

University of Oxford
Department of Social Policy and Intervention
Academic Year 2017/2018



Violence, Socioeconomic Disadvantage and Interpersonal Protective Factors for Adolescents' Resilience in Education in the Eastern Cape, South Africa

*DPhil Thesis submitted in partial fulfilment of the Doctorate in
Philosophy in Social Intervention by stand-alone papers at the
University of Oxford.*

Rocio Herrero Romero
Department of Social Policy and Intervention
Green Templeton College
Trinity Term 2018
Word count (including references): approximately 81,997

Abstract

Background: many adolescents from socioeconomically disadvantaged communities in South Africa are exposed to multiple types of violence at home, in school and in their communities. To date, little is known in this context about the effects of this violence on the adolescents' educational outcomes, nor is much known about the protective factors contributing to adolescents' resilience in education. In order to partially address this gap in knowledge, this DPhil thesis generates evidence using self-report data from a purposive sample of 503 adolescents aged 10 to 18. Adolescents came from 40 socioeconomically disadvantaged communities and were participating in a child-abuse prevention trial in the Eastern Cape Province.

Aims: This DPhil thesis has two aims. First, this thesis examines the effects of self-report past-month exposure to violence and socioeconomic disadvantage on adolescents' school delay and academic motivation (Study/Paper 1). Second, following a socioecological resilience approach, this thesis then investigates parents and teachers as two potential sources of resilience in education (Studies/Papers 2 and 3 respectively).

Methods and results:

Study 1: Paper 1 applied Latent Profile Analysis (LPA) to examine relationships between past-month exposure to violence, school delay and academic motivation. In the sample of 503 adolescents, 93.8% experienced '*poly-violence*' – exposure to at least two forms of violence in the past month. Results identified two distinct profiles in this socioeconomically disadvantaged sample: Profile 1, adolescents exposed to more-frequent '*poly-violence*', and Profile 2, adolescents exposed to less-frequent '*poly-violence*'. Being exposed to more-frequent '*poly-violence*' was associated with greater risk of school delay – based on age-appropriate grades in South Africa. However, being exposed to more-frequent '*poly-violence*' was not associated with lower academic motivation: adolescents still showed high rates of wanting to achieve.

Study 2: Paper 2 applied an aggregated multilevel Structural Equation Model (SEM) in order to investigate the potential of supportive parenting in protecting against adolescents' school delay. Adolescents' self-report data on child abuse in the family, school and community, and adolescents' perceptions of positive parenting, consistent discipline, good monitoring, parental involvement and social support were analyzed. Results showed that perceptions of more-positive parenting and consistent discipline significantly moderated the relationship between more-frequent exposure to multiple forms of violence and school delay; while none of the five parenting factors included in the model were directly and significantly associated with school delay. Results indicated that supportive parenting practices cannot completely compensate against the strong negative effects of exposure to violence and socioeconomic disadvantage on adolescents' school delay. However, adolescents exposed to more-frequent '*poly-violence*' and receiving positive parenting and consistent discipline from their parents are less likely to be behind the appropriate grade for their age.

Study 3: Paper 3 applied an aggregated multilevel Structural Equation Model (SEM) in order to investigate the potential for teachers' academic and emotional support to protect against adolescents' school delay. Adolescents' self-report data on child abuse in the family, school and community, and adolescents' perceptions of teacher emotional and academic support were analyzed. Results suggested that being exposed to more-frequent '*poly-violence*' and receiving more emotional support from teachers were both independently associated with greater school delay ($p < 0.05$). On the contrary, higher academic support from teachers was associated with lower school delay ($p < 0.01$). However, neither the academic nor emotional support from teachers – as perceived by

students – significantly moderated the relationship between more-frequent exposure to ‘*poly-violence*’ and adolescents’ school delay. This means that academic support provided by teachers can help to mitigate the likelihood of school delay for all adolescents living in disadvantaged communities in South Africa. However, teacher academic support does not translate into an extra ‘boost’ for those who have experienced more-frequent ‘*poly-violence*’.

Overall findings: Exposure to more-frequent ‘*poly-violence*’ increases the risk of school delay for adolescents from disadvantaged communities in South Africa, though it does not reduce their academic motivation. Thus, whilst adolescents maintain aspirations and goals to do well at school, frequent exposure to violence impacts their capacity to fulfil these aims. Further, the findings from this study suggest that supportive parenting has the potential to partially protect against school delay for more-frequent poly-victimized adolescents in South Africa, which suggests resilience processes for education are at play in the home lives of these adolescents. This is contextualized by the findings that teacher academic support is an important factor for school success for all adolescents living in these communities – whether they are exposed to more-frequent ‘*poly-violence*’ or not. However, the level of teacher academic support within the poorly-resourced schools that these children attended was found to be quite low (on average).

Policy considerations: Three main policy considerations are suggested by these findings. First, results suggest that in order to improve the educational outcomes of at-risk adolescents in South Africa, interventions aiming at reducing exposure to violence are urgently needed (Study 1). Second, results also showed the potential benefit of targeted interventions that promote positive parenting and consistent parental discipline amongst the most vulnerable families with adolescents exposed to more-frequent ‘*poly-violence*’ (Study 2). Third, school-based secondary intervention programs that assist teachers to provide greater academic support in deprived contexts - characterized by adolescents being frequently exposed to violence – have the potential to lessen the occurrence of school delay (Study 3).

Personal Motivation to Conduct this DPhil Investigation

The present DPhil study has arisen from eight years of dedication to disadvantaged adolescents and education in South Africa. In 2010-2011, I worked as an intern social worker with institutionalized orphans and vulnerable children for 13 months in the pediatric Mohau Centre in Kalafong Hospital (Atteridgeville, South Africa). As part of my duties, I managed and implemented a psychosocial program with adolescents aged 12 to 18. The main aim of this program was to ensure that adolescents' educational needs were covered. When working directly with adolescents, and organizing tutorials, extra classes and after-school educational activities, I realized that, despite all the odds, some adolescents showed strong resilience-related outcomes. Despite losing their parents due to AIDS, being stigmatized due to their HIV status, and being exposed to poverty and violence at home, in their schools and in their communities, as well as living in an institution with approximately 50 other children for most of their lives, some adolescents were able to persevere in school, learn and succeed. Learning more about what helped these extraordinarily resilient adolescents to do well in school was the trigger for the present investigation.

After this period in South Africa, I joined the Young Carers team at the Department of Social Policy and Intervention at the University of Oxford. Here, I have worked on a group of collaborative, evidence-based research projects that seek to better understand and address the needs of children, adolescents and families in AIDS-affected communities in South Africa. Working first as a volunteer, then as a research assistant and finally as an MSc student, I decided to keep investigating the issue of resilience in education. My MSc thesis was a secondary analysis using the Young Carers' data set, and focused on the environmental risks and promoting and protective factors associated with educational outcomes amongst South African youth. A paper based on my MSc thesis was recently published in the peer-reviewed journal *Education as Change* (Herrero Romero, Cluver, Hall, & Steinert, 2018).

Alongside my work in Oxford, I founded a non-profit organization in Spain to fund educational projects at the Mohau Centre (Kalafong Hospital); supporting Mohau children's educational needs and improving employable skills with older adolescents. Over the past six years, the non-profit organization has raised 60,000 Euros through different events and campaigns. The funds are used to cover school transport, school fees for children with special needs, school uniforms, extra classes, tutor fees, remedial and technical education materials and fees, computer skill courses, driving lessons and licenses, educational camps and cultural outings. In the past year, for the first time ever in Mohau Centre, one adolescent passed 'Matric' (the main secondary school-leaving certificate in South Africa), and two adolescents graduated from higher education - one as an auxiliary social worker and one as a mechanic. The strength and perseverance of these extraordinary children and youth continue to motivate and drive my research work. Learning more about what helps adolescents exposed to socioeconomic disadvantage and violence within their homes, families and communities is essential to prevent further consequences such as the institutionalization of children. Thus, this DPhil thesis focuses on the detrimental effects of violence and socioeconomic disadvantage on adolescents' education, as well as on the interpersonal protective factors from parents and teachers contributing to adolescents' resilience in education in South Africa.

Acknowledgements

This thesis would have not been possible without the continuous support of many incredible people who have accompanied, motivated, encouraged, mentored or simply put up with me throughout this journey.

I owe so much to my DPhil supervisors Lucie Cluver and James Hall. Lucie, thank you for the many great opportunities that you have offered me, since I first arrived in Oxford in 2012. Throughout these years, you have been great at converting crazy ideas into feasible and manageable projects; giving useful career, DPhil and personal advice; replying swiftly to many lengthy emails; ‘being there’ during fieldwork adventures; and linking me with the right people when needed. James, I feel incredibly lucky that you joined us three years ago. Thank you for replying to my both out of the blue and odd email asking you to be my co-supervisor! Thank you for the technical advice, our weekly analysis meetings, your always incredibly useful and detailed feedback, and for your continued support while analyzing data and writing-up this thesis. Thank you both for continuing to be there to guide and advise me on further career opportunities.

Doing a PhD can sometimes be a lonely and isolating process. However, whenever I look back, I just feel incredibly lucky to have Yulia Shenderovich and Janina Steinert as PhD colleagues and friends. Without their patience, encouragement and advice both academic and personal, this thesis would have not been possible and my experience at Oxford just unconceivable. Oxford brought us together while South Africa made us good friends. Despite often living thousands of kilometres apart, together we have celebrated our victories and happy moments and stuck together in the more difficult times. I am immensely lucky to always be able to count on you.

I also owe gratitude to the whole Sinovuyo Team. Thank you to Fran, Jenny, and Sarah who have mentored and supported me throughout the years; to McKenzie, Camille, all the Research Assistants, and the rest of the fieldwork coordinators for their hard work and persistence during data collection; to Sally, Izzie and our colleagues from Mzantsi Wakho in King William’s Town, who made fieldwork in South Africa interesting and enjoyable; and of course, to all Sinovuyo caregivers and teens, without their participation, nothing would have been possible. Finally, thank you Ellie. You were the best fieldwork coordinator and colleague one could have while running a frantically busy trial in rural South Africa. Despite your youth you have demonstrated to me and everyone else your professionalism, reliability and attention to detail in your work. For the past two years you have patiently proofread all my articles (over and over) as well as this DPhil thesis. You have always made clever suggestions and contributed to my writing, while never complaining about the lengthy documents and ridiculous deadlines I have put you through. *Enkosi señorita* for your patience and dedication!

I also dedicate this thesis to the Mohau kids, who inspired me to pursue a doctorate and write this thesis reflecting theirs and others’ experiences growing up in disadvantaged South Africa. Your strength and resilience continue to amaze me, especially now that you have accomplished so much as young adults. Thank you also to Mama-Mercy, Mmakole, Dipuo and Koki who opened their home, taught me their traditions, and became my South African family. *Ka leboga!*

Thank you to my parents and sisters who despite never fully understanding my research, were always there to support me when I needed it the most. For their never-ending trust in me, despite me sometimes not being there for important family gatherings and

celebrations. I feel extremely lucky to have you. You were especially there when I needed you the most: babysitting Jesusillo while I was writing my thesis. *Mil gracias una y otra vez. Si, madre, por fin he entregado mi tesis. ¡Aunque ya sabes que nunca es la versión definitiva! Padre, esto no significa que dejes de imprimirme cosas, enviarme artículos interesantes o regalarme libros.*

Thank you to my new little family, Jesus and Jesusillo. Jesus, you followed me wherever I went, listened to my never ending conversations about my DPhil, were there in the hardest moments, and married me despite doubting I was ever going to finish my DPhil and become a 'normal person'. You are a great, hard-working, loving and cool dad to Jesusillo. *Te quiero.* Finally, thank you to Jesusillo (*el gordo-gordo*), who has taught me so many things already in only twelve months and made me reconsider my priorities in life. I have never been either that tired or that happy. *¡Eres lo mejor que me ha pasado en la vida gordo-gordo!*

Manuscripts from this thesis (ordered by publication date)

1. **Herrero Romero, R.,** Hall, J. E., Cluver, L., Meinck, F., & Hinde, E. (2018). How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa? *Journal of Interpersonal Violence*, in press. <http://doi.org/10.1177/0886260518779597>
2. **Herrero Romero, R.,** Hall, J., & Cluver, L. (2018). Exposure to violence, teacher support and school delay amongst adolescents in South Africa. *British Journal of Educational Psychology*, in press. <https://doi.org/10.1111/bjep.12212>
3. **Herrero Romero, R.,** Hall, J. E., Cluver, L., & Meinck, F. (2017). Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa? *Child Abuse & Neglect*, in press. <http://doi.org/10.1016/j.chiabu.2017.09.025>

Academic presentations from this thesis

1. **Herrero Romero, R.,** Hall, J. E., Cluver, L., Meinck, F., & Hinde, E. *How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?* ISPCAN XXII International Congress on Child Abuse and Neglect, Prague, Czech Republic. 2-5 September 2018. Accepted as poster.
2. **Herrero Romero, R.,** Hall, J., & Cluver, L. *Exposure to violence, teacher support and school delay amongst adolescents in South Africa.* ISPCAN XXII International Congress on Child Abuse and Neglect, Prague, Czech Republic. 2-5 September 2018. Accepted as poster.
3. **Herrero Romero, R.,** Hall, J. E., Cluver, L., & Meinck, F. *Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?* ISPCAN XXII International Congress on Child Abuse and Neglect, Prague, Czech Republic. 2-5 September 2018. Accepted as oral presentation.
4. **Herrero Romero, R.** *Violence, socioeconomic disadvantage and educational outcomes amongst adolescents in South Africa. Parenting, teacher and peer factors contributing to adolescents' resilience in education.* Instituto Nacional de Evaluación Educativa, Ministerio de Educación, Cultura y Deporte, Madrid, 6 April 2017. Oral presentation.
5. **Herrero Romero, R., Cluver, L., Hall, J & Steinert, J.** *Socioeconomically disadvantaged adolescents and school delay in South Africa: Impacts of personal, family and school characteristics.* Problematizing Inequality Comparative and International Education Society Conference (CIES) Atlanta, 7 March 2017. Oral presentation.
6. **Herrero Romero, R.** *How to measure risk for education amongst adolescents from disadvantaged communities in the Eastern Cape, South Africa? A person-centred approach to measure who is at risk of what.* Graduate Research Seminar, Department of Social Policy and Intervention, University of Oxford, 23 May 2016 Oral Presentation.
7. **Herrero Romero, R** *The role of positive family and school dynamics in disadvantaged contexts. How to have impact with policy makers?* Policy Day Workshop, Department of Social Policy and Intervention, University of Oxford, 6 May 2016. Oral presentation.

Note on the candidate's research role

Sinovuyo Teen Study

This DPhil work was embedded within a broader study: the Sinovuyo Teen Study (STS). Over the past four years the candidate has been an active member of the Sinovuyo Teen Study, which was led collaboratively by a team of academics and students. During her time with the Sinovuyo Teen Study, the candidate contributed to the planning and design of the Randomized Control Trial (RCT) evaluating the Sinovuyo Teen parenting program. The candidate worked on the development of the trial protocol and main trial data collection tools, grant and ethics applications, and took the lead in (1) registering the RCT at the Pan African Clinical Trials Registry, (2) drafting the trial measurements document and (3) updating communications to the University of Oxford ethics committee (see update letter to CUREC in Appendix 5). Finally, the candidate also led the fieldwork as a project manager in South Africa during the implementation of the RCT (one year, 2015-2016). During this time the candidate was responsible for the design and execution of the research project, and fieldwork logistics. To this aim, the candidate oversaw a team of 10 international fieldwork coordinators and 40 local research assistants who conducted more than 5,000 interviews with approximately 1,200 participants in rural areas. The candidate also worked closely with the local, provincial and national Departments of Basic Education and Social Development, local NGOs, and international partners such as UNICEF and the WHO. Finally, the candidate was also involved in the statistical analysis of the pilot trial and the RCT data and is a co-author of the three main Sinovuyo Teen Study published papers (Cluver et al., 2018; Cluver, Meinck, Shenderovich, et al., 2016; Cluver, Meinck, Yakubovich, et al., 2016).

Specific DPhil work and contribution

The present DPhil thesis consists of a separate and original investigation in relation to the candidate's contribution as a researcher on the Sinovuyo Teen Study (see Sinovuyo Teen Study section). The Sinovuyo Teen Study trial provided promising evidence on the effects of a culturally adapted, low-cost parenting program aimed at reducing violence, and improving parenting and family functioning in low-resource settings (Cluver et al., 2018). This DPhil investigation focused on multiple exposure to violence at home, school and in the community and its effects on adolescents' educational outcomes, as well as providing evidence on the role of parents and teachers to protect against school delay in this context. DPhil findings may be considered complementary to the overall Sinovuyo Teen Study findings as they also contribute to the knowledge on the lives of South African adolescents living in poverty. However, while complementary, findings from the current DPhil investigation have clear implications for further research, policy and programming specifically in the fields of education and violence prevention. This should be considered separately from the main findings of the Sinovuyo Teen Study experimental evaluation (see Chapter 9 for further information).

The conceptualization and implementation of this DPhil investigation were developed and managed by the candidate. The candidate conducted a short field visit in December 2014 to pilot her data collection tools in 10 schools in the Eastern Cape. Furthermore, the candidate independently designed and managed data collection in 70 schools in the Eastern Cape, South Africa, which accounted for 94% of the sample's adolescents. With the assistance of a fieldwork coordinator and 10 local research assistants, over 400 interviews with school teachers, school principals, and school administrators were

conducted using standardized questionnaires. The candidate ran two three-day training rounds on the study methods, data collection tools and interview techniques with the local research assistants. All questionnaires were in English; the main language used in teaching and administrative paperwork in state schools in South Africa.

The candidate sought and obtained permission from the provincial Department of Basic Education to visit and collect data in schools (see letter in Appendix 5). The candidate visited 40 out of 70 schools in order to introduce the DPhil research project and obtain school consent to participate in the DPhil study. The team was also trained by the candidate to visit and introduce the project in the rest of schools. Only one school declined to participate. Three types of data were specifically collected for this DPhil investigation: first, observational data on school safety and infrastructure; second, administrative data (school administrative information and school records of Sinovuyo Teen Study participants); and third, self-report data on school and classroom learning environments and teaching experiences were collected from teachers and principals. Due to high rates of missing data, it was not possible to link teacher self-report data to school records and adolescents' self-report data. Teacher missing data was mainly explained by the project's limited time and resources, coupled with a high rate of teacher absenteeism. As a result, the candidate decided to only survey schools where two or more Sinovuyo Teen Study adolescent participants were enrolled, as well as establishing a maximum number of three visits per school in order to cover all school staff interviews. In conclusion, only adolescents' self-report data and school administrative characteristics were used in the main DPhil analysis¹. Administrative data for those schools where data was not collected directly (n=24) was retrieved from online master lists of South African schools (Department of Basic Education, 2016; Van Wyk, 2015). School identification codes (n=94) were allocated to all participants' schools to inform the potential effects of nesting within schools (multilevel data; see Methods Sections in Paper 1). The candidate plans to conduct further analyses using teacher and school principal self-report school-level data after the completion of this DPhil thesis.

