will also be locked away.

Unbiased Results

All questionnaires were numbered and handed to the North-West University Statistical Consultation Department. The data were independently analysed and the results are therefore unbiased. The report the researcher wrote on the results was also checked by the statistical department to ensure that the results had been correctly portrayed.

Possible Risks

Risks included that learners may be unwilling to share information on traumatic experiences, the learners may be untruthful or may experience secondary trauma. Even though there is no sure way of knowing if learners perhaps did not participate because they are being bullied or if those who did participate were being untruthful, the results seem to suggest that learners generally admitted to being an aggressor or being a victim of bullying. A counselling psychologist was on standby in case a participant experienced secondary trauma, but her services were never requested.

Cost and Remuneration

Participants incurred no cost and received no remuneration for this study. Data collection took place on school grounds to ensure accessibility.

Conclusion

The literature review suggests that bullying behaviour does affect an adolescent's ability to self-regulate. Prior research has determined that bullying negatively influences social functioning, academic achievement and mental health, all which are also outcomes of self-regulation. When a person has a poor ability to self-regulate, it may lead to reduced attention and control and high impulsivity, which is also directly correlated with social exclusion (forms apart of bullying behaviour). Given this information, this study aims to determine if there is a link between the ability to self-regulate and bullying behaviour and whether there is a significant difference in the ability of aggressors, victims or non-victims/non-aggressors of bullying to self-regulate.

References

- Bandy, T., & Moore, K. A. (2010). Assessing self-regulation: A guide for out-of-school time program practitioners. *Research-to-Results, 2013(23)*, 1–8
- Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology, 88(4)*, 589–604. doi: 10.1037/0022-3514.88.4.589
- Baumeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego depletion, and motivation. *Social and Personality Psychology Compass, 1(1)*, 115–128.
doi:10.1111/j.17519004.2007.00001.x
- Benitez, J. L., & Justicia, F. (2006). Bullying: Description and analysis of the phenomenon. *Electronic Journal of Research in Educational Psychology, 4(2)*, 151–170.
- Bezuidenhout, H., & Bradshaw, P. (2013). Vegetation landscapes of Mokala National Park (Northern Cape). *South African National Parks Internal Report*. Kimberley: Scientific Services.
- Blunch, N.J. (2008). Introduction to structural equation modelling using SPSS and AMOS. London: Sage.
- Brown, J. D. (2013). *The self*. New York, NY: Routledge.
- Carpenter, D., & Ferguson, C. J. (2009). *The everything parent's guide to dealing with bullying*. Avon, MA: Adams Media
- Carr-Gregg, M., & Manocha, R. (2011). Bullying: Effects, prevalence and strategies for detection. *Australian Family Physician, 40(3)*, 98–102.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behaviour*. New York, NY: Cambridge University Press.

- Chen, Y., & Lin, Y. (2018). Validation of the Short Self-Regulation Questionnaire for Taiwanese college students (TSSRQ). *Frontiers in Psychology, 9*, 1-10. Doi: 10.3389/fpsyg.2018.00259
- Conover, K., & Daiute, C. (2017). The process of self-regulation in adolescents: A narrative approach. *The Foundation for Professionals in Services for Adolescents, 57*, 59–68. doi:10.1016/j.adolescence.2017/03/006.
- Cowie, H., & Smith, P. K. (2008) Peer support as a means of improving school safety and reducing bullying and violence. In B. Doll, J. Charvat, J. Baker and G. Stoner (Eds.). *Handbook of prevention research*. New Jersey, NJ: Lawrence Erlbaum.
- Department of Basic Education. (2016). *School realities 2016*. Retrieved from: <https://www.education.gov.za/Portals/0/Documents/Reports/School%20Realities%202016.pdf?ver=2016-09-30-125044-570>
- De Wet, C. (2005). The voices of victims and witnesses of school bullying. *Koers, 70*(4), 705–725.
- Edossa, A. K., Schroeders, U., Weinert, S., & Artelt, C. (2018). The development of emotional and behavioural self-regulation and their effects on academic achievement in childhood. *International Journal of Behavioural Development, 42*(2), 192–202. doi:10.1177/0165025416687412
- Fouché, C. B., Delpont, C. S. L., & De Vos, A. S. (2011). Quantitative research designs. In A. S. De Vos, H. Strydom, & C. S. L. Delpont (Eds.). *Research at grassroots* (4th ed., pp.142–158). Pretoria: Van Schaik Publishers.
- Fox, C. L., & Boulton, M. J. (2005). The social skills problems of victim of bullying: Self, peer and teacher perceptions. *British Journal of Educational Psychological Society, 75*, 313–328

- Garner, P. W., & Hinton, T. S. (2010). Emotional display rules and emotion self-regulation: Associations with bullying and victimization in community-based after school programs. *Journal of Community & Applied Social Psychology, 20*(1), 480–496doi:10.1002/casp.1057
- Goodboy, A. K., Martin, M. M., & Goldman, Z. W. (2016). Students' experiences of bullying in high school and their adjustment and motivation during the first semester of college. *Western Journal of Communications, 80*(1), 60–78
- Gould, C., & Ward, C. L. (2015). Positive parenting in South Africa: Why supporting families is key to development and violence prevention. *Policy Brief, 77*, 1–8
- Hemphill, S. A., Heerde, J. A., & Gomo, R. (2014). Defining bullying: A conceptual definition of school-based bullying for the Australian research and academic community. Canberra: Australian Research Alliance for Children and Youth.
- Hong, J. S., Espelage, D. L., Hunter, S. C., & Allen-Meares, P. (2016). Integrating multi-disciplinary social science theories and perspectives to understand school bullying and victimisation. In J. L. Ireland, P. Birch, & C. A. Ireland (Eds.), *International handbook on aggression: Current issues and perspectives*. Abington: Routledge.
- Hoyle, R. H., & Davisson, E. K. (2011). *Assessment of self-regulation and related constructs: Prospects and challenges*. Paper presented at the National Research Council Board on Testing and Assessment Workshop on Assessment of 21st Century Skills, Irvine, CA, January 13.
- Hrbackova, K., & Safrankova, A. P. (2016). Self-regulation of behaviour in children and adolescents in natural and institutional environment. *Procedia – Social and Behavioural Science, 217*(2017), 679–687

- Jakesova, J., Gavora, P., & Kalenda, J. (2016). Self-regulation of behaviour: Students versus other adults. *International Journal of Educational Psychology*, 5(1), 56–79.
doi:10.17583/ijep.2016.1661
- James, R. K., & Gilliland, B. E. (2013). *Crisis intervention* (8th ed.). Boston, MA: Cengage Learning.
- King, K. M., McLaughlin, K. A., Silk, J., & Monahan, K. C. (2017). Peer effects on self-regulation in adolescence depend on the nature and quality of the peer interaction. *Development and Psychopathology*, 1–42. doi:10.1017/S0954579417001560
- Kuhl, J., Kazén, M., & Koole, S. L. (2006). Putting self-regulation theory into practice: A user's manual. *Applied Psychology: An International Review*, 55(3), 408–418.
- Laas, A., & Boezaart, T. (2014). The Legislative framework regarding bullying in South African Schools. *Potchefstroom Electronic Law Journal*, 17(6), 2667–2703.
- Leggett, T. (2004). What's up in the Cape? Crime rates in Western and Northern Cape provinces. *SA Crime Quarterly*, 7, 15–20.
- Ludwig, K., Haindl, A., Laufs, R., & Rauch, W. A. (2016). Self-regulation in preschool children's everyday life: Exploring day-to-day variability and the within- and between-person structure. *Journal of Self-Regulation and Regulation*, 2, 99–116.
doi:10.11588/josar.2016.2.34357
- Maunder, R. E., & Crafter, S. (2017). School bullying from a sociocultural perspective. *Aggression and Violent Behaviour*, 38, 13–20. doi:10.1016/j.avb.2017.10.010
- Maree, K. (2005). Bending the neck to the yoke or getting up on one's hind legs? Getting to grips with bullying. *Acta Criminologica*, 18(2), 15–33
- McCleary, L. H. (2011). *Bullying and its effect on today's youth* (Unpublished Master's thesis). Monroe College, New York.

- Milsom, A., & Gallo, L. L. (2006). Bullying in middle schools: Prevention and intervention. *Middle School Journal*, 37(3), 12–19
- Miyake, A., & Friedman, N. (2012). The nature and organization of individual differences in executive functions: Four general conclusions. *Current Directions in Psychological Science*, 22(1), 8–14. doi:10.1177/0963721411429458
- Moon, B., Hwang, H., & McCluskey, J. D. (2011). Causes of school bullying: Empirical test of a general theory of crime, differential association theory, and general strain theory. *Crime & Delinquency*, 57(6), 849–877. doi:10.1177/0011128708315740
- Mueller, R.O. (1996). Basic principles of structural equation modelling: an introduction to LISREL and EQS. New York, NY: Springer.
- Neal, D. J., & Carey, K. B. (2005). A follow-up psychometric analysis of the self-regulation questionnaire. *Psychological Addictive Behaviour*, 19(4), 414-422 doi: 10.1037/0893-164X.19.4.414
- Olweus, D. (1993). *Bullying at school*. Maida, MA: Blackwell Publishing.
- Parada, R. H. (2000). Adolescent peer relations instrument: A theoretical and empirical basis for the measurement of participant roles in bullying and victimization of adolescence: An interim test manual and a research monograph: A test manual. Penrith South, DC: Publication Unit, Self-concept Enhancement and Learning Facilitation (SELF) Research Centre.
- Pellegrini, A. D., & Bartini, M. (2001). Dominance in early adolescent boys: Affiliative and aggressive dimensions and possible functions. *Merrill-Palmer Quarterly*, 47(1), 142–163.
- Potgieter, J. C., & Botha, K. F. H. (2009). Psychometric properties of the short self-regulation questionnaire (SSRQ) in a South African context. *Journal of Psychology in Africa*, 19(3), 321–328