¹ In order to contextualize adolescents' experiences, teacher and caregiver characteristics of the adolescents' participants are also provided in Appendices 4 and 8 respectively.

Declaration of Authorship

I, Rocio Herrero Romero, hereby declare that this thesis is my own work, except where otherwise stated.

Signed: 

Date: 8 November 2018

Place: Madrid, Spain

Table of Contents

Abstract.....	3
Candidate's Personal Motivation to Conduct this DPhil Investigation.....	5
Acknowledgements.....	6
Manuscripts from this thesis (ordered by publication date)	9
Academic presentations from this thesis	9
Note on the candidate's research role	11
Declaration of Authorship	13
Table of contents.....	15
List of Figures.....	19
List of Tables	20
List of Appendices.....	21
Key Terms.....	23
Acronyms.....	29
Overview of thesis	31
PART I BACKGROUND AND STUDY RATIONALE.....	33
Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA.....	33
1. Education in South Africa	33
1.1 Access versus quality of education: crisis in the school system.....	33
1.2 School delay.....	34
1.3 Academic Motivation	38
1.4 DPhil focus on the educational outcomes of school delay and academic motivation: rationale and implications	40
2. Socioeconomic disadvantage in South Africa.....	43
2.1 Prevalence and factors associated with socioeconomic disadvantage in South Africa	43
2.2 Impact of socioeconomic disadvantage on children's outcomes.....	44
3. Violence in South Africa	44
3.1 Prevalence of violence exposure.....	44
3.2 Exposure to multiple forms of violence: ' <i>poly-violence</i> '	45
3.3 Factors associated with children's exposure to violence	45
3.4 Short and long term impact of violence.....	46
4. Conclusion.....	49
Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW.....	51
1. Introduction and objectives	51

2. Parameters of the review	54
2.1 Definition of terms	54
2.2 Inclusion criteria	55
2.3 Exclusion criteria	56
2.4 Reviewing and search strategy.....	56
3. Results of the review	59
3.1 Overview of the included studies.....	59
3.2 Characteristics of the included studies.....	59
3.3 Key review findings.....	70
4. Discussion.....	74
4.1 Implications for research, programing and practice	74
4.2 Review Limitations.....	76
4.3 Conclusions.....	76
Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK.....	77
1. Conceptualization of resilience	77
1.1 Risk and adversity.....	77
1.2 Positive adaptation.....	78
1.3 Protective factors	79
1.4 Definition and characteristics of resilience.....	80
2. DPhil resilience model in education.....	83
2.1 Socioecological Resilience Model: variable-focused vs person-focused models	83
2.2 High-risk adolescent sample: socioeconomic disadvantage and exposure to multiple types of violence.....	84
2.3 Hypothesized interpersonal protective factors: compensatory vs moderating protective factors.....	85
2.4 Adolescents' maladjustment: school delay and low academic motivation....	86
2.5 Model implications and limitations	87
Chapter 4 STUDY RATIONALE	93
1. Need for the current study	93
2. Research Aims and questions	94
PART II RESEARCH DESIGN AND METHODS	97
Chapter 5 METHODOLOGY	97
1 Sinovuyo Teen Study.....	97
1.1 Research setting	98
1.2 Study design.....	102
1.3 Screening and recruitment procedures.....	102
2. Data collection and management.....	104

2.1 Fieldwork procedures	104
2.2 Data collection instruments	109
2.3 Data management, data cleaning and data protection notes	115
2.4 Measures	118
Demographic, socioeconomic and other descriptive characteristics	119
Educational Outcomes	121
Exposure to violence.....	123
Supportive parenting.....	130
Teacher support.....	133
3. DPhil final study sample	134
3.1 Sinovuyo Teen Study: study dropouts	134
3.2 Out-of-school adolescents.....	136
4. Ethics considerations	138
4.1 Ethical and regulatory compliance	138
4.2 Informed consent and assent.....	138
4.3 Privacy, confidentiality and potential risks to participants.....	139
4.4 Reimbursement for participation	140
5. Data analysis.....	140
5.1 Prospective analysis.....	141
5.2 Missing data	141
5.3 Cross-classified multilevel data	143
5.4 Study 1: Latent Profile Analysis (LPA).....	144
5.5 Studies 2 and 3: Aggregated Multilevel Structural Equation Model (SEM)	152
6. Methodological limitations and implications for future research.....	155
6.1 Purposive sample	155
6.2 Participation in the Sinovuyo Teen Study	156
6.3 Data collection instruments and measures.....	158
PART III RESULTS	163
Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?	163
1. Abstract.....	164
2. Introduction.....	165
3. Methods	171
4. Results.....	181
5. Discussion.....	192

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?	203
1. Abstract	204
2. Introduction.....	204
3. Methods.....	212
4. Results.....	225
5. Discussion	234
Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa.....	241
1. Abstract	242
2. Introduction.....	243
3. Methods.....	249
4. Results.....	258
1. Discussion	266
PART IV DISCUSSION AND CONCLUSIONS	275
Chapter 9 DISCUSSION AND CONCLUSIONS	275
1. Overview of thesis results and findings.....	275
1.1 Gaps in Research Evidence.....	275
1.2 Aims and contribution of this thesis	277
1.3 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?	279
1.4 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?.....	282
1.5 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa	284
2. Strengths and limitations of the study	286
2.1 Strengths and novelty of the study.....	286
2.2 Limitations and implications for future research	287
3. Implications for policy, practice and programing	292
4. Dissemination	300
5. Conclusion.....	301
REFERENCES.....	303

List of Figures²

<i>Figure 1 Background Characteristics, Poor Educational Outcomes And Long-Term Negative Outcomes: School Delay Theoretical Framework.</i>	42
<i>Figure 2 Literature Review Identification Process</i>	57
<i>Figure 3 Flow Diagram of the Identification and Screening Process</i>	59
<i>Figure 4 Developmental Ecological Framework (Bronfenbrenner, 1986)</i>	82
<i>Figure 5 Informal Houses in a Peri-Urban Community</i>	99
<i>Figure 6 A Rural Village on the Outskirts of King William's Town</i>	99
<i>Figure 7 Fieldwork Cluster Map: Approximate Locations of all Sinovuyo Teen Study Communities from King William's Town City Center</i>	102
<i>Figure 8 Data Collection Research Team: Team Building Day</i>	104
<i>Figure 9 Research Assistants: Baseline Training Day</i>	105
<i>Figure 10 Candidate Conducting Data Checking During a Power Outage</i>	106
<i>Figure 11 Muddy Road to a Rural Community</i>	107
<i>Figure 12 Decorated Research Vehicles</i>	107
<i>Figure 13 Mental Health Leaflet</i>	108
<i>Figure 14 Adolescent Questionnaire Sample Items Using Color Scales</i>	110
<i>Figure 15 Example of a Two-Way Cross-Classified Structure</i>	143
<i>Figure 16 LPA Model: Violence Indicators</i>	148
<i>Figure 17 LPA Model: One-Step 'Distal-as-Indicator'</i>	150
<i>Figure 18 LPA Final Model: Probabilistic Predictors</i>	151
<i>Figure 19 Model 1: Stylized Representation Of The Aggregated Multilevel Structural Equation Model Estimating The Effects Of More-Frequent Exposure To 'Poly-Violence' And The Effects Of Supportive Parenting Factors On The Likelihood Of Adolescent School Delay</i>	153
<i>Figure 20 Model 2: Stylized Representation Of The Aggregated Multilevel Structural Equation Model Estimating The Effects Of More-Frequent Exposure To 'Poly-Violence' And The Effects Of Teacher Support On The Likelihood Of Adolescent School Delay</i>	154
<i>Figure 21 Patterns of exposure to violence among adolescents from socioeconomically disadvantaged communities in South Africa</i>	188
<i>Figure 22 Background Characteristics, Poor Educational Outcomes And Long-Term Negative Outcomes: School Delay Theoretical Framework.</i>	207
<i>Figure 23 Hypothesized supportive parenting on school delay: main and interaction effects models.</i>	224
<i>Figure 24 The interaction between positive parenting and more frequent poly-violence on school delay amongst violence-exposed adolescents in South Africa.</i>	231
<i>Figure 25 The Interaction Between Consistent Discipline And More Frequent Poly-Violence On School Delay Amongst Violence-Exposed Adolescents In South Africa.</i>	233

² This thesis follows a stand-alone papers format. Thus, some of the figures in Chapters 6, 7 and 8 look very similar or have been duplicated in this thesis document. These figures were not edited, given that the three papers have already been accepted. Thus, no alteration to the original accepted papers was performed.

<i>Figure 26 Stylized Representation Of The Aggregated Multilevel Structural Equation Model Estimating The Effects Of More Frequent Exposure To ‘Poly-Violence’ And The Effects Of Teacher Support On The Likelihood Of Adolescent School Delay In Eastern Cape, South Africa</i>	257
<i>Figure 27 Stylized Representation Of The Results Of The Aggregated Multilevel Structural Equation Model Estimating The Effects Of More Frequent Exposure To ‘Poly-Violence’ And The Effects Of Teacher Support On The Likelihood Of Adolescent School Delay In Eastern Cape, South Africa (Standardized Estimates)</i>	265
List of Tables³	

<i>Table 1 Search Terms</i>	56
<i>Table 2 Summary of Results. Interpersonal Protective Factors for Education amongst At-risk Adolescents</i>	64
<i>Table 3 Eastern Cape: People and Households</i>	100
<i>Table 4 Summary of DPhil Adolescent Questionnaire</i>	112
<i>Table 5 Summary of School Instruments</i>	114
<i>Table 6 DPhil Measures: Time Points and Periods</i>	119
<i>Table 7 School Delay and (Low) Academic Motivation Measures</i>	122
<i>Table 8 Measures Recording Exposure to Violence</i>	124
<i>Table 9 Measures Recording Supportive Parenting Factors</i>	132
<i>Table 10 Measures Recording Teacher Support of the Students</i>	134
<i>Table 11 Comparison of Baseline Adolescents’ Characteristics: Adolescents in the DPhil Final Sample Versus Adolescents who Dropped Out From the Sinovuyo Teen Study Trial</i>	136
<i>Table 12 Comparison of Baseline Adolescents’ Characteristics: Adolescents in the DPhil Final Sample Versus Adolescents Who Were Out of School at Post-test</i>	137
<i>Table 13 Design Effects and Intra Class Correlations (ICCs) of Cross-Classified Levels of Nesting (n=503)</i>	143
<i>Table 14 Sinovuyo Teen Study measures recording exposure to violence, academic motivation and school delay</i>	174
<i>Table 15 Design effects and Intra Class Correlations (ICCs) of cross-classified levels of nesting in Sinovuyo Teen Study (n=503)</i>	179
<i>Table 16 Sample Characteristics at Baseline (n=503)</i>	182
<i>Table 17 Statistical Criteria and profile sizes for latent profile analyses estimating 2-5 latent profiles</i>	185
<i>Table 18 Mean Exposure To Violence Scores By Profile Membership</i>	187
<i>Table 19 Characteristics of Adolescents Exposed to More Frequent ‘Poly-Violence’ and Adolescents Exposed To Less Frequent ‘Poly-Violence’</i>	190

³This thesis follows a stand-alone papers format. Thus, some of the tables in Chapters 6, 7 and 8 look very similar or have been duplicated in this thesis document. These tables were not edited, given that the three papers have already been accepted. Thus, no alteration to the original accepted papers was performed.

<i>Table 20 Predictors of Violence Among Adolescents From Socioeconomically Disadvantaged Communities In South Africa</i>	<i>191</i>
<i>Table 21 Sinovuyo Teen Study Measures Recording Exposure to Violence</i>	<i>216</i>
<i>Table 22 Exposure To Violence Among Adolescents From Socioeconomically Disadvantaged Communities In South Africa</i>	<i>219</i>
<i>Table 23 Sinovuyo Teen Study Measures Recording Supportive Parenting Factors.....</i>	<i>221</i>
<i>Table 24 Sample Characteristics at Baseline (n=503)</i>	<i>227</i>
<i>Table 25 The Relationship Between More-Frequent Exposure To Poly-Violence And Supportive Parenting Factors With School Delay, And Moderating Effects Of Supportive Parenting Factors</i>	<i>229</i>
<i>Table 26 Exposure To Violence Among Adolescents From Socioeconomically Disadvantaged Communities In The Eastern Cape, South Africa</i>	<i>253</i>
<i>Table 27 Sinovuyo Teen Study measures recording teacher support of students</i>	<i>254</i>
<i>Table 28 Sample Descriptive Statistics at Baseline (n=503).....</i>	<i>259</i>
<i>Table 29 Intercorrelations Among Variables</i>	<i>260</i>
<i>Table 30 Teacher Academic and Emotional Support: Independent And Interaction Effects (With ‘Poly-Violence’) On School Delay.....</i>	<i>264</i>

List of Appendices

The following appendices are referenced in the thesis, and are provided in a separate document:

- Appendix 1 Sinovuyo Teen Study Protocol
- Appendix 2 Sinovuyo Teen Study Adolescent questionnaire
- Appendix 3 School Questionnaires (administrators and teachers)
- Appendix 4 Teacher Characteristics
- Appendix 5 Sinovuyo Teen Study Ethics letters
- Appendix 6 Consent Forms and Information Sheets (caregivers and adolescents)
- Appendix 7 Consent Forms and Information Sheets (principals and teachers)
- Appendix 8 Histograms
- Appendix 9 Sinovuyo Teen Study Caregivers’ Characteristics
- Appendix 10 Further Analyses

Key Terms

- **At-risk adolescents:** children aged 10 to 17 experiencing socioeconomic disadvantage and/or exposure to violence which may lead to negative educational outcomes.
- **Black African** (or “black” or “African”): one of the four racial groups recognized in South Africa (Statistics South Africa, 2011).
- **Interpersonal protective factors for adolescent education:** any relational or interactional factors that have been associated with adolescents’ good educational outcomes in the context of risk.
- **Resilience:** “positive adaptation in the context of risk and adversity” (Masten, 2014, p. 9).
- **Socioeconomically disadvantaged communities:** low socioeconomic urban, peri-urban or rural communities affected by multiple social and environmental contextual factors, such as poverty, unemployment, low education levels, violence, and limited access to services.
- **Parent/caregiver:** This thesis uses the terms “parents” and “caregivers” interchangeably to refer to the adult who takes on the primary childcare duties. A parent or a primary caregiver can be a biological parent, another adult relative (e.g. grandparent, aunt, uncle, or sibling) or a non-relative.
- **(Interpersonal) Violence against children:** As opposed to collective violence perpetrated by large groups (i.e. states, militia groups and terrorist organizations) interpersonal violence refers to violence between individuals (WHO and ISPCAN, 2006). Interpersonal violence has been conceptualized differently across study disciplines and research studies. In the current DPhil investigation, a broad theoretical framework of interpersonal violence against children is applied.

This broad concept of violence encompasses physical and emotional violence across settings (i.e. home, school and community) and perpetrators (primary caregivers, peers and other adults). For the purpose of this study, violence can directly target children (e.g. child maltreatment) or happen in the presence of children (e.g. domestic violence, and crime in the community). More importantly, this broad concept of violence includes both low-severity and more severe types of violence, including minor and major aggressive conflict resolution techniques (i.e. corporal punishment and other forms of aggressive and harsh parenting tactics). See child abuse, family violence, school violence and community violence key terms for more information on the theoretical concepts applied in the DPhil investigation.

- **Child abuse (or “child maltreatment”):** for the purpose of this DPhil investigation, the terms “child maltreatment” and “child abuse” are used interchangeably to refer to adolescents’ abuse from caregivers. Focusing on physical and emotional abuse only, the following definition from the World Health Organization (WHO; 1999) applies to this DPhil investigation: “all forms of physical and/or emotional ill-treatment resulting in actual or potential harm to the child’s health, survival or development or dignity in the context of a relationship or responsibility, trust or power”. In contrast to physical abuse, which is based on the intentional use of physical force against a child, emotional abuse may include acts such as “the restriction of movement; patterns of belittling, blaming, threatening, frightening, discriminating against or ridiculing” (WHO and ISPCAN, 2006). Emotional or psychological violence tends to occur with physical and aggressive behavior to resolve family conflicts (Berry, 2008; Meinck, Cluver, Boyes, & Loening-Voysey, 2016), and has a high probability of

damaging the child's physical, mental, spiritual, moral or social development (WHO and ISPCAN, 2006). See "Family Violence" key term for further details about physical and emotional abuse by caregivers.

- **Family violence:** violent or aggressive behavior involving any family members (Osofsky, 1998). For the purpose of this study, and given the South African context, the broad concept of the Xhosa extended families is taken into consideration. Therefore, *domestic violence* does not only include physical and psychological violence between intimate partners, but does include violence happening in the household between other household members, such as other adults. Moreover, for the purpose of this investigation, "*common*" family violence (e.g. arguments with adults shouting at home) will be considered as a low-severity subtype of domestic violence, besides more severe *intimate partner violence* (IPV) or "*patriarchal terrorism*" (M. P. Johnson, 1995). *Common* family violence, also known as "*ordinary*", refers to less severe but still aggressive techniques to resolve *family conflicts* (i.e. disagreement between household members; Berry, 2008; M. P. Johnson, 1995).

Similarly, researchers investigating violence against children have differed between *pathological* and *normative* violence against children to measure *child maltreatment* from caregivers (Berry, 2008). While *pathological* violence is intended to cause injury or harm to a child and will qualify for police or social services to intervene, *normative* violence usually consists on less severe, although still harmful and aggressive, disciplinary parenting techniques (Berry, 2008; Gershoff, 2002). *Normative* violence against children is widely prevalent in all societies across multiple cultures (Know Violence in Childhood, 2017; WHO, 2002). For instance, traditionally amongst Xhosa communities in South Africa,

corporal punishment such as spanking is a culturally legitimate technique to discipline children (Meinck, Cluver, Boyes, et al., 2016; Mthanti & Mncube, 2014).