- Powell, M. D., & Ladd, L. D. (2010). Bullying: A review of the literature and implications for family therapists. *American Journal of Family Therapy*, *38*(3), 189–206.
- Protogerou, C., & Flisher, A. J. (2010). Bullying in schools. In A. Van Niekerk, S. Suffla, & M. Seedat (Eds.), *Crime, violence and injury in South Africa: 21st century solutions for child safety* (pp. 119–133). Tygerberg: MRC-University of South Africa Safety & Peace Promotion Research Unit.
- Radliff, K. M., Wang, C., & Swearer, S. M. (2015). Bullying and peer victimization of cognitive and psychosocial constructs. *Journal of Interpersonal Violence*, 1–23.
doi:10.1177/0886260515572476
- Repo, L. (2015). *Bullying and its prevention in early childhood education* (Master's thesis). University of Helsinki, Helsinki.
- Rigby, K. (2003). Consequences of bullying in schools. *Canadian Journal of Psychiatry*, *48*(9), 583–590.
- Sampaio, J. M., Santos, G. V., Oliveira, W. A., Silva, J. L., Medeiros, M., & Silva, M. A. (2015). Emotions of students involved in cases of bullying. *Text Context Nursing, Florianopolis*, *24*(2), 344–352.
- Simon, M. K., & Goes, J. (2013). *Dissertation and scholarly research: Recipes for success – A practical guide to start and complete your dissertation, thesis, or formal research project*. Dubuque, IA: Kendall Hunt.
- Smith, P. K. (2004). Bullying: Recent developments. *Child and Adolescent Mental Health*, *9*(3), 98–103.
- Smith, P. K. (2016). Bullying: Definition, types, causes, consequences and intervention. *Social and Personality Psychology Compass*, *10*(9), 519–532.
doi:10.1111/spc3.12266

- Sullivan, G. M., & Feinn, R. (2012). Using effect size – or why the *p*-value us not enough. *Journal of Graduate Medical Education*, 4(3), 279–282. doi:10.4300/JGME-D-12-00156.1
- Steinberg, L. (2014). *The age of opportunity*. Boston, MA: Houghton Mifflin Harcourt.
- Strauss, M., & Raubenheimer, J. E. (2016). The development of an emotional regulation scale for adolescents. *South African Journal of Occupational Therapy*, 46(3), 41–48. doi:10.17459/2310-3833/2016/v46n3a8
- Thornberg, R. (2011). 'She's weird!' - The social construction of bullying in school: A review of qualitative research. *Children & Society*, 25, 258–267. doi:10.1111/j.1099-0860.2011.00374.x
- Thornberg, R. (2015). The social dynamics of school bullying: The necessary dialogue between the blind men around the elephant and te possible meeting point at the social-ecological square. *Confero*, 3(2), 161–203. doi:10.3384/confero.20014562.150624
- Timm, V. M., & Eskill-Blokland, L. M. (2011). A construction of bullying in a primary school in a underprivileged community: An ecological case study. *South African Journal of Psychology*, 41(3), 339–350.
- UNESCO (United Nations Educational, Scientific and Cultural Organization). (2017). *School violence and bullying: Global status report*. Paris: UNESCO.
- Van Dijk, A., Poorthuis, A. M. G., & Malti, T. (2016). Psychological processes in young bullies versus bully-victims. *Aggressive Behaviour* 4, 430–439. doi:10.1002/ab.21701
- Veriava, F., Thom, A., & Hodgson, T. F. (2017). *Basic education rights handbook: Education rights in South Africa*. Johannesburg: SECTION27.

Vosloo, M., Potgieter, J., Temane, M., Ellis, S., & Khumalo, T. (2013). Validation of the Short Self-Regulation Questionnaire in a group of black teachers: The SABPA study. *South African Journal for Industrial Psychology, 39*(1), 1-10. doi: 10.4102/sajip.v39il.1157

Wang, W., Brittain, H., McDougall, P., & Vaillancourt, T. (2015). Bullying and school transition: Context or development? *Child Abuse & Neglect, 51*, 237–248.

Williams, K. R., & Guerra, N. G. (2011). Perceptions of collective efficacy and bullying perpetration in schools. *Social Problems, 58*(1), 126–143.

Wilson, S., & Maclean, R. (2011). *Research methods and data analysis for psychology*. New York, NY: McGraw-Hill Higher Education.

SECTION B

Comparing Adolescent Self-Regulation among Aggressors, Victims and Non-Victims of Bullying

Hesté Fivaz^a, Herman Grobler^{b*}

Author affiliations

^a North-West University, Community Psychosocial Research, South Africa, North-West University, Potchefstroom Campus, Private Bag X6001, Potchefstroom, 2520, South Africa, hestefivaz@gmail.com

^{b*} Corresponding author. North-West University, Community Psychosocial Research, South Africa, North-West University, Potchefstroom Campus, Private Bag X6001, Potchefstroom, 2520, South Africa, Herman.Grobler@nwu.ac.za

Abstract

The ability to self-regulate can play a vital role in adolescent development. Peer behaviour such as bullying can have a negative influence on an adolescent's self-regulatory abilities. The aim of the study was to determine the differences in adolescent self-regulation between aggressors, victims and non-aggressors/victims of bullying. A quantitative research approach with a cross-sectional survey design was used. Data were obtained by means of the Adolescent Peer Relation Instrument and the Short Self-Regulation Questionnaire. The data were gathered from 583 participants from seven high schools in Kimberley, South Africa. The results showed that there is a significant negative correlation ($p < 0.01$) between self-regulation and being an aggressor of bullying ($r = -.281$) and between self-regulation and being a victim of bullying ($r = -0.159$). Independent T-tests showed significant differences ($p < 0.05$) between the level of self-regulation for aggressors and non-aggressors of bullying with a medium effect (Cohen's $d = 0.39$), along with a significant difference ($p < 0.05$) between the level of self-regulation for victims and non-victims of bullying with a small effect (Cohen's $d = 0.31$). An ANOVA test reveals a difference between races and the ability to self-regulate, and race and bullying behaviour. A positive correlation ($p < 0.01$) between grade and self-regulation was determined, with a negative correlation ($p < 0.01$) between grade and being an aggressor of bullying. The resulting conclusion is that there are definite differences in the ability of aggressors and victims of bullying to self-regulate compared to non-aggressors and non-victims of bullying.

Keywords: adolescent, Adolescent Peer Relations Instrument, bullying, self-regulation, Short Self-Regulation Questionnaire, victim

Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying

Bullying

Bullying is no new phenomenon. UNESCO (2017) reports that bullying in schools is the most common form of violence. Bullying can be defined as a set of indirect or direct physical, social and/or verbal behaviours against peers by a group of people or one individual in a repetitive, ongoing and hostile fashion with the purposeful intent to cause pain and harm by abusing real or fictitious power (Olweus, 1993).

According to studies on bullying in South Africa in 2002 (De Wet, 2005), between 60.9% and 90% of learners in Gauteng indicated that they had been bullied. In 2011, research by Timm and Eskell-Blokland (2011) indicated that 11.8% of learners in rural schools in Mpumalanga, 36.3% of high school learners in Durban and Cape Town, 41% of learners nationally, and 61% of learners in Pretoria reported being bullied. In 2012, UNISA questioned 3 371 learners and the results showed that 2.8% had been victims of cyberbullying, 38.4% of physical bullying and 55.3% of social bullying.

Bullying has both long- and short-term consequences (De Wet, 2005). Victims and aggressors may experience current and future failed relationships, psychological distress, and even mental illnesses such as depression, suicidal thoughts and psychosomatic symptoms (Moon, Hwang & McCluskey, 2011; Protegerou & Flisher, 2010; Rigby, 2003; Timm & Eskell-Blokland, 2011). Victims may also suffer from anxiety, whereas being an aggressor may lead to behavioural misconduct (Moon et al., 2011).

Aggressors, Victims and non-Victims/non-Aggressors. Aggressive bullies or aggressors are usually master manipulators with a superior theory of mind and a good self-image. However, they can be impulsive, violent and domineering and may feel little empathy for others (De Wet, 2005). Victims can be categorized as passive or proactive. Proactive

victims have poor social skills and may be insecure and lonely, and they retaliate after being bullied by bullying others (Pellegrini & Bartini, 2001; Van Dijk, Poorthuis, & Malti, 2016). Passive victims also have poor social skills, but can have less physical strength, suffer from anxiety and depression and be overly sensitive (Powell & Ladd, 2010, Protegerou & Flisher, 2010).

Non-victims/non-aggressors are more socially adequate. They have higher levels of self-esteem and perform better overall compared to aggressors and victims (Radliff, Wang & Swearer, 2015).

Causes of Bullying. Causes of bullying can be explained at the hand of various theoretical frameworks and theories (See Table 2.1).

Table 2.1

Causes of Bullying Explained by Different Theoretical Frameworks and Theories

Framework	Theory	Explanation
Behaviourists	Social learning theory	Behaviour is learned from others as own behaviour is adapted to act accordingly.
Social Constructionists and Interactionists	Victims are socially defined	The victims are seen as different, deviant and odd. Bullies often use labels such as “nerd”, “moron”, “ugly”, “disgusting”, “retarded”, “a liar” and “whore” to address their victims and to justify their behaviour.
Sociocultural	Build friendships and relationships to maintain a peer culture	Social norms are established and when an individual acts in a way not allowed by the social norms, conflict may arise and cause social exclusion.
Social Anthropological	School structure	Schools can foster a culture of conflict full of intolerance for diversity, and a culture of disrespect
Social Ecological	Social-ecological environment	Bullying is caused by various factors such as the communities, peer groups, families, individuals and the larger society
	Social dominance theory	Bullying is a result of hierarchies and power imbalance so that the bully aims to improve social status
	Need to belong theory	Adolescents have a need to belong socially and when that need is threatened, it may fuel bullying behaviour.

Note. Constructed from Hong, Espelage, Hunter and Allen-Meares (2016); Thornberg (2015)

Self-Regulation

Self-regulation can be explained as a person's ability to adjust behaviour, emotion and cognition (Edossa, Schroeders, Weinert, & Artelt, 2018), to reduce unwanted urges and impulses (Baumeister & Vohs, 2007) to behave more acceptably in various situations. Self-control, decision-making, impulsivity and effortful control are words often used to describe self-regulation (Baumeister & Vohs, 2007; Ludwig, Haindl, Laufs, & Rauch, 2016; King, McLaughlin, Silk & Monahan, 2017).

Blackhart, Nelson, Winter and Rockney (2011) explain that regulating and controlling behaviour is a fundamental feature of the self, especially to gain social acceptance. All individuals, especially adolescents, have a fundamental psychological need to be socially accepted and not socially rejected, as described by the "need to belong" theory (Baumeister & Leary, 1995; King et al., 2017).