Normative and common violence tend to be less severe compared to pathological and domestic violence (Berry, 2008). However, normative violence against children and common family violence have been identified as important risk factors for more severe forms of child abuse (Mathews et al., 2016; Meinck, Cluver, Boyes, & Ndhlovu, 2015; Stith et al., 2009). Thus, for the purpose of this DPhil thesis, minor (yet common) aggressive tactics to resolve conflict are considered to be part of a continuum of adolescent abuse by caregivers (Berry, 2008; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998)

- **School violence:** violence occurring in and around schools, involving school staff and children or between children themselves (UNESCO, 2017). In this DPhil investigation, adolescents reported not feeling safe in school or on the way to school due to experiencing or feeling threatened by violent behaviour including bullying and crime.
- **Community violence:** violence between individuals who are unrelated, and who may or may not know each other, generally taking place outside the home in public areas (WHO, 2015). In this DPhil investigation, community violence includes adolescents' direct and indirect exposure to youth and gang-related violence, assault by strangers and violence related to property crimes (WHO 2015).
- **'Poly-violence':** being exposed to more than one form of violence. In this DPhil investigation, '*poly-violence*' indicates being exposed to more than one of the following six forms of violence: *domestic violence between household members*,

adolescent physical abuse by caregivers, adolescent emotional abuse by caregivers, perceived school violence, witnessing community violence, and community violence victimization.

Acronyms

ACASI: Audio Computer-Assisted Self-Interview Software

AER: African Education Review

AIC: Akaike Information Criterion

AIDS: Acquired Immune Deficiency Syndrome

ANA: Annual National Assessment

APQ: Alabama Parenting Questionnaire

ASSIA: Applied Social Sciences Index and Abstracts

BIC: Bayesian Information Criterion

CAPI: Computer-Assisted Personal Interviewing

CASP: Critical Appraisals Skills Programme

CFI: Comparative Fit Index

CIES: Comparative and International Education Society

CoS: Confirmation of Status

CQC: Cambridge Quality Checklist

CUREC: Central University Research Ethics Committee

DSPI: Department of Social Policy and Intervention

EAC: Education as Change

EC: Eastern Cape

EMIS: Education Management Information System

HIC: High-Income Country

HIV: Human Immunodeficiency Virus

ICAST: International Society for the Prevention of Child Abuse and Neglect Child Abuse Screening Tool

ICAST-C: ISPCAN Child Abuse Screening Tool Children's Version

ICAST-TRIAL: ISPCAN Child Abuse Screening Tool for Trials

ICC: Intra Class Correlations

IPV: Intimate Partner Violence

IES: Income and Expenditure Survey

KWT: King William's Town

LCS: Living Conditions Survey

LMIC: Low- and-Middle Income Countries

LMR-LRT: Lo-Mendell-Rubin Likelihood-Ratio-Test

LCA: Latent Class Analysis

LPA: Latent Profile Analysis

MESH: Medical Subject Headings

MLM: Multilevel Modelling

MLR: Maximum-Likelihood Estimation with Robust Standard Errors

MOSS: Medical Outcome Study Social Support Survey

NGO: Non-Governmental Organisation

ODK: Open Data Toolkit

PLH: Parenting for Lifelong Health

RCT: Randomized Controlled Trial

RMSEA: Root Mean Square Error of Approximation

SA: South Africa(n)

SABINET: Southern African Bibliographic Information Network

SAJE: South African Journal of Education

SARE: South African Review of Education

SD: Standard Deviation

SEM: Structural Equation Modelling

SES: Socioeconomic Status

SPSS: Statistical Package for the Social Sciences

STS: Sinovuyo Teen Study

UNICEF: United Nations International Children's Emergency Fund

UK: United Kingdom

US: The United States of America

WHO: World Health Organization

Overview of thesis

This thesis is entitled *Violence, Socioeconomic Disadvantage and Interpersonal Protective Factors for Adolescents' Resilience in Education in the Eastern Cape, South Africa* and consists of four parts and nine chapters. It includes three stand-alone papers (Chapters 6, 7 and 8) as required by the DPhil-by-publication track at the Department of Social Policy and Intervention, all three of which are in press in high impact, peer-reviewed scientific journals.

Part I of this thesis introduces the theoretical, contextual and research background, as well as the study rationale. Chapter 1 provides an overview of the literature on the prevalence of, and factors associated with, poor educational outcomes, socioeconomic disadvantage and violence in South Africa. The Literature Review in Chapter 2 summarizes the evidence on the interpersonal factors associated with good educational outcomes amongst adolescents in South Africa, despite socioeconomic disadvantage and exposure to violence. Chapter 3 introduces the resilience conceptual and theoretical framework informing this DPhil investigation, as well as its limitations and implications. Finally, Chapter 4 states the need for this DPhil investigation, and specifies the research aims and questions.

Part II consists of a single chapter (Chapter 5) presenting an overview of the research design and methods employed in the DPhil study. Chapter 5 consists of six sections: Section One is an overview of the Sinovuyo Teen Study, the research project in which this DPhil study is nested; Section Two summarizes fieldwork procedures and data collection instruments, as well as describing data management and data cleaning processes, and the measures used to collect data from adolescents, schools and teachers; Section Three explains and justifies the final sample for the analysis of the DPhil study, as well as presenting baseline comparisons of adolescents characteristics in the DPhil

final sample, compared to adolescents who dropped out from the trial and those who were out of school at post-test; Section 4 describes the ethical considerations of the study; Section 5 summarizes each type of analysis conducted in the study; and finally, Section 6 identifies the limitations in the methods used in this DPhil study.

Part III consists of three chapters (Chapters 6, 7, and 8) corresponding with the three stand-alone papers. First, Chapter 6 examines the relationship between South African adolescents' exposure to multiple types of violence with subsequent academic motivation and school delay. Exposure to violence is investigated across multiple settings - home, school and community-, and by different perpetrators – caregivers, peers and other adults. Following a socioecological resilience approach (Ungar, 2012a), this DPhil study also investigates two sources of potential resilience in education in a context of risk and adversity (A. Masten, 2014; Theron & Engelbrecht, 2012; Ungar, 2012b). In particular, Chapter 7 and Chapter 8 respectively investigate the potential protective role of supportive parenting and teacher support against adolescents' school delay, within a context of violence and socioeconomic disadvantage in the Eastern Cape.

Part IV consists of a single chapter (Chapter 9) presenting the discussion and conclusions of this DPhil thesis. First, Chapter 9 presents an overview of the results and findings from the three studies in Chapters 6, 7 and 8. Second, the main strengths and limitations of this thesis are discussed. Third, Chapter 9 also discusses the broader implications of the study findings for research, policy, practice and programing. Finally, it offers a succinct conclusion derived from the overall DPhil thesis.

PART I BACKGROUND AND STUDY RATIONALE

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

“Almost all poor people are black, or, more specifically, African, and live in areas with compromised infrastructures and services. For the poor however, the demise of apartheid might have brought dignity, but it has not brought real opportunity: poor African children typically attend compromised and struggling schools; acquire neither skills nor qualifications; enter a labour market that offers no prospects for unskilled workers; and struggle to access healthcare when they fall sick”
(Bray, Gooskens, Kahn, Moses, & Seekings, 2010, p. 23)

Chapter 1 introduces the South African context in which this DPhil investigation took place. Adolescents participating in this DPhil investigation were exposed to low quality education, high socioeconomic inequality and high levels of multiple types of violence occurring in their families, school and communities. Thus, an overview of the literature on the prevalence of, and factors associated with, poor educational outcomes, socioeconomic disadvantage and violence in South Africa is presented in the current chapter, in order to better contextualize the lives of these at-risk adolescents.

1. Education in South Africa

1.1 Access versus quality of education: crisis in the school system

Access to education (quantity) does not translate into access to learning (quality) in many low and middle income countries (Eigbiremolen, 2017; Spaull & Taylor, 2015; UNESCO, 2004). This statement holds true in South Africa in particular. Various cross-national analyses that assess South African achievement indicate that 78% of Grade 4 children cannot read for meaning in any language, while 66% of Grade 5 cannot do basic mathematics (Mullis, Martin, Foy, & Hooper, 2016; Reddy et al., 2015; Spaull, 2018). This is despite South Africa having close to universal access to primary education and

high rates of enrollment in secondary education since 2009 (Department of Basic Education, 2010). Thus, if the majority of South African children cannot “learn to read” they cannot consequently “read to learn” (van der Berg, Spaull, Wills, Gustafsson, & Kotze, 2016, p. 14). The above mentioned statistics indicate that despite children attending school for many years, only a few South African youth acquire the basic literacy and numeracy skills necessary to participate in society (UNESCO, 2004).

Despite South Africa spending around 7% of its national income on education, the South African education system is highly unequal (Bray et al., 2010; Reddy et al., 2015; Spaull, 2013a, 2015) and has been labelled as “inefficient” or “in crisis” (Branson, Hofmeyr, & Lam, 2014; Lam, Ardington, & Leibbrandt, 2011; Meny-Gibert & Russell, 2010; Spaull, 2013b). Such inequality has led scholars to argue that there are two education systems in South Africa (Bray et al., 2010; Spaull, 2013b); a functional system for the wealthiest 25% of South African children and a dysfunctional system for the majority 75% of children from disadvantaged families (Spaull, 2013b, 2013a). The former is characterized by abundant resources, highly qualified and dedicated teachers and overall well-behaved students; the latter is characterized by student illiteracy, large classes, a lack of resources, demoralized teachers, large social problems and a generally disruptive student atmosphere (Bray et al., 2010; Theron & Engelbrecht, 2012).

1.2 School delay

Definition and prevalence

Theoretically, in order to move on to the next school grade, a child must acquire the minimum outcomes and standards (Department of Basic Education, 2012). However, the South African education system does allow the (slow) progression through school grades of a large number of students who have not complied with the promotion requirement during the General Education and Training band (grades 0/R to 9; Department of Basic Education, 2012). This

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

is known as “progression”, “condonation” or “social promotion” and involves the promotion of children who have already repeated grades to higher grades regardless of their skill acquisition (Bray et al., 2010; Department of Basic Education, 2012). Progression is aimed to prevent a child from being retained in a phase (Foundation –grade 0/R to 3, Intermediate –grade 4 to 6, or Senior –grade 7 to 9) for a period exceeding four years (Department of Basic Education, 2012). This reflects high rates of low achievement and later grade repetition, low attainment, low school completion and overall school disaffection amongst many South African adolescents (Branson et al., 2014; Dieltiens & Meny-Gibert, 2012; Strassburg, Meny-Gibert, & Russell, 2010).

Many young people remain in school until their early twenties (Bray et al., 2010, p. 70). However, nationally representative statistics indicate that 7% of 15-24 year olds have not completed primary education in South Africa, and despite high levels of school enrollment amongst this group, only 23% have completed lower secondary education (The World Bank, 2014). This scenario is particularly bad in the Eastern Cape Province, with the lowest primary school completion rate in South Africa amongst 15-year-old adolescents (77%; Statistics South Africa, 2013). Furthermore, slow progression to the following grade has been identified as the most important contributing factor to non-completion of secondary school in the Eastern Cape (Statistics South Africa, 2013). For instance, in the Eastern Cape Province, 69% of learners were older than the expected age per grade and 38% of learners were still attending school at age 20 (Statistics South Africa, 2013).

Thus, the high rates of children who do not meet requirements for grade promotion lead to the presence of a large number of over-aged students in schools with cumulative unsurmountable deficits (Branson et al., 2014; Dieltiens & Meny-Gibert, 2012; Spaull & Kotze, 2015; Statistics South Africa, 2016b). In the current DPhil thesis, school delay is

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

used to investigate the lives of over-aged adolescents who are enrolled in grades below the age-appropriate grade in South Africa.

Factors associated with school delay

More than 20 years have passed since the end of the South African apartheid era and its discriminatory policies in education. However, racial differences in schooling outcomes continue to exist (Lam et al., 2011). Black children are at a higher risk of dropping out from school than other racial groups such as whites or Indians (Branson et al., 2014; Fleisch, Shindler, & Perry, 2012; Lam et al., 2011; UNDP, 2010). Black children have also been found to be far more likely than other racial groups in South Africa to continually repeat grades (Lam et al., 2011; Meny-Gibert & Russell, 2010). More specifically, black South African children are six times more likely than white South African children to repeat grades in school (Meny-Gibert & Russell, 2010). Furthermore, black children are 1.9 times more likely to lack exposure to early childhood development programs, compared to white South African children (Barnes, Hall, & Sambu, 2017). They are more likely to miss one school year, or be over-aged according to the age-appropriate grade (Statistics South Africa, 2013; Strassburg et al., 2010). Although some research has pointed out the perseverance of black youth in completing school even beyond the age of 18, black South Africans are 4.7 times more likely not to complete secondary education, compared to their white counterparts (Barnes et al., 2017).

Racial inequalities in education can be explained by structural and other socioeconomic risk factors at the family, school, and community levels (Bell & Morton Mckay, 2011; Branson et al., 2014; Lam et al., 2011; Meny-Gibert & Russell, 2010; van der Berg, 2008). For instance, black South African children are eight times more likely to lack access to adequate water, 29 times more likely to lack access to adequate sanitation, 23 times more likely to live in poverty, and 20 times more likely to live in households where

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

there is food insecurity, compared to white South African children (Barnes et al., 2017). Furthermore, poor black South African children tend to attend poorly-resourced state schools in their poor neighborhoods and communities (Branson et al., 2014; L. Hill, 2016; Spaull, 2015). As introduced above, there are large differences among South African schools, which explains a great proportion of the variation in achievement levels (Spaull, 2015, 2016; van der Berg, 2008). Poorly-resourced schools with crowded classrooms from socioeconomically disadvantaged areas correspond to lower quality education due to several factors: teacher absenteeism, limited evaluation of learners' performance, poor classroom instruction, teachers' weak knowledge of subject content and weak pedagogical skills, ineffective school organization and management, and limited resources (Lam et al., 2011; van der Berg, 2008; van der Berg et al., 2016), amongst other factors. Except for the very few poorly-resourced but highly-efficient schools (Galant, 2015; Grant, Jasson, & Lawrence, 2010), children's educational outcomes in poor-quality schools tend to be worse than those attending wealthier schools in wealthier communities (Branson et al., 2014). For instance, while 30% of the poorest grade 11 students have repeated a grade at least once, only 8% of the wealthiest grade 11 students have ever repeated a grade (Department of Basic Education, 2016a). Thus, overall, poorer children in South Africa do worse academically (van der Berg et al., 2016).

The Eastern Cape is one of the most under-performing provinces in education due to resourcing deficiencies, poor provincial administration and widespread poverty amongst children (van der Berg et al., 2016). In the Eastern Cape, where 31% of the intermediate-phase learners are considered "deprived"⁴, many schools do not even meet basic learning

⁴ The Learning Environment Deprivation Index includes the following indicators: "access to school infrastructure such as libraries and laboratories, access to basic services at the schools such as water and electricity, learner-classroom and learner-teacher ratios as measures of overcrowding, subjects taught and

infrastructure standards (Equal Education, 2016; Statistics South Africa, 2013, 2016b). For instance, of learners in grades one to three, 36% are in classes of at least 46 children, and 10-15% are in extreme class sizes of more than 60 children (Spaull, 2016; Statistics South Africa, 2013).

Short and long term negative impact

Unequal outcomes in education go beyond undermining a child's right to education; they also affect the country's economy and labor market. South Africa's youth unemployment rate is high compared to that of other middle-income countries (Spaull, 2013b). An estimated 33% of youth aged 18 to 24 are out of school and not working (Children's Institute, 2016). While youth unemployment rates have risen by 15% over the last 15 years, youth enrollment in educational institutions has decreased from 50% to 36% (Spaull, 2018). For instance, less than 5% of the poorest 70% of the population enter university (Spaull, 2018). The lack of working skills due to the low quality of training and education is considered to be an important predictor of youth unemployment in South Africa (Bray et al., 2010; Spaull, 2013b; van der Berg, 2008), as well as being an important determinant of an intergenerational cycle of social inequality (Branson et al., 2014; Spaull, 2015).

1.3 Academic Motivation

Definition

Based on DiPerna & Elliott (1999), McClelland (1961), Wigfield & Eccles (2002), and on extensive work on academic competence and Achievement Motivation Theory, McGrew, Johnson, Cosio & Evans (2004) give the following comprehensive definition of

available sporting activities, age of learners, as well as parental participation in the running of the school" (Statistics South Africa, 2013, p. xi). For a learner to be classified as 'deprived', he or she would meet half or less of all indicators (i.e. deprivation cut-off was set up at 50%).

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

academic motivation: “a student’s desire (as reflected in approach, persistence, and level of interest) regarding academic subjects when the student’s competence is judged against a standard of performance” (p. 47).

Prevalence and factors associated with academic motivation

Global and South African evidence indicates that, especially in disadvantaged contexts, academic motivation has been identified as an important predictor of academic performance amongst youth attending higher education (Eppler & Harju, 1997; Petersen, Louw, & Dumont, 2009; Robbins, Lauver, Le, Davis, & Carlstrom, 2004).

In primary and secondary education, evidence suggests that despite their socioeconomic disadvantage, adolescents in South Africa have high educational aspirations and motivation to stay in school (Bray et al., 2010; Mzolo, 2013; Strassburg et al., 2010; Ward, Martin, Theron, & Distiller, 2007; Watson, McMahon, Foxcroft, & Els, 2010). Several researchers have tried to explain the high aspirations and motivation of socioeconomically disadvantaged adolescents in South Africa (Bray et al., 2010; Joorst, 2016; Mzolo, 2013; Theron & Liebenberg, 2015; Watson et al., 2010). For instance, some researchers have highlighted that after the exclusion of previous generations of black South Africans from tertiary education, parents, grandparents, and teachers have high expectations for their children (and black youth in general) to pursue tertiary education in order to become role models for the next generation (Theron & Liebenberg, 2015).

However, their perseverance to remain in school does not always translate into adequate academic achievement, school grade progression and completion. As a result, high academic motivation and aspiration contributes to the large number of over-aged students in South Africa, with only 40% of youth completing secondary non-compulsory education (Statistics South Africa, 2015b). Some qualitative evidence may explain the

mismatch between adolescents' academic expectations and achievement. For instance, in Bray et al. (2010), qualitative results showed that despite black parents having high academic expectations for their children, low parental involvement and support in their children's everyday schooling is also common. This was particularly observed amongst disadvantaged families where parents had received little education or lacked maturity to parent, due to early entry into parenthood (Bray et al., 2010, p. 222). However, to date, no quantitative studies have been conducted investigating the relationship between academic motivation and other educational outcomes such as academic achievement in these disadvantaged contexts.

1.4 DPhil focus on the educational outcomes of school delay and academic motivation: rationale and implications

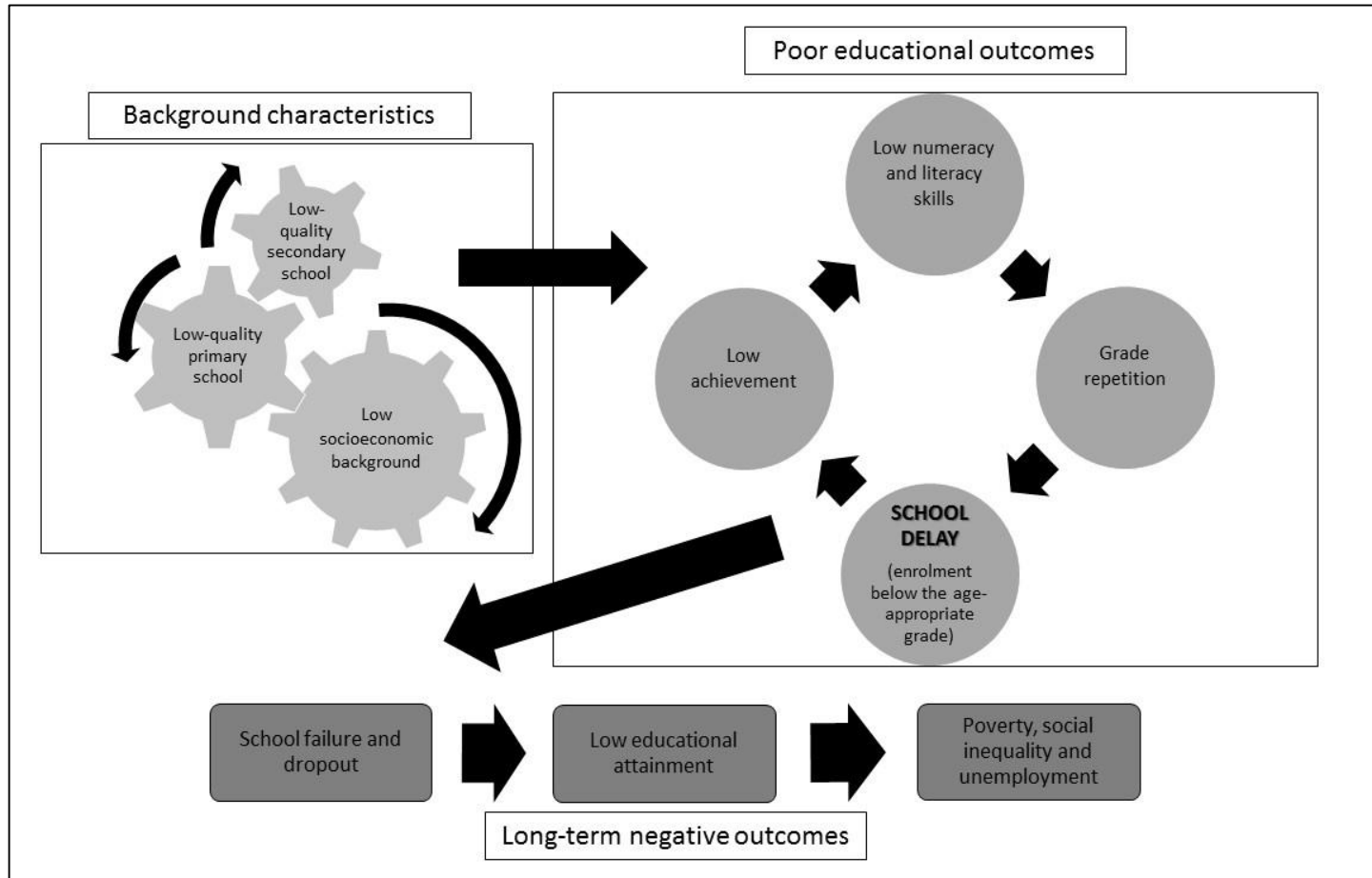
The present investigation focuses on two specific adolescents' educational outcomes: *school delay* and *academic motivation*. As already explained in Chapter 1, neither school delay nor academic motivation necessarily reflect the actual learning of adolescents in disadvantaged contexts in South Africa due to the widespread crisis in the school system (Spaull, 2015; van der Berg et al., 2016). While school enrolment and academic motivation tend to be high amongst socioeconomically disadvantaged adolescents in South Africa, basic completion (Grade 9 completion) is low (Department of Basic Education, 2016a). Low performance or low achievement, coupled with high rates of grade repetition contribute to over-age enrolment (school delay), which in turn predicts school dropout and low educational attainment (Spaull, 2013a; Spaull & Kotze, 2015). As already mentioned in this chapter, in the long run, low educational attainment is associated with higher unemployment, intergenerational poverty and poor social mobility in South Africa (see Figure 1; Branson et al., 2014; Spaull, 2015).

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

This DPhil project planned to analyze the impact of violence on the educational outcomes of adolescents via other educational measures such as educational achievement (i.e. accessing school reports and academic records). However, no objective, accurate and standardized attainment measures were available during the data collection period of this investigation (see Section 2.3 in Chapter 5 for more information on the absence of attainment data, and Section 2.2 in Chapter 9 for the limitations and implications of this absence).

In brief, in order to investigate adolescents' resilience in education, the DPhil candidate decided to focus on the impact of violence on two important outcomes significantly related to adolescents' educational attainment in at-risk contexts: school delay and academic motivation (see Chapter 4 for the implications of the applied resilience model in education). Although not exempt from their own limitations, school delay and academic motivation could be measured using more valid and reliable methods, as opposed to directly assessing educational attainment (see Section 2.4 in Chapter 5 for further information on the validity and psychometric characteristics of the applied measures, and section 6 in Chapter 5 for limitations and implications of these two educational outcomes). Thus, this DPhil investigation focuses on school delay and academic motivation to further contribute to the knowledge of the impact of violence on adolescents' education and ways to mitigate it (see study findings in Papers 1, 2 and 3 in Chapters 6, 7 and 8, as well as in Chapter 9).

Figure 1 Background Characteristics, Poor Educational Outcomes And Long-Term Negative Outcomes: School Delay Theoretical Framework.



Based on Spaul, 2013, 2015; Spaul & Kotze, 2015

2. Socioeconomic disadvantage in South Africa

2.1 Prevalence and factors associated with socioeconomic disadvantage in South Africa

According to a recent report published by Statistics South Africa, poverty levels in South Africa increased in 2015 after a decade of decline (Statistics South Africa, 2017a). In total, 56% of South Africans lived in poverty in 2015, which translates into more than 30 million people (Statistics South Africa, 2017a). This report uses data from the Income and Expenditure Survey (IES) and the Living Conditions Survey (LCS) from 2006, 2009, 2011 and 2015, and concludes that *“the most vulnerable to poverty in South Africa are: children, females, Black Africans, people living in rural areas, those residing in Eastern Cape and Limpopo, and persons with little or no education”* (Statistics South Africa, 2017a, p78). Indeed, in the Eastern Cape, almost nine out of ten children (87%) under the age of five lived in poor households in 2015 (Barnes et al., 2017).

South African and global research has shown strong links both between poverty and child exposure to violence (Bolger & Patterson, 2003; Bray et al., 2010; Lynch & Cicchetti, 1997; Meinck, Cluver, Orkin, et al., 2016; Meinck, Cluver, Boyes, et al., 2015; Muller, 2013; Richter, Mathews, Kagura, & Nonterah, 2018). For instance, in a cross-sectional study with 2,477 South African adolescents aged 10 to 17, results showed that family disadvantage (caregiver AIDS illness or poverty) was associated with increased abusive parenting (Meinck, Cluver, Orkin, et al., 2016). Furthermore, another cross-sectional study with 603 South African adolescents aged 13 to 19 showed that family conflict and food insecurity were associated with severe physical and emotional abuse at home (Meinck, Cluver, Boyes, et al., 2015). A recent longitudinal analysis following 2,000 children in Gauteng Province, South Africa from birth to 22 years of age showed that all

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

categories of violence investigated (e.g. family, community and school violence) were more prevalent among poorer and more disadvantaged groups (Richter et al., 2018).

2.2 Impact of socioeconomic disadvantage on children's outcomes

As presented in Section 1 of Chapter 1 above, poverty has a negative impact on children's education (Spaull, 2015; van der Berg et al., 2016), as well as being associated with child exposure to violence in South Africa (Meinck, Cluver, Orkin, et al., 2016; Meinck, Cluver, & Boyes, 2015b; Richter et al., 2018). Furthermore, several studies have shown that poverty negatively affects other important outcomes related to children's development, well-being, health and nutrition (Das-Munshi et al., 2016; Grantham-McGregor et al., 2007; Lachman, Cluver, Boyes, Kuo, & Casale, 2014; Walker et al., 2011).

3. Violence in South Africa

3.1 Prevalence of violence exposure

A longitudinal study in Gauteng Province, South Africa showed that only 1% of the children had not been exposed to any type of violence (Richter et al., 2018). Other studies have also reported similar alarming estimates of violence exposure amongst adolescents in South Africa. For instance, the first national prevalence study showed very high rates of adolescents' exposure to physical (one in three adolescents), sexual (one in five adolescents) or emotional (16% of adolescents) violence and neglect (one in five adolescents) in their lifetime (Ward, Artz, Burton, & Leoschut, 2015).

The Eastern Cape province has the highest homicide rate (55.9 people killed per 100,000) and the highest provincial prevalence of gender-based physical violence by male partners (32%) amongst all South African provinces (Africa Check, 2017; Statistics South Africa, 2016c). However, self-report adolescent data from the first national prevalence study

showed that self-report adolescents' exposure to violence in the Eastern Cape was significantly lower than national estimates (Ward et al., 2015): physical abuse exposure (18%), emotional abuse exposure (7%), sexual abuse exposure (14%).

3.2 Exposure to multiple forms of violence: '*poly-violence*'

Many South African adolescents are repeatedly exposed to violence at home, in school and in the community, and '*poly-violence*' – exposure to more than one form of violence – is common, especially in socioeconomically disadvantaged areas (Burton & Leoschut, 2013; Leoschut & Kafaar, 2017; Meinck, Cluver, Boyes, et al., 2016; Sherr et al., 2016; Ward et al., 2015). For instance, a 2015 nationally representative survey conducted among adolescents aged 15 to 18 found that 64% of adolescents experienced two or more forms of violence in their lifetime, while 35.4% experienced five or more forms of violence (Leoschut & Kafaar, 2017).

3.3 Factors associated with children's exposure to violence

Multiple factors have been found to be associated with violence against children in South Africa. Evidence shows that beyond poverty (see Section 2.1, Chapter 1), other factors at the individual, family and community level increase the likelihood for children's exposure to violence. For instance, a recent secondary analysis using datasets from studies of national and provincial surveys in South Africa identified the risk and protective factors associated with various forms of interpersonal violence against women and children in South Africa (Mathews et al., 2016)⁵. Although not causal in nature, results were in line with previous research findings in South Africa (Leoschut & Kafaar, 2017; Meinck, Cluver, & Boyes, 2015a, 2015b, Meinck, Cluver, Boyes, et al., 2016,

⁵ Three datasets were selected to identify the determinants of violence against women and children in South Africa: one longitudinal (the Cape Area Panel Study dataset), and two cross-sectional (the National Youth Lifestyle Study, and the Gender Based Violence Prevalence and Attitudes Household Survey).

2015). In particular, the following factors were identified to increase the likelihood of child exposure to violence: older age; male/female gender (depending on the type of violence); substance abuse by the child, family and peers; disability; poor family structuring and functioning; harsh or inconsistent discipline; family conflict; having a family member who has been incarcerated; having parents with untreated mental health issues; the availability of weapons and substances in the community; and social norms accepting patriarchy and violent expressions of masculinity (Mathews et al., 2016)

The 2016 Matthews study also drew pathways to victimization and perpetration amongst children. In terms of gender, study results showed that overall, males are significantly more likely than females to be victims of physical violence, while females are significantly more likely to suffer emotional and sexual violence. Furthermore, males are at greater risk for perpetrating all forms of violence, even when all other determinants are held constant. In terms of location, perpetration of violence often begins in the home and extends to other places in the community. For instance, children exposed to violence at home are more likely to experience violence outside the home and are more likely to also become perpetrators of violence. This finding is also in line with previous research findings pointing at the high susceptibility of South African children to be exposed to multiple types of violence across contexts (Leoschut & Kafaar, 2017).

3.4 Short and long term impact of violence

Impact of violence on adolescents' outcomes

There is strong global and South African evidence demonstrating the harmful impacts of exposure to violence on children's emotional, physical, behavioral and social adjustment outcomes (Barbarin, Richter, & Wet, 2001; Cicchetti & Lynch, 1993; du Plessis, Kaminer, Hardy, & Benjamin, 2015; Lynch & Cicchetti, 1997; Meinck, Cluver, Orkin, et al., 2016; Ward et al., 2007; WHO, 2014). Overall, evidence confirms the cumulative

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

or dose-response negative effect of violence on several outcomes during childhood. For instance, chronic child maltreatment (i.e. repeated abuse over a continued period time) predicts more negative outcomes, compared to children exposed to a one-time episode of violence or isolated maltreatment (Bromfield & Higgins, 2005; Jaffe & Kohn Maikovich-Fong, 2011; Masten & Wright, 1998; Rutter, 1985). In addition, evidence suggests that poly-victims (i.e. those exposed to multiple types of violence) can suffer higher levels of psycho-social problems, compared to children with repeated episodes of the same form of violence. For instance, poly-victims are more at-risk for developing traumatic symptoms, such as suicidal behavior, depression, aggression and conduct disorder, compared to children with repeated episodes of one kind of violence (Charak et al., 2016; Collings, Penning, & Valjee, 2014; du Plessis et al., 2015; Ellonen & Salmi, 2011; Finkelhor, Ormrod, & Turner, 2007).

Few studies have focused on the relationships between children's exposure to violence and educational outcomes. While evidence on the relationship between violence and adolescents' educational outcomes in Sub-Saharan Africa is scarce, more research can be found from other regions. For instance, a recent review found 16 cross-sectional retrospective studies from the US, Canada, Israel and the UK showing that childhood maltreatment within the family was associated with later poor academic performance (Romano, Babchishin, Marquis, & Fre, 2015). This association was even stronger if concurrent and multiple types of exposure to violence were involved (Romano et al., 2015). Similar findings can be found in cross-sectional analyses in the US and Jamaica, where exposure to multiple victimizations outside the home such as bullying, school-based peer violence, physical punishment at school, and community violence were independently associated with lower academic achievement (Baker-henningham, Meeksgardner, Chang, & Walker, 2009; Holt, Finkelhor, & Kantor, 2007). In addition, global

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

research has shown that children experiencing higher levels of violence (i.e. repeated victimization) had poor academic achievement compared to other children, suggesting a dose-response effect (Baker-henningham et al., 2009).

Beyond qualitative evidence (Bray et al., 2010), it appears only three quantitative studies (one longitudinal and two cross-sectional) have been conducted focusing on the relationship between violence and negative educational outcomes amongst children in South Africa (Barbarin et al., 2001; Pieterse, 2015; Sherr et al., 2016). These three studies focused on the negative effects of single forms of violence (domestic violence, harsh parenting, and witnessing community violence) on adolescents' overall school progression, academic motivation, academic achievement and school dropout (Barbarin et al., 2001; Pieterse, 2015; Sherr et al., 2016). The one-year longitudinal study used data from 989 children aged 4-13 from Malawi and South Africa (Sherr et al., 2016). Results showed that children exposed to psychological violence as a form of discipline by their parents at baseline were ten times less likely to still be enrolled in school for the follow-up (Sherr et al., 2016). Furthermore, results from the same study showed that harsh parenting and domestic violence were associated with poor grade progression (Sherr et al., 2016). Amongst 4,747 youths aged 14–22 in Cape Town, recurrent exposure to physical abuse at home was associated with an increased probability of a reduction in numeracy-skills test scores and a greater risk of school dropout (Pieterse, 2015). Finally, experience of family violence in the past six months was inversely associated with young children's academic motivation (n=626; Barbarin et al., 2001). None of these studies analyzed the impact of exposure to '*poly-violence*' on educational outcomes among adolescents. None of these studies found significant associations between exposure to community violence and educational outcomes.

Chapter 1 LOW QUALITY EDUCATION, SOCIOECONOMIC INEQUALITY AND VIOLENCE IN SOUTH AFRICA

Long term impact of violence

Recent evidence from South Africa indicates that while previous child exposure to physical, emotional and sexual abuse predicts adult victimization amongst women, the same exposure to abuse is the most significant risk factor for violence perpetration amongst men (Mathews et al., 2016). Furthermore, at a societal level, experiences of violence during childhood has been found to have considerable, measurable long-term implications for South Africa's economy and the health of the population (Hsiao et al., 2018). Amongst other remarkable findings, it was estimated that overall drug abuse in South Africa could decrease by 14% if child sexual abuse was prevented, while adult interpersonal violence could be reduced by 16% if children were not exposed to domestic violence (Hsiao et al., 2018).

4. Conclusion

In order to extrapolate the findings of this thesis, it is important to understand the multi-faceted and inter-linked challenges related to adolescents' exposure to low-quality education, poverty and violence. This introductory chapter aimed to provide an overall picture of the lives of socioeconomically disadvantaged, black South African adolescents participating in this DPhil investigation.

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION
AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA:
LITERATURE REVIEW

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

“My grandmother has been there for me all the time – through all difficulties. She supported me financially, was a parent to me, and a friend at the same time”

Atile, resilient 20-year-old male (Theron & Phasha, 2015, p.58)

“By the grace of God I was in Mrs. ____’s class. She is the teacher who comfort [sic] me and helped me in my time of need. She tried to make me feel better... Mrs ____ gave me hope, she was really a loving, kind and caring teacher”

Participant 4, 15-year-old male (Theron & Engelbrecht, 2012, p.272)

In the previous chapter (Chapter 1), an overview of the literature on the prevalence of, and factors associated with, poor educational outcomes, socioeconomic disadvantage and violence in South Africa was provided. In order to better inform the quantitative analyses conducted in this thesis, Chapter 2 summarizes the state of the evidence for the interpersonal factors associated with good educational outcomes amongst adolescents in South Africa, despite socioeconomic disadvantage and exposure to violence.