Adolescents who are socially accepted and have friends are usually more able to reflect on their actions and to control their impulses (Bandy & Moore, 2010). A person's ability to control him- or herself can be increased even by just thinking about those close to them and feeling accepted by peers (Blackhart, Nelson, Winter & Rockney, 2011). Prior research has established that the ability to successfully self-regulate has a direct influence on academic performance, social success and healthy relationships (Conover & Daiute, 2017; Steinberg, 2014). Therefore, if adolescents experience peer rejection and exclusion, it may affect their self-regulatory abilities negatively (King et al., 2017).

The Present Study

Outcomes of self-regulation such as social functioning, healthy relationships, mental health and academic achievement are all negatively influenced by bullying behaviour (Conover & Daiute, 2017; Edossa et al., 2018; King et al., 2017; Steinberg, 2014). Being socially excluded at school corresponds with high impulsivity and reduced control and

attention, also outcomes of poor self-regulation (Hrbackova & Safrankova, 2016; King et al., 2017). School bullying is a form of social interaction that specifically targets learners to be socially excluded and rejected; therefore it can be assumed that bullying behaviour has a negative effect on an adolescent's ability to self-regulate. Self-regulation has not been directly linked (to the researcher's knowledge) to bullying behaviour, so the aim of this study was to determine and compare possible significant differences in the ability of aggressors, victims and non-victims/non-aggressors of bullying to self-regulate. The hypothesis that this study tested was that there are significant differences when comparing the self-regulation of aggressors, victims and non-aggressors/victims.

Method

A quantitative approach with a cross-sectional survey design was used for this study. Existing questionnaires were used to collect data with which to measure self-regulation and bullying behaviour.

Participants. The purposive sample of Grade 8 to Grade 11 learners consisted of 583 high school learners from seven high schools in Kimberley between the ages of 14 and 18 ($M_{\text{age}}=15.23$, $SD_{\text{age}}=1.24$).

Instruments. Three questionnaires were used in this study, namely a demographic questionnaire, the Adolescent Peer Relations Instrument and the Short Self-Regulation Questionnaire.

The Adolescent Peer Relations Instrument (Parada, 2000) is a 36-item instrument consisting of an aggressor section (Section A) and a victim section (Section B). Each section's questions can be divided into verbal, social and physical bullying subscales. Although the questionnaire has not been standardized for South Africa, the psychometric properties from a Australian study indicated high reliability, with a Cronbach's $\alpha=0.93$ for

Section A and a Cronbach's $\alpha=0.95$ for Section B. Inter-item reliability scored between 0.83 and 0.92 (Parada, 2000).

The Short Self-Regulation Questionnaire is a 31-item measuring the seven steps of self-regulation, namely (1) receiving relevant information, (2) evaluating the information and comparing it to norms, (3) triggering change, (4) searching for options, (5) formulating a plan, (6) implementing a plan, and (7) assessing the plan's effectiveness (Miller & Brown, 1991 as cited by Hoyle & Davisson, 2011). Neal and Carey (2005) state that the SSRQ had a high correlation with the Self-Regulation Questionnaire ($r=.91$), and high internal consistency with a Cronbach's $\alpha=0.92$.

Procedure. All 19 high schools in Kimberley were contacted and information letters were sent to those principals who showed an interest. The principles then emailed the researcher with a letter giving permission for their school to take part, where after the researcher made an appointment with the principal. After the meetings with the principals, consent forms were sent to the parents of all the learners in Grade 8 to 11. Only the learners with permission from a parent or legal guardian were allowed to take part and to sign the adolescent assent forms. The learners completed the questionnaires on a date and time agreed with the principal, which differed from school to school. At some schools, teachers and staff assisted with data collection, especially when more than two locations were used at the same time. The study and content of the questionnaires were explained thoroughly to the teachers and staff who assisted. The participants were asked to meet in a different location, depending on the school, to keep their participation confidential. The locations included school examination halls, conference rooms or classrooms. Prior to signing the adolescent consent forms, the research was discussed with learners to explain the purpose of the research, the voluntary nature of the study, how to answer the questionnaire and that the questionnaires are anonymous.

Ethical Considerations. Ethics approval was granted by the Health Research Ethics Committee (HREC) of the North-West University (NWU-00031-18-S1). The Northern Cape Department of Education also granted approval. Written permission from a parent or legal guardian preceded study participation. Before signing the adolescent assent forms, the participants were informed of the voluntary nature of this study and the anonymity of the questionnaires.

Data Analysis. Reliability and validity was tested for both questionnaires using Cronbach's alpha and factor analysis. Independent T-tests were performed to determine possible significant differences in the self-regulation of aggressors, victims and non-victims/non-aggressors of bullying, and Cohen's effect sizes were determined to establish if the differences are substantive. Cramer's V was also performed to determine if the relationship between being an aggressor and victim of bullying is large enough to be important.

The data were tested with ANOVA and Brown-Forsythe to conclude any possible differences in race, self-regulation and being an aggressor, victim or non-victim of bullying. Spearman's Rho was performed to test for correlations between grade, age, self-regulation and being an aggressor and victim of bullying.

Results

Data collection involved in 583 participants (see Table 2.2), consisting of 38.4% white learners, 30.9% coloured learners, 29% black learners, and 1.7% Indians, Asians and others. Of these participants, 41.6% was male and 58.4% was female. The learners were distributed across Grade 8 to 11, with the Grade 9s covering 31.5%. 27% of the learners was 15 years old, with a low percentage of 2.4% being 18 years old and in Grade 11. School C contributed the most learners, accounting for 37.9% of the participants.

Table 2.2

Demographic profile of participants in terms of race, gender, grade, age and school

Item	Category	N	Valid Percentage (%)
Race	Black	168	29.0
	White	223	38.4
	Coloured	179	30.9
	Indian	7	1.2
	Asian	1	0.2
	Other	2	0.3
	Missing	3	
	Total	580	
Gender	Male	237	41.6
	Female	333	58.4
	Missing	13	
	Total	570	
Grade	Eight	169	30.2
	Nine	176	31.5
	Ten	112	20.0
	Eleven	102	18.2
	Missing	24	
	Total	559	
Age	13	35	6.0
	14	152	26.2
	15	157	27.0

Item	Category	N	Valid Percentage (%)
	16	130	22.4%
	17	93	16.0%
	18	14	2.4%
	Missing	2	
	Total	581	
School	A	63	10.8%
	B	65	11.1%
	C	221	37.9%
	D	97	16.6%
	E	30	5.1%
	F	58	9.9%
	G	49	8.4%
	Missing	0	
	Total	583	

Both questionnaires were tested for reliability using Cronbach's Alpha (See Table 2.3). Receiving information, searching for alternative options, forming a plan, implementing a plan and assessing the plan showed a satisfactory reliability with a Cronbach's $\alpha=0.775$.

The Adolescent Peer Relations Instrument had high reliabilities with Cronbach's $\alpha=0.781$ for the aggressor section and Cronbach's $\alpha=0.806$ for the victim section.

Table 2.3

Results of Reliability Testing using Cronbach's Alpha

	Sub-Categories	Cronbach's alpha	Min	Max	Mean	Std. Deviation
SSRQ	Receiving					
	Relevant	0.562	1	5	3.45	0.72
	Information					
	Evaluating					
	Relevant	N.A.	1	5	4.08	1
	Information: 1*					
	Evaluating					
	Relevant	N.A.	1	5	4.22	0.98
	Information: 2*					
	Triggering					
	Change	N.A.	1	5	3.45	1.27
	Searching for					
	Options	0.599	1	5	3.83	0.75
	Formulating a					
	Plan	0.634	1	5	3.33	0.68
	Implementing a					
Plan	0.545	1	5	3.53	0.7	
Assessing the						
Plan's	0.667	1	5	3.62	0.79	
Effectiveness						
SSRQ Total	0.775	49	154	110.59	16.69	

	Sub-Categories	Cronbach's alpha	Min	Max	Mean	Std. Deviation
APRI	(A) Verbal	0.755	0	29	5.15	4.7
	(A) Physical	0.713	0	25.2	2.4	3.47
	(A) Social	0.681	0	25	2.44	3.46
	(V) Verbal	0.867	0	30	7.74	6.87
	(V) Physical	0.789	0	29	3.85	4.81
	(V) Social	0.818	0	30	5.11	5.85
	Aggressor (A)	0.781	0	70.4	9.99	9.8
	Total					
	Victim (V)	0.806	0	78.4	16.67	15
	Total					

**Cronbach's alpha was below 0.5 and therefore the two items were discussed separately. Reliability for single-item subscales cannot be assessed. Two or more items are preferred when conducting Cronbach's alpha on subscales.*

The questionnaires were tested for construct validity using exploratory factor analysis. For the Adolescent Peer Relation Instrument, a principal component analysis (PCA) was performed with the Oblimin with Kaiser Normalization as rotation method. The Kaiser-Meyer-Olkin measure confirmed the sampling adequacy, attaining KMO=0.888 for the aggressor scale and KMO=0.922 for the victim scale. According to Field (2009), KMO values above 0.9 are superb and values between 0.8 and 0.9 are considered great. Bartlett's test of sphericity, $p < .001$ concluded that the items are related and sufficiently large for both sections of the questionnaire.

For Section A (aggressors) three components were extracted, which explained 45.36% of the variance. For Section B (victims) three factors were extracted that explained 55.4% of

the variance. These analyses largely validated both Section A and B components as defined by the initial subscales (verbal, social and physical bullying) of the questionnaires.

The SSRQ was tested for construct validity using exploratory factor analysis. The PCA was used as extraction method and the Oblimin with Kaiser Normalization as rotation methods. The test for sampling adequacy offered a result of $KMO=0.895$. The initial test reported seven eigenvalues that explain 52.26% of the variance. However, the extracted factors did not verify the seven original subscales of the SSRQ. Therefore, confirmatory factor analysis was used to confirm the seven original subscales of the SSRQ.

Along with the Chi-square test, the Minimum Sample Discrepancy was divided by Degrees of Freedom (CMIN/DF) and this resulted in a value of 4.888. According to Mueller (1996), ratios such as 3, 4, or 5 can still represent a good model fit. Mueller (1996) stated that values above 0.9 for a CFI also indicate a good model fit. A CFI of 0.636 is therefore relatively acceptable. For the RMSEA, a value of 0.082 was obtained with a 90% confidence interval [0.8; 0.10]. Any models with a RMSEA value of above 0.10 are not accepted (Blunch, 2008).

Due to the low number of non-aggressors (20) and non-victims (12), the 10th percentile was used as a new cut off point to determine the classification of when an individual is a non-bully or a non-victim. If an individual scored below two for Section A of the questionnaire, the individual was classified as a non-aggressor, and when they scored below three for Section B of the questionnaire, the individual was classified as a non-victim. This resulted in 480 learners being classified as aggressors, with 100 learners categorized as non-aggressors. Seventy-nine learners were classified as non-victims, with 501 classified as victims.

Independent T-tests (see Table 2.4 and Table 2.5) were conducted to measure possible significant differences in the self-regulation of aggressors of bullying, non-aggressors of

bullying , and the self-regulation of victims and non-victims of bullying. Effect sizes are also shown to indicate any practical significance of the p-values determined in the t-tests.

Table 2.4

Independent Group T-Test and Effect Sizes between Aggressors of Bullying and Self-Regulation

		Aggressor				
		N	Mean	Std. Deviation	p-value	Effect sizes
Receiving	No	100	3.69	0.68	0.000*	0.41**
Relevant Information	Yes	477	3.4	0.71		
Evaluating	No	100	4.21	0.91	0.135	0.15*
Relevant Information: 1*	Yes	467	4.06	1.01		
Evaluating	No	100	4.35	0.95	0.154	0.15*
Relevant Information: 2*	Yes	471	4.2	0.98		
Triggering	No	100	3.7	1.18	0.022*	0.24*
Change	Yes	470	3.39	1.29		
Searching for	No	100	3.97	0.69	0.024*	0.23*
Options	Yes	472	3.8	0.77		
Formulating a	No	100	3.48	0.7	0.020*	0.26*
Plan	Yes	477	3.3	0.68		
Implementing a	No	100	3.67	0.74	0.035*	0.23*
Plan	Yes	476	3.5	0.68		

		Aggressor				
		N	Mean	Std. Deviation	p-value	Effect sizes
Assessing the Plan's Effectiveness	No	100	3.87	0.72	0.000*	0.39**
	Yes	475	3.56	0.8		
SSRQ Total	No	100	116.04	16.89	0.001*	0.39**
	Yes	462	109.45	16.42		

Note. * $p < 0.05$ = statistically significant; Effect size; *=small effect; **=medium effect; ***=large effect

Table 2.5

Independent Group T-Test and Effect Sizes between Victims of Bullying and Self-Regulation

		Victim				
		N	Mean	Std. Deviation	p-value	Effect sizes
Receiving Relevant Information	No	79	3.68	0.72	0.003*	0.37**
	Yes	499	3.41	0.7		
Evaluating Relevant Information: 1*	No	77	3.94	1.12	0.225	0.15*
	Yes	491	4.1	0.99		
Evaluating Relevant Information: 2*	No	79	4.33	0.84	0.223	0.13*
	Yes	494	4.2	1		
Triggering Change	No	78	3.82	1.19	0.004*	0.34*
	Yes	493	3.39	1.27		
Searching for Options	No	79	3.81	0.74	0.783	0.03*
	Yes	495	3.83	0.76		
Formulating a Plan	No	79	3.55	0.62	0.001*	0.38**
	Yes	498	3.29	0.68		
Implementing a Plan	No	79	3.66	0.66	0.38	0.21*
	Yes	498	3.51	0.7		
Assessing the Plan's Effectiveness	No	79	3.7	0.78	0.38	0.11*
	Yes	497	3.61	0.78		
SSRQ Total	No	76	115.01	15.88	0.011*	0.31*
	Yes	487	109.9	16.72		

Note. $p < 0.05^*$ = statistically significant; Effect size; * = small effect; ** = medium effect; *** = large effect

According to Cohen (1988), effect sizes can be outlined as $d=0.2$, small effect; $d=0.5$, medium effect, and $d=0.8$, large effect. The aggressors recorded an overall medium effect size, being less self-regulatory than non-aggressors, whereas the victims showed an overall small effect size, being less self-regulatory than non-victims.

In an effort to determine whether the relationship between aggressors and victims of bullying is large enough to be important, a Chi-squared test and Cramer's V were used. Based on Cohen's (1988) guidelines for the interpretation of Cramer's V ($w=0.1$: small effect; $w=0.3$: medium effect; $w=0.5$: large effect), the relationship $w=0.274$ has a medium effect.

The results revealed that more victims than non-victims were also aggressors (86.8% of victims and only 56.4% of non-victims). In total 90.8% of the aggressors admitted to being a victim as well.

An ANOVA test (see Table 2.6) and Spearman's correlation coefficient (See Table 2.7) were used to test for any effects that race, grade and age has on self-regulation and bullying behaviour.

Table 2.6

ANOVA and Brown-Forsyth Results with Effect Sizes between Race, Self-Regulation and Bullying

Questionnaire	Questionnaire sub-categories	Race	N	Mean	Std. Deviation	ANOVA p-value	Brown-Forsythe p-value	Effect sizes	
								Black with	White with
SSRQ	SSRQ Total	Black	157	108.88	16.17	0.000*	0.000*		
		White	222	114.21	17.49			0.31*	
		Coloured	172	107.2	15.43			0.10*	0.40**
		Total	551	110.5	16.76				
APRI	(A) Verbal	Black	167	6.69	5.76	0.000*	0.000*		
		White	223	3.72	3.54			0.51**	
		Coloured	177	5.35	4.1			0.23*	0.40**
		Total	567	5.1	4.62				
(A) Physical	Black	167	3.6	4.12	0.000*	0.000*			
	White	223	1.3	2.3			0.56**		
	Coloured	177	2.61	3.58			0.24*	0.37**	

Questionnaire	Questionnaire sub-categories	Race	N	Mean	Std. Deviation	ANOVA p-value	Brown-Forsythe p-value	Effect sizes	
								Black with	White with
		Total	567	2.39	3.46				
	(A) Social	Black	167	3.36	4.21	0.000*	0.000*		
		White	223	1.51	2.18			0.44**	
		Coloured	177	2.7	3.68			0.16*	0.32*
		Total	567	2.43	3.45				
	(V) Verbal	Black	168	9.03	7.47	0.003*	0.004*		
		White	223	6.64	6.2			0.32*	
		Coloured	178	7.88	6.97			0.15*	0.18*
		Total	569	7.73	6.9				
	(V) Physical	Black	168	5.53	5.73	0.000*	0.000*		
		White	223	2.51	3.53			0.53**	
		Coloured	177	3.97	4.81			0.27*	0.30*
		Total	568	3.86	4.82				

Questionnaire	Questionnaire sub-categories	Race	N	Mean	Std. Deviation	ANOVA p-value	Brown-Forsythe p-value	Effect sizes	
								Black with	White with
(V) Social		Black	168	5.51	6.4	0.569	0.575		
		White	223	4.87	5.55			0.10*	
		Coloured	176	5.21	5.83			0.05*	0.06*
		Total	567	5.17	5.89				
Aggressor (A)		Black	167	13.64	11.74	0.000*	0.000*		
		White	223	6.54	6.75			0.61**	
	Total	Coloured	177	10.66	9.29			0.25*	0.44**
		Total	567	9.92	9.69				
Victim (V) Total		Black	168	20.07	16.79	0.000*	0.001*		
		White	223	14.03	13.56			0.36**	
		Coloured	176	16.95	14.57			0.19*	0.20*
		Total	567	16.73	15.07				

Note. $p < 0.05^*$ = statistically significant; Effect size; * = small effect; ** = medium effect; *** = large effect

There is an overall significant difference between self-regulation and race ($p < 0.05$), with a medium effect size ($d = 0.40$) for white learners and coloured learners. Out of a total score of 155, white learners scored a higher average of 114.21 ($SD = 17.49$), while coloured learners scored an average of 107.2 ($SD = 15.43$). This states that coloured learners have a lower ability to self-regulate than white learners.

There is also a significant difference related to being an aggressor of bullying between races ($p < 0.05$) with a medium effect ($d = 0.61$) for black and white learners, and a medium effect ($d = 0.44$) for white and coloured learners. Black learners scored an average of 13.64 ($SD = 11.74$), whereas white learners scored a 6.54 ($SD = 11.74$) and coloured learners a 10.66 ($SD = 9.29$). Black learners reported the highest counts in all three categories (verbal, physical and social) for being aggressors of bullying. White learners scored the lowest of the races for being an aggressor of bullying.

Lastly there is a significant difference for being a victim of bullying between race with a medium ($d = 0.36$) effect for black and white learners. Black learners scored an average of 20.07 ($SD = 16.79$) for being a victim of bullying and white learners scored 14.03 ($SD = 13.56$). Black learners reported the highest scores for being bullied verbally, physically and socially.

The data were tested for the homogeneity of variances. Due to a few violations of this assumption, the data were also tested with a more robust test, the Brown-Forsythe.

There is no significant difference for gender and self-regulation or gender and being a victim of bullying. However, there is a significant difference for gender and being an aggressor ($p < 0.05$). This indicates that males are more prone to being an aggressor than females, scoring an average of 12.05 ($SD = 10.04$), while females only scored an average of 8.45 ($SD = 9.2$). An effect size of $d = 0.36$ implies a medium effect that indicates practical importance.

Table 2.7

Correlation between Grade, Age, Self-Regulation and Bullying

Questionnaire	Sub-Categories	Grade	Age
SSRQ	SSRQ Total	.134**	0.078
	(A) Verbal	-0.016	0.009
APRI	(A) Physical	-.202**	-.122**
	(A) Social	-.109*	-0.025
	(V) Verbal	-0.034	-0.025
	(V) Physical	-.178**	-.131**
	(V) Social	-0.02	-0.012
	Aggressor (A) Total	-.106*	-0.042
	Victim (V) Total	-0.078	-0.059

***. Correlation is significant at the 0.01 level (2-tailed).*

**. Correlation is significant at the 0.05 level (2-tailed).*

There is a significant negative correlation between being an aggressor and the grade of the learners. This suggests that as grade increases, being an aggressor of bullying decreases, especially physical bullying. There is also a significant positive correlation between self-regulation and grade, showing that as grade increases, so does a learner's ability to self-regulate. There is no significant correlation for age and self-regulation or being an overall aggressor or victim of bullying. The results do show a significant negative correlation for physical bullying and age, once more implying that as age increases, physical bullying behaviour decreases.

The Spearman's Rho (see Table 2.8) revealed a statistically significant negative relationship between self-regulation and aggressors of bullying ($p < 0.01$, $r = -.281$), and self-regulation and victims of bullying ($p < 0.01$, $r = -0.159$), implying that as self-regulation increases, bullying behaviour decreases.