1. Introduction and objectives

This comprehensive literature review focuses on the educational outcomes of adolescents at risk of socioeconomic disadvantage and exposure to violence. However, it is well known that South African adolescents’ education may also be negatively impacted by health-related issues (i.e. the negative effects of common diseases like HIV/AIDS), orphanhood, and overall poor structural educational and employment opportunities (Orkin, Boyes, Cluver, & Zhang, 2014; Spaull, 2013a, 2013b). On the other hand, there is strong evidence of the positive impact of material and economic interventions on the educational outcomes of at-risk children in Sub-Saharan Africa (Baird, Ferreira, & Özler,

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

2013; Lawson, 2012; Morgan, Petrosino, & Fronius, 2012). For instance, results from three systematic reviews of experimental or quasi-experimental evidence show that the effects of school fee-elimination programs, school feeding programs and cash transfers (conditional or unconditional) strongly increase school enrollment and other positive educational outcomes in Sub-Saharan Africa (Baird et al., 2013; Lawson, 2012; Morgan et al., 2012). Yet, whilst acknowledging the important effects of other factors on the at-risk adolescents' educational outcomes, this literature review specifically focuses on the effects of interpersonal factors. There is less evidence on the effects of interpersonal factors on adolescents' education, and thus, this comprehensive review specifically analyzes interpersonal supportive relations in order to inform this thesis' analyses.

Interpersonal supportive relations with significant adults and peers can have a positive impact on children's overall outcomes, especially in at-risk contexts (Luthar & Zelazo, 2003; Sameroff, Gutman, & Peck, 2003). For instance, resilient at-risk adolescents from 11 countries were asked to identify factors accounting for their successful coping amidst different forms of adversity (Ungar, 2015). Results from this cross-national mixed methods study show that 'relationships' with caregivers, prosocial peers, adult mentors and teachers were important in contributing to adolescents' overall wellbeing (Ungar, 2015). On this line, resilience studies with adults from various countries have also confirmed the potential contribution of adult mentors to dramatically changing children's life trajectories in the context of abuse and neglect (Egeland, Carlson, & Sroufe, 1993; Simpson & Ungar, 2012; Theron & Engelbrecht, 2012).

Strong evidence from high-income countries shows that close and positive parenting and authoritative parenting styles, characterized by both warmth and appropriate

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

discipline can have a positive impact on adolescents' educational outcomes (Areepattamannil, 2010; Grolnick, Price, Beiswenger, & Sauck, 2007; N. E. Hill & Taylor, 2004; Jeynes, 2007; Kristin, Moore, Whitney, & Kinukawa, 2009; Selin, 2013; Shute, Hansen, Underwood, & Razzouk, 2011; Zellman, Waterman, & Waterman, 2017) and can be particularly important for the educational resilience of at-risk minority students (Griffith & Taylor, 1996; Gutman, Sameroff, & Eccles, 2002; Ingram, Wolfe, & Lieberman, 2007; Richman, Rosenfeld, & Bowen, 1998). However, global evidence also suggests that both the notion of 'good parenting' and its short and long term impact on at-risk children's outcomes may differ across cultures (Bornstein, Putnick, & Lansford, 2011; Evans, Simons, & Simons, 2016; Furstenberg, Cook, Eccles, Elder & Sameroff, 1999; Steinberg et al., 2006).

While substantive literature on the impact of parental involvement, parents' support and parental engagement on children's educational outcomes exists, most of this evidence comes from studies in HICs (Areepattamannil, 2010; Rothon, Head, Klineberg, & Stansfeld, 2011; Tajima, Herrenkohl, Moylan, & Derr, 2011; Wilder, 2014). Therefore, for the purpose of this DPhil investigation, the generalization of evidence from western countries to the South African context is limited. More specifically, the socioeconomically disadvantaged black-African communities, with different social norms and notions of parenting, and living in a context with limited access to services and good educational opportunities, make comparisons with findings from HICs less appropriate.

On the other hand, evidence from HICs suggests that having a supportive relationship with at least one adult other than the primary caregiver is especially important in at-risk

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

contexts (Luthar, Cicchetti, & Becker, 2000; Lynch & Cicchetti, 1992). For instance, having a supportive teacher can partially compensate against the negative effects of socioeconomic disadvantage (Luthar, 2006; Ramphele, 2002; Rutter, 1987), family violence and child maltreatment (Crosnoe & Elder, 2004; Lynch & Cicchetti, 1997). Similar findings have also been found regarding relationships with peers. Positive and supportive relationships with classmates and friends have been found to contribute to the educational resilience of adolescents exposed to socioeconomic risks and family violence in high-income countries (Bolger & Patterson, 2003; Borman & Rachuba, 2001; Crosnoe & Elder, 2004; Plunkett, Henry, Houlberg, Sands, & Abarca-Mortensen, 2008; Tajima et al., 2011). However, research also highlights that the interplay of non-parental, supportive relationships with the academic outcomes of at-risk adolescents also differs across sub-groups and cultures, highlighting once more the context-specific nature of resilience (Crosnoe & Elder, 2004).

In order to inform the analysis of the present DPhil thesis, the objective of this comprehensive literature review was to identify and synthesize the state of the evidence for interpersonal protective factors for educational outcomes amongst at-risk adolescents in South Africa.

2. Parameters of the review

2.1 Definition of terms

The following definitions informed the literature review search strategies:

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

- interpersonal protective factors for adolescent education: any relational or interactional factors that have been associated with adolescents' good educational outcomes in the context of risk
- adolescent educational outcomes: any adolescent learning-, school- or academic-related outcome such as achievement, grade progression, enrollment, dropout, attainment, access, completion, resilience, absenteeism, grade repetition, motivation, expectations, attendance, disaffection etc.
- at-risk adolescents: children aged 10 to 17 experiencing socioeconomic disadvantage and/or exposure to violence which may lead to negative educational outcomes⁶

2.2 Inclusion criteria

Several inclusion criteria were applied. First, a search was made only for studies with abstracts written in English. Second, the age criterion was set up for adolescents aged 10 to 17 inclusive. Third, studies were needed to empirically analyze data on interpersonal factors for education. Systematic reviews and meta-analyses were also eligible for inclusion. Based on a preliminary review of the existing evidence, studies examining the data of at-risk adolescents from disadvantaged contexts in other Sub-Saharan African locations were included. This is due to the limited evidence on interpersonal protective factors for adolescent education in South Africa.

⁶ The age range was restricted to 10 to 17 in this Literature Review, given that the overall DPhil study was embedded in a broader study (the Sinovuyo Teen Study). In order to participate in the Sinovuyo Teen Study, adolescents had to be 10 to 18.

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

Finally, only articles written from January 2004 until March 2015 were included⁷. The main reason for this time frame is the profound transformation that has occurred in the South African education system over the past decade (Branson et al., 2014; Spaull, 2013).

2.3 Exclusion criteria

Given the exploratory aim of the review, no exclusion criteria in terms of the studies' methodologies were set up for the search. Thus, all types of studies empirically analyzing the effects of interpersonal factors on the educational outcomes of at-risk adolescents using quantitative or qualitative methods were included.

2.4 Reviewing and search strategy

Identification process

Table 1 shows the search terms used.

Table 1 Search Terms

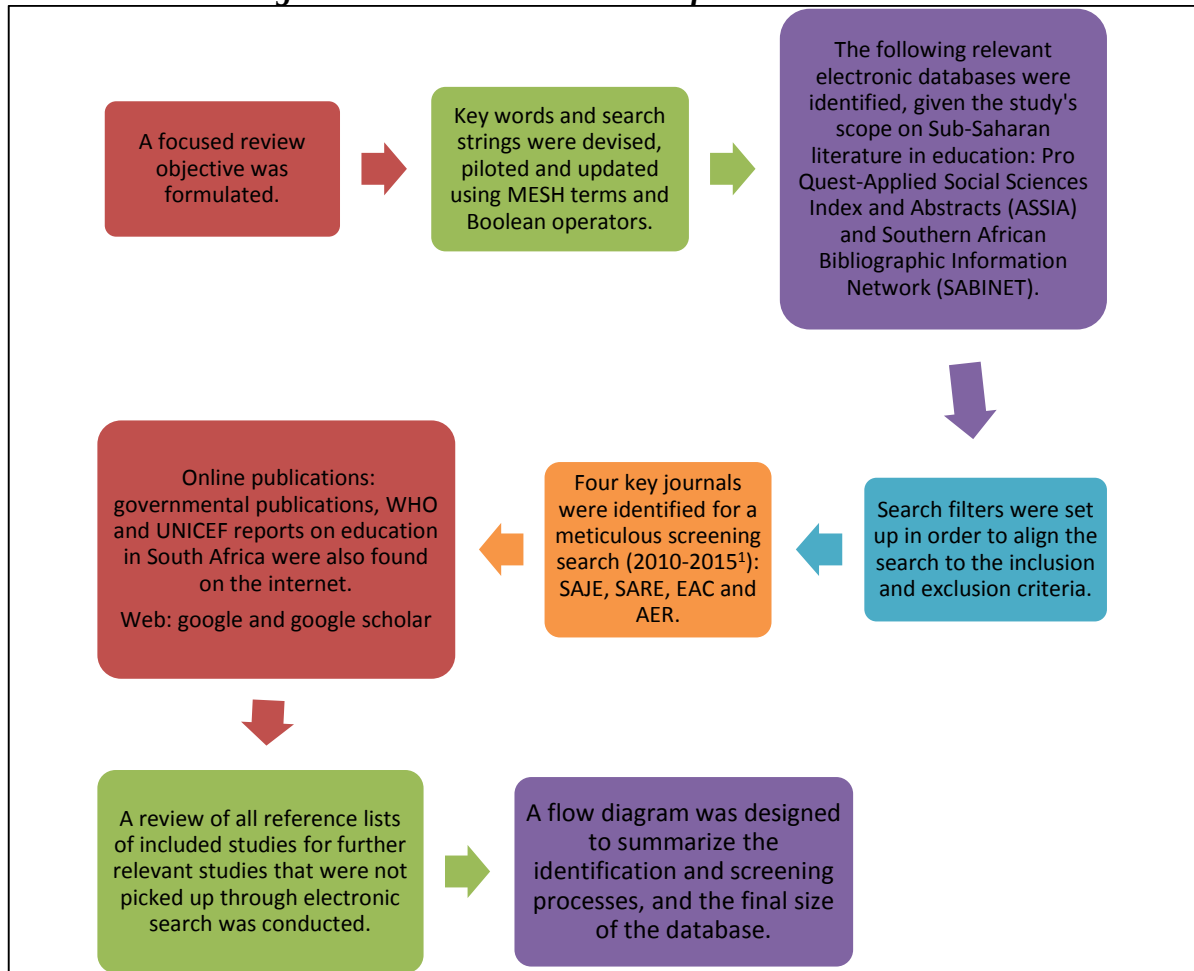
Search Dates	March 2015 May 2018
Search Strings	(positive OR protective OR promot* OR contrib* OR determinant OR factor* OR predictor* OR support* OR influenc* OR interpersonal OR involv* OR parent* OR caregiv* OR caring OR significant adult OR role model OR family OR peer* OR friends OR teacher* OR principal*) AND (education OR educational OR academic OR school* OR classroom OR access OR performance OR achievement OR progress* OR outcome* OR opportunities OR motivation OR attendance OR enrol* OR dropout OR learning) AND (adolescent* OR youth OR learner* OR student* OR child*) AND (Africa OR Sub-Saharan Africa OR South Africa OR Eastern Cape OR Mpumalanga OR Western Cape OR Free State OR Tauten OR Eastern Cape OR Kwazulu-Natal OR Limpopo OR Northern Cape OR North West)

Figure 2 shows the steps taken to identify relevant studies for each search:

⁷ This comprehensive review was updated in May 2018. Thus, papers published between March 2015 and May 2018 were also screened and included.

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

Figure 2 Literature Review Identification Process



MESH: Medical Subject Headings; UNICEF: United Nations International Children's Emergency Fund; WHO: World Health Organization; SAJE: South African Journal of Education; SARE: Southern African Review of Education; AER: Africa Education Review; EAC: Education as Change

¹ Search was updated in May 2018

Screening

A three-phase screening process was conducted. First, titles and abstracts from the electronic dataset, key journals, and online reports were scanned for possible relevance. Second, a more detailed screening of the abstracts and article contents of the pre-selected articles was performed. Third, a review of potential relevant studies from the reference lists was also conducted.

Data extraction and summary

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

Data extraction was conducted on all the articles that were included in the final database.

The following relevant information was extracted from each article and included in a summary table: author, year of publication, location, methodology, sample characteristics, educational outcomes, and interpersonal protective factors analyzed, study design strengths and limitations, and main results and findings (see Section 3.2, Chapter 2).

Validity and reliability

Several factors ensured the validity and reliability of the results in this literature review. The reliability and the internal and external validity for each article were investigated, and limitations on the study design, sample, and methodology were reported in the summary Table (see Section 3.2, Chapter 2). The appraisal of qualitative studies was informed by the Critical Appraisals Skills Programme (CASP) checklist for qualitative studies (Critical Appraisal Skills Programme, 2018), while the appraisal of the quantitative studies was conducted using the Cambridge Quality Checklist (CQC) for the identification of high quality studies of correlates and risk factors for systematic reviews (Murray, Farrington, & Eisner, 2009). Publication bias was addressed by screening a wide variety of published and grey literature.

The final search yielded both a low number of hits and a low proportion of relevant articles in the electronic databases. Furthermore, only a few extra studies were identified by conducting screening searches of all articles in all the issues published by four key peer-review journals on education in South Africa, as well as searches of the articles' reference lists. This indicates that the search strategy was appropriate.

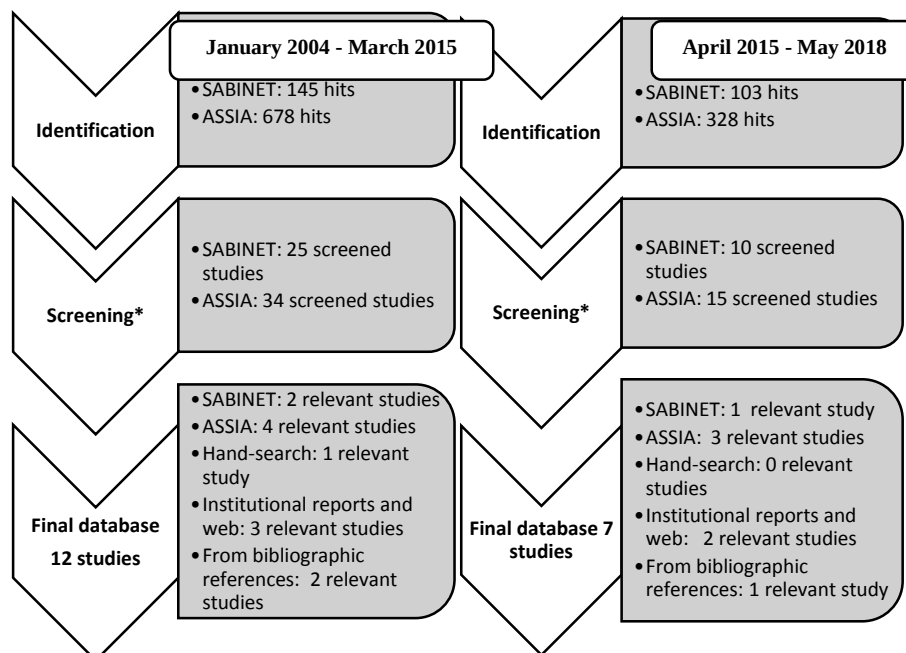
Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

3. Results of the review

3.1 Overview of the included studies

Figure 33 shows the flow diagram of the identification and screening process, while Table 2 summarizes the state of the evidence on the interpersonal protective factors for educational outcomes of adolescents from disadvantaged communities in South Africa.

Figure 3 Flow Diagram of the Identification and Screening Process



** The following reasons informed the exclusion of studies during the screening process: studies analyzing non-interpersonal protective factors for education such as socioeconomic factors, non-empirical studies, studies from outside Sub-Saharan Africa, and studies focusing on adolescent non-educational outcomes such as behavioral or wellbeing outcomes.*

3.2 Characteristics of the included studies

Study design

In total, 19 studies were included to inform the analysis: two prospective cohort studies (Bellon & Ngware, 2017; Kiwanuka, Van Damme, Van Den Noortgate, Anumendem, & Namusisi, 2015), eight cross-sectional analyses (Ansong, Okumu, Bowen, Walker, &

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

Eisensmith, 2017; Chowa, Masa, & Tucker, 2013; Frempong, Reddy, & Kanjee, 2011; Mudibo, 2014; Schulze & Lemmer, 2016, 2017; Sherr et al., 2017; Visser & Juan, 2015), and nine qualitative studies (Bojuwoye, Moletsane, Stofile, Moolla, & Sylvester, 2014; Dass-Brailsford, 2005; Grant et al., 2010; Gudyanga, Adam, & Kurup, 2015; Mboweni, 2014; Moloi, Dzvimbo, Potgieter, Wolhuter, & Walt, 2010; Phasha, 2010; Shilubana & Kok, 2005; Theron & Theron, 2014). None of the included studies used an experimental or quasi-experimental design to identify protective factors for educational resilience. No systematic reviews or meta-analyses of protective factors for educational outcomes were identified.

Location

While the majority of the studies were conducted in South Africa, the included studies also identified evidence from Malawi (Sherr et al., 2017), Kenya (Bellon & Ngware, 2017; Mudibo, 2014), Uganda (Kiwanuka et al., 2015), Ghana (Ansong et al., 2017; Chowa et al., 2013) and Zimbabwe (Gudyanga et al., 2015) due to the sparsity of the South African evidence.

At-risk adolescents

In terms of high-risk adolescent populations, seven of the included studies applied a person-based resilience approach focusing on resilient at-risk adolescents. Amongst them, three studies focused on academically achieving adolescents, despite socioeconomic disadvantage (Dass-Brailsford, 2005; Moloi et al., 2010; Theron & Theron, 2014); one study focused on adolescents without adult care at home (Shilubana & Kok, 2005); one study focused on academically resilient adolescents previously

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

exposed to violence (victims of sexual abuse; Phasha, 2010); and one study focused on female adolescents studying advanced Physics in the context of male dominance and peer defiance (Gudyanga et al., 2015). Similarly, another study also applied a resilience approach at the school level (Grant et al., 2010). In this study, authors applied a multi-case study to analyze why certain poorly-resourced disadvantaged schools in South Africa succeed in their responsibilities of teaching and learning despite their very difficult social contexts, while the majority do not (Grant et al., 2010). Besides the one study focusing on academically resilient adolescents previously exposed to sexual abuse (Phasha, 2010), none of the included studies focused on adolescents exposed to other forms of violence.

Sampling

Five studies used random sampling techniques to represent all adolescents from different grades in South Africa (Visser & Juan, 2015; Winnaar, Frempong, & Blignaut, 2015), Uganda (Kiwanuka et al., 2015) and Kenya (Bellon & Ngware, 2017; Mudibo, 2014). Out of the 14 studies using convenience and purposive sampling techniques, seven were qualitative studies identifying resilient at-risk participants (Dass-Brailsford, 2005; Grant et al., 2010; Gudyanga et al., 2015; Moloi et al., 2010; Phasha, 2010; Shilubana & Kok, 2005; Theron & Theron, 2014). Two were qualitative studies of at-risk samples (Bojuwoye et al., 2014; Mboweni, 2014). Two studies were cross-sectional analyses of adolescents from different racial groups or differing socioeconomic backgrounds (Schulze & Lemmer, 2016, 2017). One study looked at children attending community-based organizations (Sherr et al., 2017). A final two studies looked at adolescents

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

participating in experimental studies researching different socioeconomic interventions' effects on several adolescents' outcomes (Ansong et al., 2017; Chowa et al., 2013).

Educational outcomes

The included studies comprised a wide range of educational outcomes: school attendance, school engagement, academic achievement, educational resilience, school attainment and completion, academic motivation and aspirations, behavior at school, and female participation in advanced Physics. A few studies involved several educational outcomes to describe 'resilient' students (Phasha, 2010; Theron & Theron, 2014). Other studies either conducted separate analyses for each educational outcome (Ansong et al., 2017) or created composite scores using various outcomes (Sherr et al., 2017). For instance, in Sherr et al. (2017), an educational risk outcome scale was used that measured educational risk with a composite score involving school enrollment, school attendance and school progression.

Interpersonal protective factors

Included studies analyzed a wide variety of positive interpersonal factors associated with adolescents' good educational outcomes. Over half of the included studies (n=11) analyzed interpersonal factors from only one source, such as teachers (Grant et al., 2010; Theron & Theron, 2014) or parents (Bellon & Ngware, 2017; Chowa et al., 2013; Frempong et al., 2011; Mboweni, 2014; Mudibo, 2014; Schulze & Lemmer, 2016, 2017; Sherr et al., 2017; Visser & Juan, 2015), while the rest (n=8) analyzed interpersonal factors from more than one source (Ansong et al., 2017; Bojuwoye et al., 2014; Dass-Brailsford, 2005; Gudyanga et al., 2015; Kiwanuka et al., 2015; Moloi et al., 2010; Phasha, 2010; Shilubana & Kok, 2005). Support from parents, siblings, teachers,

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

principals, peers, neighbors, other non-family members and the broader community was investigated (Ansong et al., 2017; Bellon & Ngware, 2017; Bojuwoye et al., 2014; Dass-Brailsford, 2005; Grant et al., 2010; Kiwanuka et al., 2015; Theron & Theron, 2014). Support was defined and measured very differently across the studies and could take many forms, such as learning support (Bojuwoye et al., 2014), emotional support (Schulze & Lemmer, 2016, 2017) and informational or material support (Grant et al., 2010; Schulze & Lemmer, 2017; Theron & Theron, 2014). Furthermore, many studies focused on ‘good parenting’-related factors such as parental involvement (Chowa et al., 2013; Frempong et al., 2011; Mboweni, 2014; Mudibo, 2014), parental monitoring (Bellon & Ngware, 2017; Sherr et al., 2017), parental encouragement (Gudyanga et al., 2015), love, care and praise (Schulze & Lemmer, 2016, 2017; Sherr et al., 2017), positive discipline, and parental aspirations and expectation (Bellon & Ngware, 2017; Dass-Brailsford, 2005).

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

Table 2 Summary of Results. Interpersonal Protective Factors for Education amongst At-risk Adolescents

	(Author, Year)	Location	Methodology	Sample	Educational Outcome	Factors	Limitations and strengths ¹	Results/Main findings ²
1	(Dass-Brailsford, 2005)	Kwa-Zulu Natal, South Africa	Qualitative. Ethnographic Interviewing	16 disadvantaged, black college students aged 18-30 (retrospective data on school trajectories)	Educational resilience: school successful trajectories	Family, teacher and community support.	S: person-based resilience approach, focusing on their childhood experiences in disadvantaged schools. L: retrospective analysis; solely qualitative; small sample; limited external validity.	Participants viewed nurturing and supportive families, parental high expectations and the role of older siblings as significant contributors to their successful school trajectory. Several received indirect support in the form of positive role models (i.e. teachers) and advice on how to seek funding for university studies.
2	(Moloi et al., 2010)	Rural Mpumalanga, South Africa	Qualitative. Case study. Semi-structured focus groups	8 black senior secondary learners from formerly disadvantaged very rural schools.	School success: school outstanding academic performance	Relationship with teachers and principals	S: person-based resilience approach, focusing on the experiences of black learners from disadvantaged rural schools. L: retrospective analysis; solely qualitative; small sample; limited external validity.	Students perceived teacher' motivation, restoration, empowerment, entrustment and commitment, as well as teachers' and principal's support (i.e. information about bursaries application process for tertiary institutions, adoption of vulnerable children) as important contributors to their success.
3	(Bojuwoye et al., 2014)	Western Cape, South Africa	Qualitative approach. Focus groups and interviews	90 participants (60 primary and 30 high school learners) aged 12 to 18 years from Grades 6, 7, 10 and 11, and their school principals.	Academic, emotional and social needs to succeed in school: academic motivation and achievement	Learning support from their schools, teachers, and peers.	L: convenience sample; not only at-risk adolescents.	Primary school learners reported major sources of support as teachers and peers. Support received included extra class instruction, advice and information for meeting their social, emotional and academic needs. High school participants emphasized institutional actions rather than teacher behavior in support provision and they referred mostly to textbooks, library and peer support, while support from teachers seemed less significant.
4	(Shilubana & Kok, 2005)	Free State, South Africa	Qualitative interviews	6 students aged 13-16 achieving academically in a secondary school;	Academic performance: achieving an average of 50% or more and	The role of peers and adults such as a trusted	S: person-based resilient sample focusing on at-risk adolescents achieving academically: sample of adolescents staying alone,	Five learners indicated that they were more likely to approach their guidance teacher when experiencing problems. Three of the learners indicated that they rely mainly on their peers for completion of homework.

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

	(Author, Year)	Location	Methodology	Sample	Educational Outcome	Factors	Limitations and strengths ¹	Results/Main findings ²
				their teachers and school principals	pass their end of year exams to move up a grade.	teacher, or a neighbor.	with parents or guardians/caregivers working somewhere far from home or whose parents passed away. L: solely qualitative design; limited external validity.	Two of the three relied on the study group from their classes to help them with homework. One learner relied mainly on friends.
5	(Grant et al., 2010)	KwaZulu-Natal, South Africa	Qualitative interviews, multi-case study approach	School principals and teachers from 13 primary, 4 secondary and 1 combined school in historically disadvantaged communities	School resilience, school performance, pupils' achievement	School ethics of care. Teachers' social and material support and commitment	S: sample of "resilient" schools doing well despite poverty and socioeconomic risk. L: purposive sample; data not triangulated with learner-report data.	Despite meagre resources at their disposal, educators were described as doing their best to provide a positive learning environment. Eight of the study schools operated as 'welfare institutions for the young', with educators working as active caregivers in response to the contextual risk factors their learners faced. 16 of the study schools also drew on the social capital of their community networks to provide for the welfare needs of their learners. Educators also drew on the social capital of their community networks with public service-providers such as 'the community police forum' (Interview), and the 'South African Police Services (SAPS)'
6	(Theron & Theron, 2014)	North-West, South Africa	Qualitative interviews about their experiences in primary and secondary schools	16 black resilient university students coming from very deprived contexts achieving academically in university	Academic resilience: success/academic achievement, tertiary education	Teacher's support.	S: person-based resilience approach, focusing on their childhood experiences in schools in very deprived areas L: retrospective analysis, solely qualitative, small sample.	Teachers often went beyond the ordinary; Teachers' academic and non-academic service to youth supported access to material resources, positive relational spaces, a powerful identity, and experiences of social justice.
7	(Phasha, 2010)	South Africa (exact location unspecified by authors)	Qualitative in-depth interviews	3 black female survivors of sexual abuse (aged 16 to 23)	Educational resilience; behavior at school; determination to succeed; educational and career aspirations.	Support from neighbors, teachers, and other non-family members	S: person-based resilience approach; victims of sexual abuse focusing on their childhood experiences in schools. L: retrospective analysis, solely qualitative, small sample size; limited external validity.	The ability to seek and embrace support from others provided comfort, which ultimately facilitated educational resilience, especially an ability to stay at school. The support of others, such as neighbors, teachers, and other non-family members, played a greater role in facilitating educational resilience than did that of relatives. The support that participants got

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

	(Author, Year)	Location	Methodology	Sample	Educational Outcome	Factors	Limitations and strengths ¹	Results/Main findings ²
								from various people came in various forms (i.e. emotional, material, informational)
8	(Mboweni, 2014)	Acornhoek area, Mpumalanga, South Africa.	Qualitative study using in-depth interviews, focus group interviews, and observations	32 absentee students, 30 parents, 32 school teachers and 2 principals from 2 primary schools with high rates of learner absenteeism	School absenteeism	Parental involvement	S: data triangulation from three different sources (teachers, students, parents and school principals) L: solely qualitative; small sample; only self-report data	Most interviewed teachers and school principals acknowledged that learners whose parents were actively involved in their children's education reported very low levels of absenteeism, as compared to their counterparts whose parents are not involved.
9	(Gudyang et al., 2015)	Gweru district, Zimbabwe	Qualitative, narrative inquiry collecting stories of lived experiences	7 female students studying maths, or maths and advanced physics, from 3 schools: 1 rural impoverished, 1 high-density urban (low income) and 1 low-density urban school (middle income).	Female participation in physics as a subject at Advanced Level (A level)	Home experiences, teacher encouragement and attitudes of male peers	S: person-based resilience approach; girls studying sciences in school, focusing on their experiences of being females in a male-dominated field L: retrospective analysis; solely qualitative; small sample; limited external validity.	Out of the 7 female students, who all studied mathematics, only 3 were doing physics at Advanced Level. These 3 students had supportive or very supportive parents and a teacher who encouraged them to choose physics at A Level. None of the 7 female students had either a female role model, or peer encouragement to do mathematics or physics.
10, 11	(Schulze & Lemmer, 2016, 2017)	Pretoria area, South Africa	Quantitative, cross-sectional, correlations and ANOVA	380 grade 9 learners from three racial groups in 1 public and 3 independent schools	Science achievement: self-efficacy, active learning and achievement of goals	Family experiences: proximal childhood experiences (emotional and practical support, care and well-being)	S: quantitative analysis; three racial groups from two types of schools and from different socioeconomic areas were compared in the analysis L: cross-sectional (no analysis of change); small sample; not a random sample	Mean scores indicate that the higher the learners' achievement, the more positive their family experiences, and vice versa. Results revealed that family experiences correlated significantly with three motivational aspects of science learning: self-efficacy ($p = 0.3$), active learning ($p = 0.3$), and achievement goals ($p = 0.12$). Boys perceived family experiences significantly more positively than girls did. The learners from the three independent schools perceived more-positive family experiences than did the learners from the public school. There were no statistically significant differences between the family experiences of the racial groups, and

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

	(Author, Year)	Location	Methodology	Sample	Educational Outcome	Factors	Limitations and strengths ¹	Results/Main findings ²
								between the family experiences in the four schools from different socioeconomic areas.
12	(Frempong et al., 2011)	All provinces in South Africa	Quantitative, cross-sectional analysis, MLM	34,015 grade 6 learners in 998 schools	Learners' school achievement	Parental involvement	S: stratified random sample (by province); analyses taking into account SES and low achieving schools L: cross-sectional (no analysis of change); not only at-risk adolescents	The model indicated that for learners of similar low SES home backgrounds, their achievement levels were high when they attended schools where they and their parents were actively engaged in the learning processes. Initiatives that actively engaged learners and their parents were likely to improve the achievement level of learners in low-achieving schools.
13	(Sherr et al., 2017)	South Africa and Malawi	Quantitative, cross-sectional, mediated pathways	989 children aged 4–13 years and their primary caregivers attending community-based organizations	Educational risks: summed score of school enrollment, attendance and progress	Good parenting: warmth, boundaries, expressing love and praise, consistent care, utilizing positive discipline, and absence of abuse or neglect	S: two countries; at-risk sample; caregiver and child report measures L: cross-sectional (no analysis of change); not validated measure for good parenting; use of a cut-off measure; self-report measures	Results showed that higher scores of parenting were associated with fewer educational risks ($\beta = -0.11$; $CI = -0.17, 0.05$; $p = .001$). Reduced educational risk is indirectly associated with good parenting through decreased child trauma and depression scores.
14	(Visser & Juan, 2015)	All provinces in South Africa	Quantitative, cross-sectional, cluster robust multiple regression analysis	11,969 Grade 9 learners participated in 2011	Mathematics Achievement	Parental involvement	S: stratified random sample; sample representative of total population of learners in Grade 9 L: cross-sectional (no analysis of change); not only at-risk adolescents	Involvement of parents in learners' school homework at home was surprisingly negative ($\beta = -10.43$ $p < 0.01$). No plausible explanation was provided in the study.
15	(Mudibo, 2014)	Kilifi county, Kenya	Quantitative, cross-sectional, correlations	85 form 3 students and 45 teachers from 17 schools in the area	Academic learning and performance	Parental involvement: academic expectations, parents	S: data triangulation; stratified random sample; sample representative of total population of students in form 3 in Kilifi	Parental expectations and expressions of confidence in their children's ability positively influenced academic performance ($M=4.40$ and $SD=0.94$). Parents' positive attitude greatly influenced child's academic

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

	(Author, Year)	Location	Methodology	Sample	Educational Outcome	Factors	Limitations and strengths ¹	Results/Main findings ²
						positive attitudes towards education, parental in-school involvement	L: cross-sectional (no analysis of change); not only at-risk adolescents	performance (M =3.85 and SD=1.226). Parents' increased frequency of activities in school, as observed from the findings, had a positive impact on students' academic performance (M=4.35 and SD = 0.988).
16	(Ansong et al., 2017)	Eastern and Greater Accra regions of Ghana	Quantitative, cross-sectional, SEM	135 final year students participating in an experimental research study examining the impact of scholarships and savings accounts on psychosocial and educational outcomes	Academic engagement: emotional and behavioral engagement	Parent, teacher and classmates support	S: quantitative; multiple educational outcomes; multiple sources of protection L: cross-sectional (no analysis of change); not only at-risk adolescents, purposive sample (adolescents participating in an experimental research study).	Results show that classmate support is directly positively associated with engagement ($\beta=0.69$, $SE=0.04$, $p < 0.001$); Parental support has a mixed relationship with student engagement. Results show that support from parents is directly positively associated with behavioral engagement ($\beta=0.21$, $SE=0.02$, $p < 0.001$), but negatively associated with emotional engagement ($\beta=-0.26$, $SE=0.02$, $p < 0.001$). Teacher support did not significantly predict emotional engagement ($\beta=0.05$, $SE=0.09$, $p=0.59$) or behavioral engagement ($\beta=-0.23$, $SE=0.15$, $p=0.12$).
17	(Chowa et al., 2013)	Eight of Ghana's 10 regions, Ghana	Quantitative, cross-sectional, SEM	3,083 pairs of youth and parents participating in the Youth Save Ghana Experiment Study	Academic performance: Maths and English examinations and continuous assessment scores	Parental Involvement: at-home and in-school involvement	S: quantitative; data triangulation; random sample L: cross-sectional (no analysis of change); not only at-risk adolescents	Results indicate that parental involvement activities at home and in school are statistically significant predictors of youth academic performance. However, the direction of the relationships differs between the two factors. At-home involvement is associated positively with academic performance ($p < 0.001$), while in-school involvement is associated negatively with academic performance ($p < 0.05$).
18	(Kiwanuka et al., 2015)	Central Uganda	Longitudinal, quantitative, MLM	4,819 first-year secondary school students (Grade 7)	Mathematics achievement via standardized test	Parent support, teacher support and peer influences	S: quantitative, longitudinal (analysis of change); random sample; sample representative of total population of learners in Grade 7 in Central Uganda	Peer influences ($\beta = 2.18$; $SE=1.04$; $p < 0.05$) and parental support ($\beta = 1.78$; $SE=0.21$; $p < 0.001$) were significant predictors of Mathematics achievement even if controlling for individual, classroom and school characteristics. Teacher support was

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

	(Author, Year)	Location	Methodology	Sample	Educational Outcome	Factors	Limitations and strengths ¹	Results/Main findings ²
							L: not only at-risk adolescents	not correlated with Mathematics achievement ($\beta = 0.54$; $SE=1.11$; $p>0.05$) Parental support included payment for extra tuition, buying textbooks, encouragement to work hard, or involvement in activities such as attending Parent-Teacher association meetings.
19	(Bellon & Ngware, 2017)	Urban slums and formal settlements in Kenya	Quantitative, 5-year longitudinal analysis, SEM	1,549 primary school students (and their parents) in formal and informal settlements	Academic performance five subjects (English, Kiswahili, mathematics, science, and social studies)	Parental leadership: parental monitoring, parental support and aspirations.	S: longitudinal (analysis of change); random sample; national standardized examinations and household survey; analysis of direct and indirect effects; comparisons of less vulnerable with more vulnerable children from informal settlements L: parent self-report data on parental leadership, no triangulation	Monitoring and aspirations are essential elements of parental leadership and have a direct and positive effect on children's learning achievement (standardized coefficients of 0.07 and 0.13) The effects were stronger among children from urban informal settlements compared with those from urban formal settlements. The effect of parental aspiration on children's performance was mediated through parental support and monitoring in informal settlements. Parental support had no statistically significant standardized total effects in all data sets considered.

¹ The appraisal of qualitative studies was informed by the Critical Appraisals Skills Programme (CASP) checklist for qualitative studies (Critical Appraisal Skills Programme, 2018), while the appraisal of the quantitative studies was guided by the Cambridge Quality Checklist (CQC) for the identification of high quality studies of correlates and risk factors for systematic reviews (Murray, Farrington, & Eisner, 2009).