Table 2.8

Correlation between Self-Regulation and Bullying using Spearman's Rho

	Receiving Relevant Information	Evaluating Relevant Information: 1*	Evaluating Relevant Information: 2*	Triggering Change	Searching for Options	Formulating a Plan	Implementing a Plan	Assessing the Plan's Effectiveness	SSRQ Total
(A)									
Verbal	-.228**	-0.08	-0.02	-.156**	-0.06	-.126**	-.106*	-.200**	-.185**
(A)									
Physical	-.280**	-.193**	-0.07	-.129**	-.121**	-.153**	-.158**	-.234**	-.266**
(A) Social	-.246**	-.141**	-.112**	-.148**	-.117**	-.156**	-.169**	-.160**	-.242**
(V)									
Verbal	-.158**	0.05	-0.03	-.118**	-0.01	-.168**	-.131**	-.085*	-.153**
(V)									
Physical	-.143**	-0.06	0	-.150**	0.04	-.116**	-.136**	-0.06	-.125**
(V) Social	-0.06	0	-0.05	-.130**	0.01	-.129**	-.124**	-0.07	-.117**
Aggressor	-.302**	-.152**	-0.07	-.189**	-.116**	-.179**	-.172**	-.256**	-.281**
(A) Total									
Victim	-.153**	0.01	-0.04	-.150**	0.01	-.167**	-.145**	-.088*	-.159**
(V) Total									

***. Correlation is significant at the 0.01 level (2-tailed).*

**. Correlation is significant at the 0.05 level (2-tailed).*

Discussion

The aim of this study was to determine and compare the differences in the adolescent self-regulation of aggressors, victims and non-aggressors/victims of bullying. Although

insufficient research is available on the correlation between self-regulation and bullying behaviour, some research does suggest that certain aspects of bullying and self-regulation does have an influence on each other (Blackhart et al., 2011; King et al., 2017). There is more comprehensive research on concepts such as self-control and impulsivity that can be used as a basis for explaining the effects of self-regulation. It was stated earlier that concepts such as self-control, impulsivity, behaviour regulation, and emotion regulation can be used to define self-regulation (Baumeister & Vohs, 2007; Ludwig et al., 2016; King et al., 2017).

The results proved the alternative hypothesis of this research by concluding that non-victims/non-aggressors of bullying have a better ability to self-regulate than victims or aggressors of bullying. The results of this research show that there is not only a statistically significant difference in the self-regulation between aggressors and non-aggressors of bullying, there is also a significant negative correlation. This implies that though there is a definite difference in the way aggressors and non-aggressors self-regulate, as self-regulation increases, aggressor behaviour decreases. Research has linked self-regulation and self-control to aggressive behaviour, explaining that the most important predictor of criminality is poor self-control (DeWall, Baumeister, Stillman & Gailliot, 2007). Bandy and Moore (2010) state that individuals who are more socially expected can control their impulses, confirming that lower emotional and behavioural self-regulation may be linked with problematic peer relations (Garner & Hinton, 2010). Moon et al. (2011) also state that individuals who are less impulsive and have good self-control are less likely to engage in bully behaviour. There was also a statistically significant difference and a negative correlation in the self-regulation of victims and non-victims of bullying. The “need to belong” theory states that adolescents have to be socially connected and accepted to live well-adjusted lives as self-regulation plays a vital role in gaining social acceptance (Baumeister & Leary, 1995; Blackhart et al., 2011). Research has shown that being socially excluded can lead to decrements in self-regulation

(Baumeister et al., 2005; King et al., 2017), keeping in mind that being socially excluded is one of the main aspects of social bullying.

There was an overall significant difference in the ability of black, white and coloured learners to self-regulate, with the difference between coloured and white learners having practical significance. Studies have proven that there is a negative relationship between perceived control and discrimination against certain races (Gibbons et al., 2012), with self-control being a major characteristic of behavioural self-regulation. According to Shrum and Zhang (2013), shared cultural values (behaviour, beliefs, perceptions and attitudes) provide a blueprint for expressing identity according to societal norms. These norms differ between cultures. Being a certain race or from a certain culture do not necessarily influence an individual's self-regulation abilities directly, but rather influences it indirectly through parents' socializing behaviour and beliefs (Trommsdorff, 2009). Therefore, the way different races react to conflict or difficult situations may differ based on how they were raised, which in turn can influence their ability to self-regulate. This also relates to bullying.

There are significant differences for being an aggressor of bullying between black and white learners, and white and coloured learners. There is also a difference for being a victim of bullying between black and white learners. The results do not state whether the bullying behaviour takes place between races or within races. However, the social dominance theory explains that bullying behaviour can take place due to learners creating hierarchies to maintain a higher social status. Goodboy, Martin, and Rittenour (2016) explain social dominance as "based on an underlying adherence to the notions that people are fundamentally unequal" (p.160).

In South Africa, Social Surveys South Africa and the Centre for Applied Legal Studies found that 17% of 14- to 18-year olds were enrolled in primary school and 27.8% of 16- to 18-year olds were enrolled in Grade 8 to 9; sometimes even lower (Technical Report of the

National Household Survey, 2009). This can explain why there is no correlation between age and self-regulation and bullying behaviour, but rather a correlation between grade and bullying behaviour. A positive correlation between grade and self-regulation is reported, but limited research exists on a correlation between grade and self-regulation. Self-regulation research overall focusses more on age, as literature suggests that self-regulation does increase with age for various reasons. As age increases, so does an adolescent's formal thinking, knowledge of planning and monitoring and cognitive and metacognitive functioning (McKenzie & Gow, 2004; Radovan, 2010; Veenman & Spaans, 2005).

Although there is limited research on the negative correlation between grade and being an aggressor of bullying, research does suggest that bullying behaviour does decrease with age (Benitez & Justicia, 2006; Olweus, 1993). However, in South African school grades and age do not always correlate.

Benitez and Justicia (2006) explain that with the gender differences in bullying behaviour, males favour physical bullying, whereas females prefer social bullying. Their results support the finding in this study that males are more prone to be an aggressor of bullying. However, the research also showed that males are more prone to verbally bullying others than females.

The results revealed that 86.8% of victims were aggressors and 90.8% of the aggressors admitted to being a victim as well. Studies indicate that "victimization and perpetration are interconnected: bullies are, or have been, victims; and victims, are, or will be, potential bullies" (Leiner et al., 2014, p.1). Bully-victims is not a new construct in bullying research. Most literature agrees that victims retaliate by bullying others (Pellegrini & Bartini, 2001; Powell and Ladd, 2010, Van Dijk et al., 2016). Leiner et al. (2014) explain that bully-victims may be the most problematic due to emotional and behavioural problems. A total of 56.4% of non-victims reported themselves as being aggressors.

Conclusion

Although much research on bullying behaviour and bullying prevention has been done, self-regulation has not been incorporated. The aim of this research study was to determine and compare the adolescent self-regulation of aggressors, victims and non-aggressors/victims of bullying. The current study determined that there is a definite correlation between self-regulation and bullying behaviour, although it does not define causality. The results of this study contribute to the knowledge on self-regulation in adolescence and the influence it may have on bullying behaviour. It is recommended that future research examine the causality of the link between self-regulation and bullying behaviour, and on self-regulation and bullying as it corresponds with grade and age in South Africa.

References

- Bandy, T., & Moore, K. A. (2010). Assessing self-regulation: A guide for out-of-school time program practitioners. *Research-to-Results, 2013(23)*, 1–8
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529.
- Baumeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego depletion, and motivation. *Social and Personality Psychology Compass, 1(1)*, 115–128. doi:10.1111/j.1751-9004.2007.00001.x
- Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology, 88(4)*, 589–604 doi: 10.1037/0022-3514.88.4.589
- Benitez, J. L., & Justicia, F. (2006). Bullying: Description and analysis of the phenomenon. *Electronic Journal of Research in Educational Psychology, 4(2)*, 151–170.
- Blackhart, G. C., Nelson, B.C., Winter, A., & Rockney, A. (2011). Self-control in relation to feelings of belonging and acceptance. *Self and Identity, 10*, 152–165. doi: 10.1080/15298861003696410
- Blunch, N. J. (2008). Introduction to structural equation modelling using SPSS and AMOS. London: Sage.
- Cohen, J. (1988). *Statistical power analysis for behavioural sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Conover, K., & Daiute, C. (2017). The process of self-regulation in adolescents: A narrative approach. *The Foundation for Professionals in Services for Adolescents, 57*, 59–68. doi:10.1016/j.adolescence.2017/03/006

- De Wet, C. (2005). The voices of victims and witnesses of school bullying. *Koers*, 70(4), 705–725.
- DeWall, C. N., Baumeister, R. F., Stillman, T. F., & Gailliot, M. T. (2007). Violence restrained: Effects of self-regulation and its depletion on aggression. *Journal of Experimental Social Psychology* 43, 62–76.
- Edossa, A. K., Schroeders, U., Weinert, S., & Artelt, C. (2018). The development of emotional and behavioural self-regulation and their effects on academic achievement in childhood. *International Journal of Behavioural Development*, 42(2), 192–202. doi:10.1177/0165025416687412
- Field, A. 2009. *Discovering Statistics using SPSS*. Third Edition. London, England: SAGE Publications
- Garner, P. W., & Hinton, T. S. (2010). Emotional display rules and emotion self-regulation: Associations with bullying and victimization in community-based after school programs. *Journal of Community & Applied Social Psychology*, 20(1), 480–496. doi:10.1002/casp.1057
- Gibbons, F. X., O'Hara, R. E., Gerrard, M., Weng, C., & Wills, T. A. (2012). The erosive effects of racism: Reduced self-control mediates the relation between perceived racial discrimination and substance use in African American adolescents. *Journal of Personality and Social Psychology* 102(5), 1089–1104. doi:10.1037/a0027404
- Goodboy, A. K., Martin, M. M., & Rittenour, C. E. (2016). Bullying as a display of social dominance theory. *Communication Research Reports*, 33(2), 159–165.
- Hong, J. S., Espelage, D. L., Hunter, S. C., & Allen-Meares, P. (2016). Integrating multi-disciplinary social science theories and perspectives to understand school bullying and victimisation. In J. L. Ireland, P. Birch, & C. A. Ireland (Eds.), *International handbook on aggression: Current issues and perspectives*. Abington: Routledge.