² Verbatim data extracts from the studies

S: Strengths; L: limitations; SES: socioeconomic status; SEM: Structural Equation Modelling; MLM: Multilevel Modelling

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

3.3 Key review findings

This review identified 19 studies analyzing interpersonal factors associated with adolescents' good educational outcomes. Key findings are classified into four sections: parents, teachers, peers and others.

Parents

Despite the limited number of studies, there were mixed findings on the effect of parental involvement and participation in schools on the educational outcomes of at-risk adolescents. Results from a cross-sectional analysis of data from a nationally representative sample of adolescents in Grade 9 in South Africa show that parental involvement in school homework counter-intuitively predicted a worse achievement in mathematics (Visser & Juan, 2015). Another study with a nationally representative sample looked at achievement in mathematics amongst Grade 6 South African learners from a similar socioeconomic status and found that learners' mathematics achievement was higher in schools where parents were "actively engaged" (Frempong et al., 2011). This latter finding was supported by findings from a qualitative study focusing on absenteeism in Mpumalanga, South Africa (Mboweni, 2014). In this study, interviewed teachers agreed that absenteeism was lower in adolescents whose parents were actively involved in their children's education. More mixed findings were found in a study with 3,083 adolescent participants of the Youth Save Ghana Experiment Study, where the effect of parental involvement on academic performance seems to be a function of the type of involvement (Chowa et al., 2013). In this study, while at-home parental involvement was associated positively with academic performance in Maths and English, in-school parental involvement was associated negatively with academic performance in

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

these very same subjects (Chowa et al., 2013). Again, the opposite result was found in a cross-sectional study with a small sample in Kenya, where parents' increased frequency of activities in school was positively associated with students' academic performance (Mudibo, 2014).

Results from a five-year longitudinal study with 1,549 primary school students in Kenya showed that the positive effects of parental aspirations on children's academic achievement were stronger amongst the most at-risk children from informal settlements, compared to adolescents from formal settlements (Bellon & Ngware, 2017). These effects were mediated via parental support and monitoring. Interestingly, in this study, parental support did not have a total effect on any of the studied academic achievement outcomes (Bellon & Ngware, 2017). These findings were in line with findings observed in a small qualitative study with 16 at-risk adolescents from disadvantaged areas of Kwa-Zulu Natal Province, South Africa (Dass-Brailsford, 2005). In this study, adolescents identified high parental aspirations and expectations as a factor contributing to their academic achievement (Dass-Brailsford, 2005).

In contrast, both emotional and practical support from parents have been found to contribute to adolescents' overall learning experiences in Mathematics (Kiwanuka et al., 2015) and Science (Schulze & Lemmer, 2016, 2017) in Uganda and South Africa, respectively. For instance, in a longitudinal study with 4,819 first-year secondary school students, parental support significantly predicted adolescents' positive Mathematics achievement (Kiwanuka et al., 2015). This statistically significant relationship between parental support and mathematics achievement was true even if controlling for socioeconomic characteristics, and individual, classroom and school characteristics

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

(Kiwanuka et al., 2015). In this study, parental support involved a wide range of actions including material, informational and emotional support. Similarly, results from a cross-sectional study with 390 Grade 9 learners from different backgrounds showed that the higher the proximal childhood experiences characterized by emotional and practical support, care and well-being, the higher adolescents' achievement in Science (Schulze & Lemmer, 2017) and the stronger adolescents' motivation to achieve was (Schulze & Lemmer, 2017). Finally, in a cross-sectional study with 135 final-year students in Ghana, parental support was also found to have the strongest association with positive student engagement, after classmate support (Ansong et al., 2017). Only one quantitative study included in this literature review investigated the relationship between supportive parenting practices and children's educational outcomes amongst socioeconomically disadvantaged children in South Africa (Sherr et al., 2017). The results from this cross-sectional study with 989 children showed that more supportive parenting was associated with fewer educational risks amongst children aged seven to 13 (Sherr et al., 2017).

Teachers

Overall, academic, social, and emotional support from teachers were identified as contributing to school success, despite adverse socioeconomic factors and experiences of child abuse. However, evidence on the effects of teacher support amongst at-risk adolescents is purely qualitative (Bojuwoye et al., 2014; Dass-Brailsford, 2005; Moloi et al., 2010; Phasha, 2010; Shilubana & Kok, 2005; Theron & Theron, 2014). Teacher support involved teachers developing different roles with at-risk children and adolescents, such as teachers acting as active caregivers, welfare institutions or spiritual and emotional counsellors. When looking at larger and quantitative studies including not

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

only at-risk adolescents, the effects of teacher support on adolescents' educational outcomes is not so straightforward (Ansong et al., 2017; Kiwanuka et al., 2015). For example, in a longitudinal analysis with a nationally representative sample in Uganda, results showed that teacher support was not correlated with Mathematics achievement, as oppose to support from peers and parents which predicted better Mathematics achievement (Kiwanuka et al., 2015). Likewise, the results from a cross-sectional study with 135 students between 12 and 23 years in Ghana showed that teacher support was neither a mediator nor a direct predictor of student engagement (Ansong et al., 2017).

Peers

Although there is less evidence on the effects of interpersonal factors from peers on the educational outcomes of at-risk adolescents, results from two large quantitative studies (Ansong et al., 2017; Kiwanuka et al., 2015) suggest that students are more engaged and perform better when they are positively influenced by their peers and classmates. These findings are also in line with findings from smaller qualitative studies with convenience samples (Bojuwoye et al., 2014; Shilubana & Kok, 2005). Interestingly, the positive impact of peer influences and peer support have been found to contribute to the academic performance and school engagement of adolescents from different backgrounds, above and beyond teacher support (Ansong et al., 2017; Kiwanuka et al., 2015).

Others

Very limited evidence was found on the effects of others on the educational resilience of at-risk adolescents. Three qualitative studies using in-depth interviews asked adolescents about what and whom helped them to succeed in school despite their experiences of

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

socioeconomic disadvantage (Dass-Brailsford, 2005), non-parental care (Shilubana & Kok, 2005), and sexual abuse (Phasha, 2010). In these studies, adolescents named older siblings (Dass-Brailsford, 2005), and neighbors (Shilubana & Kok, 2005) as well as other adults from their communities (Phasha, 2010) as sources of care and support contributing to their wellbeing and educational needs.

4. Discussion

This review identified and included 19 relevant studies analyzing interpersonal factors associated with different adolescents' educational outcomes in Sub-Saharan Africa. The majority of studies investigating the educational resilience of at-risk adolescents used qualitative or cross-sectional research designs. On the other hand, several studies used random or large samples (not only including at-risk adolescents) in order to statistically test associations between interpersonal factors and a wide range of educational outcomes. The most important implications for research and practice yielded from this review are discussed in the next section.

4.1 Implications for research, programing and practice

Only two of the included studies assessed longitudinal predictors for good educational outcomes, making it difficult to draw clear conclusions on what helps at-risk adolescents to do well in school amidst exposure to socioeconomic disadvantage and violence. However, the findings of this review have several implications for research and practice:

1. There is a scarce number of studies investigating the educational resilience of at-risk adolescents in South Africa. Furthermore, most of these studies looking at the educational resilience of at-risk adolescents applied qualitative or cross-sectional designs

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

and focused on socioeconomically disadvantaged adolescent samples. Despite many adolescents in South Africa being exposed to high levels of violence at home, in school and in the community, there is not much evidence on what helps adolescents to cope and overcome these negative experiences in order to succeed in school.

2. There are mixed findings on the protective effects of parent and teacher interpersonal factors on the educational outcomes of at-risk adolescents in South Africa. These mixed-findings are difficult to interpret, given the different studies' sampling procedures, research methods and objectives. For instance, while some interpersonal factors have been identified to help at-risk adolescents to do well in school, study methods do not allow inference on whether these factors are just generally good for all adolescents (promotive factors) or particularly important in at-risk contexts (protective factors). The importance of knowing more about the nature of these positive interpersonal factors means that better recommendations could be offered to program and policy makers, to either develop universal or targeted interventions to improve adolescents' educational outcomes in South Africa.

3. Besides their parents, resilient at-risk adolescents identify peers, teachers and other adults as important sources of support and protection contributing to their educational outcomes. However, the majority of the quantitative studies identified in this review focused solely on testing the effects of parental involvement and other 'good parenting'-related factors on adolescents' educational outcomes. Thus, more research on the potential beneficial effects of other adults and peers on adolescents' educational outcomes is needed to complement qualitative study findings. This research could inform

Chapter 2 INTERPERSONAL PROTECTIVE FACTORS FOR EDUCATION AMONGST AT-RISK ADOLESCENTS ACROSS SUB-SAHARAN AFRICA: LITERATURE REVIEW

policy and interventions acting outside adolescents' homes, especially when adolescents do not have supportive and caring family environments.

4.2 Review Limitations

Only studies published in English were searched and screened given the scope and objectives of this review, and DPhil time and resource constraints. The candidate is aware that potentially relevant evidence from other Sub-Saharan countries might have been published in Portuguese, French or other languages. Secondly, no exclusion criteria was set up based on study design. Thus, the present review included qualitative evidence and other non-experimental quantitative research studies. Given that this is not a systematic but a comprehensive review, caution is needed in the interpretation of results and key findings. Therefore, these review findings need to be considered as explorative. The overarching objective of this review was to better inform the analysis of the present DPhil thesis.

4.3 Conclusions

While there is substantial evidence to identify both the socioeconomic risk factors and violence-related factors hindering adolescents' actual participation in education in disadvantaged contexts in South Africa, further research on which malleable interpersonal factors help adolescents to succeed in education despite risks is still needed. Further evidence could inform potential effective interventions which complement the current initiatives and policies targeting family relationships or school-level socioeconomic factors.

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

“Resilience is an inference about a person’s life and requires two fundamental judgements: (1) that a person is ‘doing ok’ and (2) there is now or has been significant risk or adversity to overcome” (Masten & Powell, 2003, p.4)

This chapter introduces the resilience conceptual and theoretical framework informing this DPhil investigation. First, a broader attention to key resilience related concepts, characteristics and models is given. Second, the specific resilience model applied to the domain of education amongst at-risk South African adolescents exposed to violence and socioeconomic disadvantage is described, in order to contextualize the current investigation.

1. Conceptualization of resilience

1.1 Risk and adversity

Regardless of the study and context, when investigating resilience, it is essential to investigate *threats to adaptation* first (Masten, 2014). Over the years, different terms have been used in resilience research to refer to these threats, such as *risk*, *adversity* or *stressful life events* (M. Wright & Masten, 2015).

Risk is not deterministic but a probabilistic term that involves elevated probability for a negative outcome to occur (Sameroff et al., 2003; M. Wright & Masten, 2015). Risk can be chronic or acute (Liebenberg & Ungar, 2009; Masten, 2014; Rutter, 2012), and multiple risks can exert a *cumulative risk effect* (Rutter, 1979; Schoon, 2006; M. Wright & Masten, 2015), contributing to what has been referred to as *significant adversity* (Luthar et al., 2000). Thus, prior to the study of protective factors, there needs to be an assessment to determine the level of risk in the study sample, its severity and chronicity as there might be a *dose-response effect* (Luthar, 1993; Schoon, 2012). In order to do so,

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

researchers try to identify specific risk factors, or variables potentially associated with an elevated probability of a negative outcome for a group of individuals (M. Wright & Masten, 2015). For instance, in the seminal Isle of Wight study, Rutter (1979) identified six risk factors associated with an increased probability of child psychiatric disorder amongst 10-year-old children in the UK. In this study, the probability for psychiatric disorder amongst children exposed to only one risk factor was similar to those children not experiencing any risk factors. However, the cumulative presence of two and four risk factors increased the probability for children suffering psychiatric disorders by four and ten times, respectively.

1.2 Positive adaptation

Similarly, positive adaptation has been analyzed using several concepts such as absence of psychopathology, success in age-salient *developmental tasks*, subjective well-being or relational competence (M. Wright & Masten, 2015). However, the assessment of positive adaptation based on developmental tasks has been increasingly used in resilience research. These developmental tasks have been defined as normative expectations or psychosocial milestones for development at different age periods in a given culture and historical moment (Schoon, 2012; M. Wright & Masten, 2015).

A fundamental concept of resilience research is that despite the exposure to the same type and level of risk, people may develop different outcomes: (“*multifinality*”; Cicchetti & Rogosch, 1996). Thus, some children will show *positive adaptation* or appropriate developmental tasks in the face of risk, while others similarly exposed to the same adversity will experience negative outcomes (Garmezy & Masten, 1986; Masten & Coatsworth, 1998). On the contrary, some people may also show the same outcomes despite differing exposures to risks (“*equifinality*”; Cicchetti & Rogosch, 1996).

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

The pioneering longitudinal studies conforming the widely known ‘Project Competency’

illustrate this point (Garmezy & Masten, 1986). This suite of studies followed community cohorts, as well as at-risk children for over 20 years, demonstrating that some children were “stress-resistant”. These “stress-resistant” children were able to demonstrate “competence” (i.e. effective functioning in different important environments) despite exposure to stressful life circumstances (Garmezy & Masten, 1986).

1.3 Protective factors

Resilience researchers examine variety in outcomes when looking for different combinations of factors and characteristics positively associated with good developmental outcomes despite significant adversity (Masten, 2014). The study of multiple pathways and relationships allow researchers to identify not only risk factors but also malleable *protective factors* that can be targeted with interventions (Axford & Berry, 2018; Liebenberg & Ungar, 2009). For instance, effective parenting (Walsh, 2012) or care from teachers (Theron & Engelbrecht, 2012) are two potentially malleable protective factors that have been associated with appropriate developmental tasks for children in at-risk contexts.

Protective factors should strictly be considered in the face of adversity (Rutter, 1987). Thus, protective factors are not to be confused with promotive factors. While *promotive factors* are generally associated with positive adaptation under most circumstances, *protective factors* are associated with positive outcomes particularly in a high-risk context (Masten & Powell, 2003; Sameroff et al., 2003; M. Wright & Masten, 2015). However, this distinction is not always clear, especially in studies with only high-risk individuals (Luthar & Zelazo, 2003; M. Wright & Masten, 2015).

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

1.4 Definition and characteristics of resilience

Definition

The term “*resilience*” has been used in different fields, such as ecology, engineering, and the behavioral sciences. Across the sciences, the concept of resilience refers to the “*adaptation and survival of a system after perturbation*” (Masten, 2014, p.9). In developmental science, resilience research studies have defined and used the construct of resilience very differently (Luthar, 1993; Masten, 2014; Rutter, 2012). Although it has been suggested that there are as many definitions as there are studies (Liebenberg & Ungar, 2009; Masten, 2014), there is broad consensus on key concepts (M. Wright & Masten, 2015).

Broadly speaking, resilience has been referred to as “*positive adaptation in the context of risk and adversity*” (Masten, 2014, p.9). While this definition might seem straightforward, the understanding of positive adaptation and risk in resilience research is influenced by the context, and it varies across cultures and populations (Liebenberg & Ungar, 2009; Schoon, 2012). Risk and good outcomes can be measured in many ways and on multiple levels of analysis, making it necessary to apply contextual judgement calls (Liebenberg & Ungar, 2009; Masten, 2014).

Resilience as a construct

Resilience is not an individual trait and so cannot be directly measured (Cicchetti, 2003). On the contrary, resilience is a hypothetical construct that must be inferred based on direct measurement of both risk and positive adaptation (Luthar & Zelazo, 2003).

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

Resilience as a process

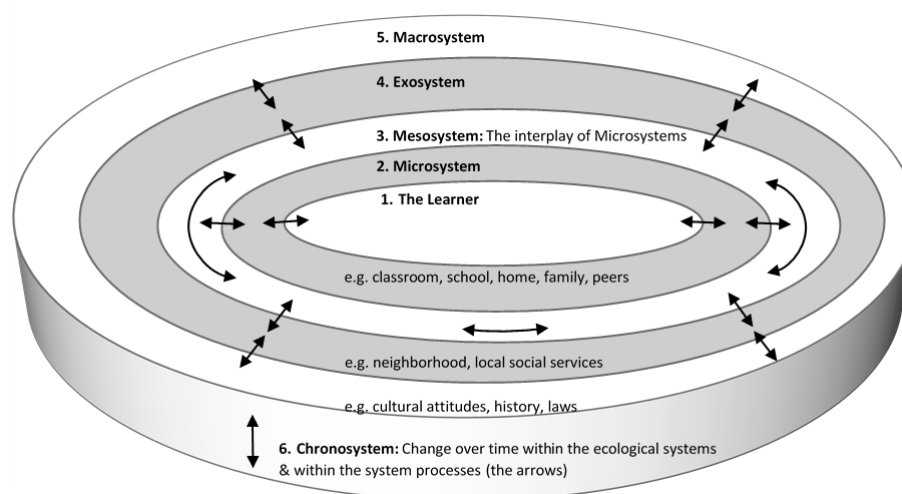
While many studies have erroneously termed resilience as the individual capacity to do well or to achieve outcomes related to well-being despite adversity, resilience should be conceptualized as a *process* (Masten, 2014). Resilience is not something that an individual has, but a process that families, schools, communities and governments enable (Ungar, 2012a). Thus, resilience is not a static trait but an interactive, dynamic concept inferred from at-risk individual variations in outcomes (Rutter, 2012; Schoon, 2012).

Resilience as an interactional, ecological and contextually dependent process

Furthermore, resilience is an ecological, multidimensional process (Ungar, 2012b, 2015). Positive adaptation or adaptive functioning despite adversity does not only depend on the characteristics and skills of the child but it will also be greatly influenced by the processes, interactions and opportunities accessible at a wider social context (Schoon, 2012; Ungar, 2012b). Hence, both the quality of opportunities in the *environments* and people's *interactions* with their environment matters (Ungar, 2012b). In fact, evidence on resilience suggests that the environment contributes to positive adaptation in the face of adversity even more than individual capacities (Ungar, 2012b).

Resilience is based on Bronfenbrenner's Ecological Systems Theory on child development, which explains how people do not exist in isolation but are embedded in interdependent ecologies (Bronfenbrenner, 1986). Figure 4 Developmental Ecological Framework shows how a child's development is influenced by multiple interacting levels of influence (Bronfenbrenner, 1986; Schoon, 2012), such as family functioning, peer relationships, schools, communities and culture (Gorman-Smith & Tolan, 2003).