- Hoyle, R. H., & Davisson, E. K. (2011). *Assessment of self-regulation and related constructs: Prospects and challenges*. Paper presented at the National Research Council Board on Testing and Assessment Workshop on Assessment of 21st Century Skills, Irvine, CA, January 13.
- Hrbackova, K., & Safrankova, A. P. (2016). Self-regulation of behaviour in children and adolescents in natural and institutional environment. *Procedia – Social and Behavioural Science*, 217(2017), 679–687.
- King, K. M., McLaughlin, K. A., Silk, J., & Monahan, K. C. (2017). Peer effects on self-regulation in adolescence depend on the nature and quality of the peer interaction. *Development and Psychopathology*, 1–42. doi:10.1017/S0954579417001560
- Leiner, M., Dwivedi, A. K., Villanos, M. T., Singh, N., Bluck, D., & Peinado, J. (2014). Psychosocial profile of bullies, victims, and bully-victims: A cross-sectional study. *Child Health and Human Development*, 2, 1–9.
- Ludwig, K., Haindl, A., Laufs, R., & Rauch, W. A. (2016). Self-regulation in preschool children's everyday life: Exploring day-to-day variability and the within- and between-person structure. *Journal of Self-Regulation and Regulation*, 2, 99–116. doi:10.11588/josar.2016.2.34357
- McKenzie, K., & Gow, K. (2004). Exploring the first-year academic achievement of school leavers and mature-age students through structural equation modelling. *Learning and Individual Difference*, 14(2), 107–123.
- Moon, B., Hwang, H., & McCluskey, J. D. (2011). Causes of school bullying: Empirical test of a general theory of crime, differential association theory, and general strain theory. *Crime & Delinquency*, 57(6), 849–877. doi:10.1177/0011128708315740
- Mueller, R.O. (1996). *Basic principles of structural equation modelling: an introduction to LISREL and EQS*. New York, NY: Springer.

- Neal, D. J., & Carey, K. B. (2005). A follow-up psychometric analysis of the self-regulation questionnaire. *Psychological Addictive Behaviour, 19*(4), 414-422 doi: 10.1037/0893-164X.19.4.414
- Olweus, D. (1993). *Bullying at school*. Maida, MA: Blackwell Publishing.
- Parada, R. H. (2000). Adolescent peer relations instrument: A theoretical and empirical basis for the measurement of participant roles in bullying and victimization of adolescence: An interim test manual and a research monograph: A test manual. Penrith South, DC: Publication Unit, Self-concept Enhancement and Learning Facilitation (SELF) Research Centre.
- Pellegrini, A. D., & Bartini, M. (2001). Dominance in early adolescent boys: Affiliative and aggressive dimensions and possible functions. *Merrill-Palmer Quarterly, 47*(1), 142–163.
- Powell, M. D., & Ladd, L. D. (2010). Bullying: A review of the literature and implications for family therapists. *American Journal of Family Therapy, 38*(3), 189–206.
- Protogerou, C., & Flisher, A. J. (2010). Bullying in schools. In A. Van Niekerk, S. Suffla, & M. Seedat (Eds.), *Crime, violence and injury in South Africa: 21st century solutions for child safety* (pp. 119–133). Tygerberg: MRC-University of South Africa Safety & Peace Promotion Research Unit.
- Radliff, K. M., Wang, C., & Swearer, S. M. (2015). Bullying and peer victimization of cognitive and psychosocial constructs. *Journal of Interpersonal Violence, 1*–23. doi:10.1177/0886260515572476
- Radovan, M. (2010). The influence of self-regulated learning and age on success in studying. *Journal of Contemporary Educational Studies, 5*, 102–124.
- Rigby, K. (2003). Consequences of bullying in schools. *Canadian Journal of Psychiatry, 48*(9), 583–590.

- Shrum, L. J., & Zhang, Y. (2013). Culture and self-regulation: The influence of self-construal on impulsive consumption. In A. A. Ruvio, & R. W. Belk (Eds.), *The Routledge companion to identity and consumption* (pp. 235–243). New York, NY: Routledge.
- Steinberg, L. (2014). *The age of opportunity*. Boston, MA: Houghton Mifflin Harcourt.
- Technical Report of the National Household Survey. (2009.) *Access to education*. Johannesburg: Social Surveys Africa.
- Thornberg, R. (2015). The social dynamics of school bullying: The necessary dialogue between the blind men around the elephant and the possible meeting point at the social-ecological square. *Confero*, 3(2), 161–203. doi:10.3384/confero.20014562.150624
- Timm, V. M., & Eskell-Blokland, L. M. (2011). A construction of bullying in a primary school in a underprivileged community: An ecological case study. *South African Journal of Psychology*, 41(3), 339–350.
- Trommsdorff, G. (2009). Culture and development of self-regulation. *Social and Personality Psychology Compass* 3(5), 687–701.
- UNESCO (United Nations Educational, Scientific and Cultural Organisation). (2017). *School violence and bullying: Global status report*. Paris: UNESCO.
- Van Dijk, A., Poorthuis, A. M. G., & Malti, T. (2016). Psychological processes in young bullies versus bully-victims. *Aggressive Behaviour*, 4, 430–439. doi:10.1002/ab.21701
- Veenman, M. V. J., & Spaans, M. A. (2005). Relation between intellectual and metacognitive skills: Age and task differences. *Learning and Individual Differences*, 15(2), 159–176.

SECTION C: CRITICAL REFLECTION

In this section, I share my critical reflection on the research process of this study. I mostly explain my personal experience of the research process during data collection, data analysis and research results. I also discuss the limitations of my study and make recommendations for future research.

Summary of Research

A literature review revealed that there may be a connection between self-regulation and bullying behaviour. Previous studies have shown that certain aspects of self-regulation, such as self-control, correlate with bullying behaviour. A few outcomes of self-regulation, namely academic achievement, social functioning, mental health and healthy relationships, have all been linked to being negatively influenced by bullying behaviour. On the other hand, social exclusion, which forms part of social bullying, has resulted in negatively affecting an adolescent's ability to self-regulate. The aim of this study was to compare the self-regulation of aggressors, victims and non-victims of self-regulation to determine if there are differences.

The study resulted in seven schools and 583 learners participating in the research study. The results showed that there was a significant negative correlation between self-regulation and bullying behaviour. It also showed that non-victims/non-aggressors had a better ability to self-regulate than learners who have been bullied or who have been aggressors of bullying, which proved the alternative hypothesis of the research.

The results also revealed significant differences in the ability of different races and grades to self-regulate and on bullying behaviour. There was no correlation between self-regulation, bullying behaviour and age.

This research study answered the primary question of whether self-regulation and bullying behaviour are connected. However, further research is necessary to explain the correlation in more detail.

Evaluation of the Research Process

Data Collection

The first step was contacting the principals of the school, which was quite a task. I struggled for weeks to get signed permission forms from principals (after giving permission over the phone) and to set a time for a meeting. My first meeting with a principal did not result in conducting research at the school due to the ethical considerations in terms of logistics. The participants had to complete the questionnaire in a separate location from non-participants. The names of the participating learners had to be kept quiet, the time for data collection could not intrude on academics, etc. As a result of that meeting, I was very nervous when attended my second meeting. I again explained the ethical considerations in terms of logistics and the principal had a solution for each consideration and suggested dates for data completion. I realized that if the principal was interested in my study, he or she will make a plan to accommodate me, which I really appreciated. Afterwards I felt really confident and the rest of the meetings went well.

The principal made me realize that my initial plan for talking to the school during an assembly and only giving consent forms to the learners interested was actually not feasible. Instead we decided that I would explain the research in detail to the teachers and they would explain the research to the learners and hand out parental permission forms to all learners from Grade 8 to 11 (this resulted in me printing and stapling over 5 000 copies of the parental permission form). I also typed out a form for each teacher to read to their class explaining the study and what would be expected of participants in short so that I could be sure that all the learners received the same correct information.

Although extremely excited to conduct my research, I was nervous as well. I was constantly worried about not getting enough participants to take part in my research. Seven schools agreed to let me conduct my research and I thoroughly enjoyed seeing schools in

parts of Kimberley I never even knew existed. I quickly learned to make extra copies for data collection sessions as many learners showed up with their parental permission forms on the day of data collection.

After sending the parental permission forms to the parents and legal guardians, I received a few positive responses thanking me for doing research on bullying at their child's school and relating how they as parents have experienced their child being bullied. Those responses kept me motivated during data collection.

Overall, I felt that the data collection sessions went really well. The learners had really interesting questions about my research topic and I enjoyed working with them. I also felt that some learners realized for the first time what defines bullying and what qualifies as bullying behaviour.

In the future, I would recommend arranging a meeting with a teacher or principal to discuss the feasibility of the proposed plan during the proposal phase. This will ensure that the data collection phase will be planned accordingly from the beginning.

The learners had to complete three questionnaires. The demographic questionnaire asked their ages, grade, gender, and races. The second questionnaire (APRI) was on bullying. The questionnaire was divided into two sections, one on being an aggressor and the other on being a victim. The APRI helped categorize the learners into three groups: aggressor, victim or non-victim/non-aggressor of bullying. The SSRQ followed and each learner received a score on their self-regulatory ability. When using the SSRQ it is advised not to interpret the seven steps separately, but to rather use the overall score. In future I would be more likely to use a self-regulation questionnaire where the different steps/phases can be interpreted to pinpoint the specific step/phase that learners who experience bully behaviour struggle with.

Data Analysis

I consulted with the Statistical Consultation Services of the North-West University to ensure that the whole process would be scientifically valid. After receiving all the questionnaires, I delivered them to the statistician as discussed in Section A. After about two weeks my data had been analysed. The statistician explained the results during a meeting and in the days following, I wrote my report. The statistician checked the report to make sure that everything was in place and correct.

Independent group T-tests and Spearman's Rho were performed to test the hypothesis of the research study to see if adolescent self-regulation differs between aggressors, victims and non-victims/non-aggressors of bullying.

Results

I was very nervous about the results of my study and was overjoyed when I saw it for the first time. The independent T-test showed that there is a significant difference between adolescents' ability to self-regulate and being an aggressor, victim or non-victim/non-aggressor of bullying. This result clearly indicated that non-victims/non-aggressors' ability to self-regulate is better than their counterparts. The Spearman's Rho resulted in a significant negative correlation between self-regulation and bullying behaviour, explaining that if self-regulation increases, bullying behaviour decreases. Overall, the results showed that bullying behaviour and self-regulation definitely affect one another. This inspired a follow-up question that I would like to pursue in future research, namely which causes which.

A very interesting finding in the results was that although there is a positive correlation between self-regulation, bullying behaviour and grade, there is no correlation with age. I struggled to find any literature suggesting or proving such a correlation. After a few days I realized that in many South African rural schools, learners are not necessarily in the grade that matches their age. I realized that this offered a new insight.

The results showed that coloured and black learners' ability to self-regulate is lower than white learners' ability. Also, bullying behaviour is more prevalent among coloured and black learners. This result can contribute to the field of knowledge that supports bullying prevention programmes and self-regulation interventions for adolescents, especially in rural schools.

Limitations and Recommendations

This research study was relatively small and I think that was the biggest limitation. Of 10 000 learners, I only worked with 583 participants in Kimberley. The research could have included more cities and towns in the province, but due to time and budget constraints, only Kimberley was considered. The Northern Cape is such a big province with so many different cultures that the results cannot be generalized to the rest of the province.

For future research it is recommend that similar studies on bullying be conducted in other parts of the provinces to form a more well-rounded idea of bullying in the province.

This research study was just the starting point to relate bullying behaviour directly with self-regulation and leaves many questions that still needs answering. Future research can be conducted on the causality between self-regulation and bullying behaviour. Furthermore, a research study determining the specific steps of self-regulation that are influenced by bullying behaviour can result in possible new intervention strategies for self-regulation and bullying prevention programmes. A specific area of self-regulation that still needs exploring is the differences in the ability of the different races to self-regulate.

Conclusion

This study aimed to gain insight about self-regulation and bullying behaviour. Questionnaires were used to collect data from 583 learners from seven local high schools in Kimberley. This research study was limited as data collection only took place in Kimberley, making generalization to the rest of the province difficult. It is recommended that research on

bullying behaviour be conducted across the Northern Cape to gain a more holistic view. Future research that focuses on the causality between self-regulation and bullying behaviour will also give further insight.

However, even though the study was limited, the results provided insightful information, showing that non-victims/non-aggressors has a better ability to self-regulate than those learners who are aggressors and victims of bullying. This also proved the alternative hypothesis of the study. The results also showed a significant difference in the ability to self-regulate between race (black, coloured and white learners). Therefore, the study does add value to this specific field of research.

SECTION D: APPENDICES

Appendix A: Permission Letter to the Department of Education

Schneider Street

Hillcrest

Kimberley

8301

07/06/2018

Northern Cape Department: Education
Private Bag X5029
156 Barkley Road
Homestead
Kimberley
8300

To whom it may concern.

Application for Research Master's Study

The title of my research is: **Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying.**

As part of the requirements to fulfil my Master's degree in Research Psychology at the University of the North-West (Student Number: 23480718, Ethics: NWU-00031-18-S1), I have to complete a research study. My research focuses on the self-regulation of high school learners bullying others, being the victims of bullying and learners that are not being bullied or bullying others. I hereby seek the Northern Cape Education Department's permission to conduct my research study at the local High Schools in Kimberley.

The aims of this study are to examine and compare the self-regulation in aggressors, victims and non-victims of bullying. The sample of this study will include Grade 8 to Grade 11 learners. These learners will provide the necessary information to answer the research

hypothesis in line with the aims of this research study. The grades that will be included were purposefully selected, as not to interrupt the last year of academic responsibilities.

This research study will be qualitative in nature and the learners will have to complete three questionnaires. The first will be a demographic questionnaire, the second will be the Adolescent Peer Relations Instrument and the third the Short Self-Regulation Questionnaire.

When granted permission from the Northern Cape Education Department, the Governing Bodies of each school and the Principals of the High Schools, and inform the learners and their parents or legal guardians of the study. All participants will have to hand in a signed parental permission form from their parents or legal guardians and give adolescent consent themselves. All personal information of this study will be confidential and treated with respect.

After completion of this study I hope that this study will inform the High Schools of their current bullying situation, contribute to improvements to anti-bullying programs and lead to more insight for possible intervention strategies.

Thanking you in advance.

Kind regards,

Hesté Fivaz

082 347 7436

hestefivaz@gmail.com

Appendix B: Permission Letter to the Principals

Schneider Street

Hillcrest

Kimberley

8301

07/06/2018

[Insert Address of School]

To whom it may concern.

Permission for Research Master's Study

The title of my research is: **Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying.**

As part of the requirements to fulfil my Master's degree in Research Psychology at the University of the North-West (Student Number: 23480718, Ethics: NWU-00031-18-S1), I have to complete a research study. My research focuses on the self-regulation of high school learners bullying others, being the victims of bullying and learners that are not being bullied or bullying others. I hereby seek your permission to conduct this study with the help of your learners at your High School.

The aims of this study are to examine and compare the self-regulation in aggressors, victims and non-victims of bullying. The sample of this study will include Grade 8 to Grade 11 learners. These learners will provide the necessary information to answer the research hypothesis in line with the aims of this research study. The grades that will be included were purposefully selected, as not to interrupt the last year of academic responsibilities.

This research study will be quantitative in nature and the learners will have to complete three questionnaires, which will take about 60 minutes. The first will be a demographic questionnaire, the second will be the Adolescent Peer Relations Instrument and the third the Short Self-Regulation Questionnaire.

When granted permission from the Northern Cape Education Department, the Governing Bodies of each school and the Principals of the High Schools, I will inform the learners and their parents or legal guardians of the study. All participants will have to hand in a signed parental permission form from their parents or legal guardians and give adolescent consent themselves. All personal information of this study will be confidential and treated with respect.

After completion of this study I hope that this study will inform the High Schools of their current bullying situation, contribute to improvements to anti-bullying programs and lead to more insight for possible intervention strategies.

The supervisor of this project is Professor Herman Grobler (Research Director of COMPRES at North-West University – Potchefstroom Campus) and can be reached at 018 285 2271 or Herman.Grobler@nwu.ac.za.

Thanking you in advance.

Kind regards,

Hesté Fivaz

082 347 7436

hestefivaz@gmail.com

Appendix C: Parental Permission Letter



PARENTAL PERMISSION DOCUMENTATION FOR PARENTS OR LEGAL GUARDIAN OF HIGH SCHOOL LEARNER

TITLE OF THE RESEARCH STUDY: Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying.

ETHICS REFERENCE NUMBERS: NWU-00031-18-S1

PRINCIPAL INVESTIGATOR: Prof Herman Grobler

POST GRADUATE STUDENT: Hesté Fivaz

CONTACT NUMBER: 082 347 7436

Your child is being invited to take part in a **research study** that forms part of a Master's Degree in Research Psychology. Please take some time to read the information presented here, which will explain the details of this study. Please ask the Researcher any questions about any part of this study that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research is about and how your child might be involved. Also, your child's participation is **entirely voluntary** and you or your child is free to decline to participate. If you or your child says no, this will not affect you negatively in any way whatsoever. Your child is also free to withdraw from the study at any point, even if you or your child does agree to take part now.

This study has been approved by the **Health Research Ethics Committee of the Faculty of Health Sciences of the North-West University (NWU-0031-18-S1)** and will be conducted according to the ethical guidelines and principles of Ethics in Health Research: Principles, Processes and Structures (DoH, 2015) and other international ethical guidelines applicable to this study. It might be necessary for the research ethics committee members or other relevant people to inspect the research records.

What is this research study all about?

- *This study will be held in Kimberley at the High School your child is attending. Questionnaires will be disseminated and completed during one of their classes.*
- *We aim to examine and compare the different levels of self-regulation between adolescents that bully others, are being bullied by others, as well as individuals who are not being bullied or bully others. Thus bullies, victims and non-victims/non-bullies.*

Why have your child been invited to participate?

- *Your child has been invited to be part of this research because they are an adolescent in High School who may or may not be subjected to bullying (victimisation), perpetrating bullying him/ or herself, or a non-victim/non-bully.*
- *Your child is between the ages of 13-17 and is proficient in English, as the questionnaires will be in English.*
- *Your child will not be able to take part in this research if they are in Grade 12, and do not have written consent from a parent or legal guardian.*

What will be expected of you?

- *Your child will be expected to complete three different questionnaires for a maximum of 60 minutes.*
- *The first questionnaire is a biographical questionnaire detailing your child's circumstances such as age, gender, etc.*
- *The second questionnaire will focus on bullying behaviour.*
- *The third questionnaire will focus on self-regulation.*

Will your child gain anything from taking part in this research?

- *The gains for your child if they take part in this study will be indirect.*
- *The other gains of the study are more insight and knowledge in the field of psychology that can lead to insight into future therapeutic programs or to amend existing anti-bullying programs at your school.*

Are there risks involved in your child taking part in this research and what will be done to prevent them?

- *Your child may experience emotional trauma during the completion of the questionnaires, as bullying is a sensitive and serious topic. A social worker, psychologist or registered counsellor will be available to ensure your child's emotional well-being.*
- *There are more gains for you in joining this study than there are risks.*

How will we protect your child's confidentiality and who will see the findings?

- *Your child's anonymity will be respected by the Researcher at all times. The Researchers will try and protect the participant's anonymity as well as they can, keeping in mind that they will participate with fellow students. The fellow students will be asked to respect their co-participants.*
- *Neither your child's name nor their school will be mentioned when the results are published, keeping your child's participation confidential.*
- *Only the Researchers will be able to look at the findings. All data and findings will be kept safe by locking hard copies in secure cupboards in the Researcher's*

office. Electronic data will be password protected. Data will be stored for 7 years.

What will happen with the findings or samples?

- *The findings of this study will only be used for this study.*

How will you or your child know about the results of this research?

- *We will provide you and your child with the results of this research when the article has been written, by November 2018, via an information session at school and email.*
- *You will be informed of any new relevant findings via email.*

Will your child be paid to take part in this study and are there any costs for you?

- *This study is funded by the Researcher*
- *Your child will not be paid to take part in this study.*
- *There will be no costs involved for you or your child, as the research will not be an inconvenience for you or your child.*

Is there anything else that you should know or do?

- You can contact Hesté Fivaz at 082 347 7436 or hestefivaz@gmail.com if you have any further questions or have any problems.
- You can also contact the Health Research Ethics Committee via Mrs Carolien van Zyl at 018 299 1206 or carolien.vanzyl@nwu.ac.za if you have any concerns that were not answered about the research or if you have complaints about the research.

Email Address (if interested in research article):

Signed at (*place*) on (*date*) 20....

.....
Signature of parent or legal guardian

.....
Signature of witness

Appendix D: Adolescent Consent Form



INFORMED CONSENT DOCUMENTATION FOR HIGH SCHOOL LEARNERS IN KIMBERLEY

TITLE OF THE RESEARCH STUDY: Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying

ETHICS REFERENCE NUMBERS: NWU-00031-18-S1

PRINCIPAL INVESTIGATOR: Prof Herman Grobler

POST GRADUATE STUDENT: Hesté Fivaz

CONTACT NUMBER: 082 347 7436

You are being invited to take part in a **research study** that forms part of my Master's Degree in Research Psychology. Please take some time to read the information presented here, which will explain the details of this study. Please ask the researcher or person explaining the research to you any questions about any part of this study that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research is about and how you might be involved. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part now.

This study has been approved by the **Health Research Ethics Committee of the Faculty of Health Sciences of the North-West University (NWU-00031-18-S1)** and will be conducted according to the ethical guidelines and principles of Ethics in Health Research: Principles, Processes and Structures (DoH, 2015) and other international ethical guidelines applicable to this study. It might be necessary for the research ethics committee members or other relevant people to inspect the research records.

What is this research study all about?

- *This study will be conducted in Kimberley at the High School which you are attending. Questionnaires will be completed during class with the help of the*

local High School's teachers and the Researcher with the necessary training in conducting questionnaire-based screening. A minimum of 370 participants will be included in this study.

- *We aim to examine and compare the different levels of self-regulation between adolescents that bully others, are in turn bullied by others, as well as individuals who are not being bullied or bully others.*

Why have you been invited to participate?

- *You have been invited to partake in this research because you are an adolescent in High School that may or may not be subjected to bullying, or bullying others.*
- *You also fit the research criteria, as you are between the ages of 13-17, and understand English, as the questionnaires will be in English.*
- *You will not be able to take part in this research if you are in Grade 12, or do not have written permission from a parent or legal guardian.*

What will be expected of you?

- *You will be expected to complete three different questionnaires, consisting of a questionnaire on bullying and self-regulation and a questionnaire on background information.*

Will you gain anything from taking part in this research?

- *The gains for you if you take part in this study will be indirect.*
- *The other gains of the study are more insight and knowledge in the field of psychology that can lead to insight into future therapeutic programs or to amend existing anti-bullying programs at your school.*

Are there risks involved in you taking part in this research and what will be done to prevent them?

- *The risks to you in this study could comprise the experience of emotional trauma when completing the questionnaire, as bullying is a sensitive and serious topic. This will be monitored through the support of the resident school support system, such as the social worker, psychologist or registered counsellor.*
- *There are more gains for you in joining this study than there are risks.*

How will we protect your confidentiality and who will see your findings?

- *Anonymity of your questionnaires will be protected by the Researcher. Although there will be a group of students completing this questionnaire simultaneously, all learners will be asked to respect the privacy of their co-participants. Your privacy will be respected by the Researchers and the teacher.*
- *Your results will be kept confidential as no names will be published. Only the Researchers will have access to your findings. Findings will be kept secure by locking hard copies in secure cupboards in the Researcher's office. Electronic data will be password protected. Data will be stored for 7 years.*

What will happen with the findings or samples?

- *The findings of this study will only be used for this study.*

How will you know about the results of this research?

- *We will provide you with the results of this research when the article has been written, by November 2018 via an information session at school and email.*

- *You will be informed of any new relevant findings via email.*

Will you be paid to take part in this study and are there any costs for you?

This study is funded by the Researcher.

No, you will not be paid to take part in the study because there will be no costs involved for you, as a participant in this study.

Is there anything else that you should know or do?

- You can contact Hesté Fivaz at 082 347 7436 if you have any further questions or encounter any problems.
- You can also contact the Health Research Ethics Committee via Mrs Carolien van Zyl at 018 299 1206 or carolien.vanzyl@nwu.ac.za if you have any concerns that were not answered about the research or if you have complaints about the research.

Declaration by participant

By signing below, I agree to take part in the research study titled: Comparing adolescent self-regulation among aggressors, victims and non-victims of bullying.

I declare that:

- I have read this information/it was explained to me by a trusted person in a language with which I am proficient.
- The research was clearly explained to me.
- I have had a chance to pose questions to both the Researcher and person obtaining my consent.
- I understand that taking part in this study is **voluntary** and that I as a participant have not been pressurised to take part.
- I as a participant may choose to leave the study at any time and I will not be treated in a negative way if I do so.
- I as a participant may be asked to leave the study before it has finished, if the Researcher feels it is in the best interests of the study, or if I as a participant do not follow the study plan as agreed to.
- I as a participant agree to maintain the confidentiality and privacy of the other learners that will also complete the questionnaires.

Email Address (If interested in research article):

Signed at (*place*) on (*date*) 20....

.....
Signature of participant

.....
Signature of witness

Declaration by person obtaining consent

I (*name*) declare that:

- I clearly and concisely explained the information in this document to
.....
- I did/did not use an interpreter.
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I gave him/her time to discuss it with others if he/she wished to do so.

Signed at (*place*) on (*date*) 20....

.....
Signature of person obtaining consent

.....
Signature of witness

Declaration by Researcher

I (*name*) declare that:

- I explained the information in this document to the participant or I had it explained by who assisted with the research.
- I did/did not use an interpreter.
- I encouraged him/her to ask questions and took adequate time to answer them or I was available should he/she want to ask any further questions.
- The informed consent was obtained by an independent person.
- I am satisfied that he/she adequately understands all aspects of the research, as described above.
- I am satisfied that he/she had time to discuss it with others if he/she wished to do so.

Signed at (*place*) on (*date*) 20....

.....
Signature of Researcher

.....
Signature of witness

Appendix E: Questionnaires

Questionnaire 1: Demographic Questionnaire

No:

Instructions: Please complete the following questions by marking a X in the right column or filling in the correct answer.

Race:

Black		White		Coloured	
Indian		Asian		Other	

Gender:

Male		Female	
------	--	--------	--

Grade:

8		9		10		11	
---	--	---	--	----	--	----	--

Age:

13		14		15	
16		17		18	

Name of High School:

Bullying and Self-Regulation Questionnaires

Instructions: Please complete the following questions to reflect your opinions as accurately as possible. Please indicate your agreement or disagreement with the following statements by marking an X in the right column. Questionnaire 2 is the Adolescent Peer Relations Instrument (Parada, 2000) on bullying and Questionnaire 3 is the Short Self-Regulation Questionnaire.

Your information will be kept strictly confidential!

Questionnaire 2: Adolescent Peer Relations Instrument

Section A:

Since you have been at school THIS YEAR how often have you done any of the following things to a student (or students) at this school?

Never	Sometimes	Once or twice a month	Once a week	Several times a week	Everyday
1	2	3	4	5	6

	In the past year at school I ...	1	2	3	4	5	6
1	Teased others by saying things to them						
2	Pushed or shoved a student						
3	Made rude remarks at a student						
4	Got friends to turn against a student						
5	Made jokes about a student						
6	Crashed into a student on purpose as they walked by						
7	Picked on a student by swearing at them						
8	Told my friends things about a student to get them into trouble						
9	Got into a physical fight with a student because I didn't like them						
10	Said things about their looks they didn't like						
11	Got other students to start a rumour about a student						
12	Slapped or punched a student						
13	Got other students to ignore a student						
14	Made fun of a student by calling them names						
15	Threw something at a student to hit them						
16	Threatened to physically hurt or harm a student						
17	Left them out of activities or games on purpose						
18	Kept a student away from me by giving them mean looks						

Section B:

Please indicate how often a student (or students) at this school has done the following things TO YOU since you have been at this school this year.

Never	Sometimes	Once or twice a month	Once a week	Several times a week	Everyday
1	2	3	4	5	6

	In the past year at this school...	1	2	3	4	5	6
1	I was teased by students saying things to me						
2	I was pushed or shoved						
3	A student wouldn't be friends with me because other people didn't like me						
4	A student made rude remarks at me						
5	I was hit or kicked hard						
6	A student ignored me when they were with their friends						
7	Jokes were made up about me						
8	students crashed into me on purpose as they walked by						
9	A student got their friends to turn against me						
10	My property was damaged on purpose						
11	Things were said about my looks I didn't like						
12	I wasn't invited to a student's place because other people did not like me						
13	I was ridiculed by students saying mean things to me						
14	A student got students to start a rumour about me						
15	Something was thrown at me to hit me						
16	I was threatened to be physically harmed						
17	I was left out of activities or games on purpose						
18	I was called names I didn't like						

Questionnaire 3: Short Self-Regulation Questionnaire

Please indicate your agreement with the following statements by marking an X in the right column.

Strongly Disagree	Disagree	Uncertain or Unsure	Agree	Strongly Agree
1	2	3	4	5

		1	2	3	4	5
1	I usually keep track of my progress towards my goals					
2	I have trouble making up my mind about things					
3	I get easily distracted from my plans					
4	I don't notice the effects of my actions until it is too late					
5	I am able to accomplish goals I set for myself					
6	I put off making decisions					
7	It's hard for me to notice when I've "had enough" (alcohol, food, sweets)					
8	If I wanted to change, I am confident that I could do it					
9	When it comes to deciding about a change, I feel overwhelmed by the choices					
10	I have trouble following through with things once I've made up my mind to do something					
11	I don't seem to learn from my mistakes					
12	I can stick to a plan that's working well					
13	I usually only have to make a mistake one time in order to learn from it					
14	I have personal standards, and try to live up to them					
15	As soon as I see a problem or challenge, I start looking for all possible solutions					
16	I have a hard time setting goals for myself					
17	I have a lot of willpower					
18	When I'm trying to change something, I pay a lot of attention to how I'm doing					
19	I have trouble making plans to help me reach my goals					
20	I am able to resist temptation					

21	I set goals for myself and keep track of my progress					
22	Most of the time I don't pay attention to what I'm doing					
23	I tend to keep doing the same thing, even when it doesn't work					
24	I can usually find several different possibilities when I want to change something					
25	Once I have a goal, I can usually plan how to reach it					
26	If I make a resolution to change something, I pay a lot of attention to how I'm doing					
27	Often I don't notice what I'm doing until someone calls it to my attention					
28	I usually think before I act					
29	I learn from my mistakes					
30	I know how I want to be					
31	I give up quickly					