Figure 4 Developmental Ecological Framework (Bronfenbrenner, 1986)



Furthermore, resilience is a dynamic developmental process (Cicchetti, 2003) reflecting changes in developmental-contextual systems over time (Ungar, 2012b). Thus, another important aspect of the ecological system is time, which has important effects on changes in trajectories (Schoon, 2012). Consequently, a child's developmental history should be a key aspect to investigate in resilience research (Yates, Egeland & Sroufe, 2003), as it is a critical contextual factor for explaining resilience aside from the current surrounding circumstances (Supkoff, Puig, & Sroufe, 2012).

Resilience is not culturally neutral

At times, some processes may be considered as protective in one context while proved to be risky in another (Sameroff et al., 2003). This means that risk and protective factors should not be considered universal, but culturally dependent. For instance, global evidence has shown that parenting styles or individualism/ collectivism values can be risk or protective factors on the same outcomes across contexts and cultures, or on different positive, expected outcomes (Theron & Liebenberg, 2015).

2. DPhil resilience model in education

2.1 Socioecological Resilience Model: variable-focused vs person-focused models

Variable-focused approaches use multivariate statistics to identify links among good outcomes showing positive adaptation, risk factors measuring adversity, and protective factors. These models identify differences among individuals and their interactions with their broader environment (Masten & Powell, 2003). In contrast, classic aggregated person-focused approaches identify people defined as resilient (showing positive adaptation despite adversity) and compare this group to other maladaptive groups facing similar adversity levels (Masten & Powell, 2003).

In this DPhil investigation, an interacting, socio-ecological understanding of resilience in education is applied (Ungar, 2012b), using both a person-focused analysis and a variable-focused model of resilience of high-risk adolescents (Masten, 2014). This dual approach allowed the candidate to assess the implications of different combinations of risk, vulnerability and protective factors in adolescents' lives (Luthar & Zelazo, 2003). A person-focused analysis was used in order to avoid a major limitation identified in resilience research and specifically in the education domain (i.e. studies of students from ethnic minorities in the US or orphans in Sub-Saharan Africa). These studies often assume that a child is at-risk merely because he or she belongs to a high-risk group (Gutman et al., 2002; Plunkett et al., 2008). Thus, in order to avoid treating all adolescents in the sample as a homogenous group and acknowledging that there might be variations in the impact of living in a socioeconomically disadvantaged community in South Africa, a person-focused analysis was first applied (Luthar & Zelazo, 2003).

2.2 High-risk adolescent sample: socioeconomic disadvantage and exposure to multiple types of violence

Based on previous research in South Africa and particularly of the Eastern Cape, and given the high-risk sample from socioeconomically disadvantaged communities, it is hypothesized that study participants have higher than usual probabilities of failing in education (Branson et al., 2014; Bray et al., 2010; Lam et al., 2011; van der Berg et al., 2016).

Hence, in the current DPhil investigation, living in a socioeconomically disadvantaged community in the Eastern Cape is considered as a *broader environmental risk* that adolescents in the sample are exposed to. These socioeconomically disadvantaged communities are characterized by a lack of services, very poor households and poor quality schools, as well as a high prevalence of violence within families, schools and communities (Africa Check, 2017; Leoschut & Kafaar, 2017; Sherr et al., 2016; Statistics South Africa, 2016c, 2016a, 2017b).

As mentioned in Section 2.1 of Chapter 3, it is important to avoid categorizing all adolescents in the sample as high-risk adolescents solely on the grounds of their socioeconomically disadvantaged context: disadvantaged black African areas in the Eastern Cape (Kumpfer, 1999; Luthar, 1993). Thus, a person-focused approach was first applied to identify groups of adolescents exposed to different combinations of violence risk factors showing different maladaptive/ positive educational outcomes (Luthar, 1993; Masten & Powell, 2003). This model was then followed by two variable-focused resilience models looking at hypothesized protective factors from parents and teachers.

2.3 Hypothesized interpersonal protective factors: compensatory vs moderating protective factors

Compensatory models (also known as additive models) of resilience account for the availability of quality resources at the individual and wider social context that can compensate or counterbalance the negative effects associated with exposure to risk (Masten & Powell, 2003; Schoon, 2012). In the compensatory or additive model, positive individual or environmental factors are independent of risk factors (Sacker & Schoon, 2007) and are directly associated with the outcome. In contrast, protective effects in moderating models show a buffering or ameliorative effect especially important if the risk level is high (Schoon, 2012). Thus, in the moderating models, protective factors are those that reduce the association between the risk factor and the outcome (Garmezy & Masten, 1986; Rutter, 1985), and are often identified via statistical interaction terms which are usually small in magnitude and difficult to detect in variable-focused analyses (Luthar & Zelazo, 2003). Different implications for potential interventions can arise from these two models (Sacker & Schoon, 2007). For instance, parental involvement and social support have been identified as compensatory protective factors for resilience in education despite economic hardship (Schoon, 2006). While children's academic ability and parental educational attainment are particularly important for those children growing up in very high-risk environments characterized by a range of socioeconomic risk factors at the family and community level (moderating protective factors; Schoon, 2006).

The focus of the current DPhil investigation is on the microsystem interactions ("*mesosystem*"; Bronfenbrenner, 1986) and hence the proximal environments of adolescents' families and schools (see "*mesosystem*" level in Figure 4 Developmental Ecological Framework; Bronfenbrenner, 1986). Thus, this thesis investigation focuses

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

exclusively on identifying protective interpersonal factors for educational outcomes at two different levels: family and school. Interpersonal protective factors for adolescents' education are relational or interactional factors that have been associated with adolescents' good educational outcomes in the context of risk. Potential protective factors investigated in this study are based on resilience theory and the educational literature. Previous research studies have identified a consistent supportive relationship with an adult as a protective factor contributing to the overall resilience of maltreated children (Bolger & Patterson, 2003; Egeland et al., 1993; Simpson & Ungar, 2012; Theron & Engelbrecht, 2012). Findings from the DPhil thesis literature review in Chapter 2 suggest that supportive relationships with adults can also exert a positive influence on the educational outcomes of at-risk adolescents in Sub-Saharan Africa (Ansong et al., 2017; Bellon & Ngware, 2017; Bojuwoye et al., 2014; Dass-Brailsford, 2005; Gudyanga et al., 2015; Kiwanuka et al., 2015; Moloi et al., 2010; Schulze & Lemmer, 2017; Theron & Theron, 2014). Thus, Study 2 of this DPhil thesis focuses on supportive parenting factors, while Study 3 focuses on teacher support. Both compensatory and moderator protective factors were investigated (Schoon, 2012).

2.4 Adolescents' maladjustment: school delay and low academic motivation

The resilience model was applied to the domain of education. While the value of education is perceived differently by people from different cultures and contexts (Ungar, 2015), succeeding in school is widely considered as desired developmental outcome and in particular, as an important factor in being valued and valuing others in many black South African families (Phasha, 2010; Theron & Phasha, 2015). Thus, in this study the educational outcomes showing adolescents' maladjustment are school delay and low academic motivation. Findings from this study on the educational resilience of

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK
adolescents from disadvantaged communities will not be extrapolated to define resilience across other life domains, such as in the emotional and psychological domains (Cicchetti & Lynch, 1993; Schoon, 2006).

2.5 Model implications and limitations

Protective versus promoting factors

One of the major limitations of this DPhil resilience model is that even if positive contributing factors to education are identified, given the nature of the sample (high-risk), it is not possible to conclude from the findings whether the identified positive factors have a *promotive effect* on the whole population of South African adolescents (Ungar, 2012a). This means that this study is not able to conclude whether the positive parenting and teacher factors observed are generally associated with positive educational outcomes (promotive factors), or if they are only particularly important for high-risk adolescents exposed to socioeconomic disadvantage and violence (protective factors; Ungar, 2012). Only if a low-risk group was added to the study would the subsequent comparisons amongst the low-risk and the high-risk groups doing well in school and the high-risk maladaptive groups make it possible to deduce which are promoting and which are protective factors (Masten, 2014). Thus, there is a great need for further empirical cross-sectional and longitudinal studies investigating outcomes', and risk and protective factors' homogeneity and heterogeneity amongst children, families and communities in South Africa (Rutter, 2012). For the sake of clarity, this DPhil study uses the following definition of "*protective factors*": factors that have been associated with adolescents' positive educational outcomes in the context of socioeconomic risk and violence exposure (Luthar, 1993).

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

Individual, peer and broader societal protective factors

This DPhil resilience model does not include individual or peer-related factors that might protect against adolescents' negative educational outcomes despite socioeconomic disadvantage and exposure to multiple types of violence. Although important factors such as age and gender are controlled for in the analytical models, other individual developmental factors, such as cognitive abilities and those measuring individual competence to self-regulate, were not considered. This is because overall these individual factors have been found to exert a weak effect on the educational outcomes of children and adolescents in high-risk contexts, compared to effects of environmental opportunities and social interactions (Sameroff et al., 2003). However, it is necessary to highlight the important mediating role of children's and adolescents' appraisal of violence and their own reaction to violence, which also impacts children's outcomes (Davies & Cummings, 1994; Grych & Fincham, 1993). Further studies should extend this DPhil resilience model by incorporating the child sphere into the analysis, together with family, school and community influences.

Especially during early adolescence and the transition to adulthood, the evidence suggests that interventions boosting resilience require a focus on the relational and broader social contexts at these two very sensitive periods of development, as these account for a great variation in outcomes (Bierman et al., 2004; Liebenberg & Ungar, 2009). However, it is important to highlight that good, supportive and loving relationships are not all that matters in resilience (Rutter, 2012). For instance, a child should also have access to broader physical and structural opportunities (Ungar, 2012b). In fact, although most early evidence-based interventions to prevent violence against children focus on factors at the

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK
individual, family or school level, these interventions should work alongside wider policy interventions targeting broader structural factors (Axford & Berry, 2018).

Friendship, social support and positive relationships with peers have been associated with positive educational outcomes amongst at-risk children in Sub-Saharan Africa (Ansong et al., 2017; Bojuwoye et al., 2014; Kiwanuka et al., 2015; Shilubana & Kok, 2005). Further research investigating interpersonal protective factors from peers against poor educational outcomes in adolescents exposed to socioeconomic disadvantage and multiple forms of violence in South Africa is needed.

Developmental trajectories

As mentioned in Section 1.4 of Chapter 3, resilience cannot be considered as something that applies at a single moment of time (Rutter, 1987, 2012). Although this DPhil investigation applies a longitudinal approach, the socioecological resilience model applied consists of a short snapshot of the academic lives of adolescent participants. Previous research has shown that promotive and protective factors associated with good developmental outcomes vary according to age (Sameroff et al., 2003). A broader ecological resilience approach using multiple time points may better explain why some high-risk children either catch up or fall further behind in school years (Sameroff et al., 2003; Ungar, 2012b).

Given that human development is curvilinear (Schoon, 2012), resilience studies using longer (or qualitative) approaches investigating children's cumulative history may also contribute to a deeper understanding on the educational trajectories of high-risk adolescents (Supkoff et al., 2012).

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

Parents and teachers as potential sources of harm

Family ties and values may or may not be protective depending on cultures, temporal factors and outcomes of interest (Ungar, 2012b). For instance, traditionally in South Africa, black children are reared in “*family communities*” or extended families, which involves respectful obedience to all adults and elders, biologically related or unrelated, as well as children’s contribution to the wellbeing of the extended family (Bray et al., 2010; Theron & Phasha, 2015). This upbringing offers children the opportunity to enact and experience *Ubuntu*’s ethic of care (Bray et al., 2010; Theron & Phasha, 2015). However, family communities and *Ubuntu*’s paradigm sometimes mean that children are left vulnerable to abusive adults and mistreatment (Nolte-schamm, 2006; Theron & Phasha, 2015).

Furthermore, parents and teachers can be both a source of protection and a source of risk, as is indicated in this DPhil investigation. For instance, in this DPhil model of resilience, parents were perpetrators of violence against their children, while they could also provide hypothesized protective factors such as social support. Indeed, adolescents in this DPhil investigation endorsed experiences of abuse by their caregivers, as well as reporting caregiver support, and positive and consistent discipline.

Finally, protective and risk factors can sometimes be two extremes of the same continuum and researchers need to choose between the two terms in resilience research (Luthar & Zelazo, 2003). For instance, one could measure discipline as a potential protective factor (consistent discipline) or as a risk factor (inconsistent discipline). In the DPhil resilience model, parenting factors were all measured by means of representing “good supportive relationships”.

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

School delay and Academic Motivation to assess adolescents' resilience in education

Despite exposure to socioeconomic and violence-related risk factors for education, some resilient adolescents show adequate school progression and perseverance to stay in school in South Africa (Bray et al., 2010; Dass-Brailsford, 2005; Phasha, 2010). Thus, school progression, school attainment, age-appropriate grade enrollment and academic motivation are considered important outcomes to measure resilience in education, amongst others. However, as commented in Chapter 1 in this thesis, neither school delay nor academic motivation necessarily reflect the actual learning of adolescents in disadvantaged contexts in South Africa due to the widespread crisis in the school system (Spaull, 2015; van der Berg et al., 2016). Thus, although less school delay could be considered an indicator for resilience in education, this is only a small sphere in a student's life. Further studies looking at protective factors for other academic and non-academic outcomes of highly at-risk adolescents are needed in order to inform future interventions that improve the resilience of adolescents exposed to multiple types of violence.

Chapter 3 RESILIENCE CONCEPTUAL AND THEORETICAL FRAMEWORK

Chapter 4 STUDY RATIONALE

Chapter 1 reviewed the evidence on adolescents' exposure to violence and socioeconomic disadvantage in South Africa, and its impact on educational outcomes. Chapter 2 introduced the interpersonal factors associated with good educational outcomes of at-risk adolescents in South Africa. Furthermore, Chapter 3 introduced the resilience conceptual and theoretical framework informing this DPhil investigation. Given this overview of the evidence presented in Chapters 1 and 2, and the resilience theoretical framework introduced in Chapter 3, Chapter 4 states the need for this DPhil investigation, as well as specifying the research aim and questions.

1. Need for the current study

Many adolescents from socioeconomically disadvantaged communities in South Africa are exposed to multiple types of violence at home, in school and in their communities. Chapter 1 demonstrated that while there is much evidence on the negative impact of exposure to socioeconomic disadvantage on adolescents' education, little is known in this context about the detrimental effects of exposure to multiple types of violence on the adolescents' educational outcomes. Furthermore, the comprehensive literature review in Chapter 2 has shown that little is known about the protective factors contributing to adolescents' resilience in education amid violence and socioeconomic disadvantage. In order to partially address this gap in knowledge, this DPhil thesis consists of two main analyses. First, this thesis examines the effects of being exposed to multiple types of violence in socioeconomically disadvantaged areas on adolescents' school delay and academic motivation in the Eastern Cape, South Africa. Second, by applying a socioecological resilience approach, this study then identifies two potential sources of resilience against the impacts of violence: parent and teacher malleable interpersonal factors that may be associated with good educational outcomes, despite adolescents' risks

and adversities. Therefore, the overarching aim of this thesis is to inform violence prevention and educational interventions, as well as policies concerning both at-risk adolescents and education.

2. Research Aims and questions

This DPhil thesis has two main aims. First, this thesis examines the effects of self-report past-month exposure to violence and socioeconomic disadvantage on adolescents' school delay and academic motivation (study/Paper 1). Second, following a socioecological resilience approach, this thesis then investigates parents⁸ and teachers as two potential sources of resilience in education (studies/Papers 2 and 3 respectively).

This study followed the stand-alone papers pathway for the completion of the DPhil in Social Intervention. Thus, the applicant wrote three articles. The three of them were recently accepted in three peer-reviewed journals (Journal of Interpersonal Violence, Child Abuse & Neglect, and the British Journal of Educational Psychology). The three articles answer the following research questions:

- Research question 1 (Paper 1): Is exposure to multiple types of violence related to school delay and academic motivation in adolescents from socioeconomically disadvantaged communities in the Eastern Cape, South Africa?
- Research question 2 (Paper 2): Can supportive parenting protect against school delay for adolescents exposed to multiple types of violence and socioeconomic disadvantage in the Eastern Cape, South Africa?

⁸ The terms "parent" and "parents" refer to the adult/ adults who takes on the primary childcare duties. See Key Terms introductory section and Appendix 9 for further information on the type of relationship to the adolescents that these caregivers had.

Chapter 4 STUDY RATIONALE

- Research question 3 (Paper 3): Can academic and emotional support from teachers protect against school delay for adolescents exposed to multiple types of violence and socioeconomic disadvantage in the Eastern Cape, South Africa?

PART II RESEARCH DESIGN AND METHODS

Part II of this thesis presents an overview of the research design and methods employed in the DPhil study. Chapter 5 consists of six sections: Section One is an overview of the Sinovuyo Teen Study, the larger research project in which this DPhil study is nested; Section Two summarizes fieldwork procedures and data collection instruments, as well as describing data management and data cleaning processes, and the measures used to collect data from adolescents, schools and teachers; Section Three explains and justifies the final sample for the analysis of the DPhil study, as well as presenting baseline comparisons of adolescents' characteristics in the DPhil final sample, compared to adolescents who dropped out from the trial and those who were out of school at post-test; Section Four describes all the ethical considerations of the study; Section Five summarizes the analyses conducted in the study; and finally, Section Six identifies the limitations in the methods used in this DPhil study.

Chapter 5 METHODOLOGY

“Measure what is measurable, and make measurable what is not so” —Galileo Galilei

(attributed; Cone & Gerson, 2012; Halloran, 2016)

1 Sinovuyo Teen Study

This DPhil study is nested in the Sinovuyo Teen Study. The Sinovuyo Teen Study uses an RCT design to evaluate the effectiveness of a parenting program, which took place in 2015-2016, primarily aimed at reducing harsh and abusive parenting. The current DPhil project uses the longitudinal self-report data from adolescent STS participants (baseline and post-test data)⁹.

⁹ Additionally, this DPhil study uses caregivers' and teachers' self-report data, as well as administrative school-level data collected from school secretaries or principals and online public school records. See *Demographic, socioeconomic and other descriptive characteristics* in Section 2.4, Chapter 5.

The Sinovuyo Teen Parenting Program is an evidence-based, low cost, manualized program. It is founded on evidence-based parenting principles, such as increasing praise and responses to behavior problems, home practice, illustrated stories using picture codes, traditional stories, role-play, modelling, interactive exercises, stress reduction, and group problem solving. The program consists of 14 weekly group sessions (four separate sessions for parents and adolescents and ten joint parent-adolescent sessions) and weekly tasks to complete at home (“home practice”). Sessions are delivered by local community workers and youth development facilitators trained by the NGO Clowns Without Borders South Africa. More information on the program content can be found in Cluver et al., (2018).

1.1 Research setting

The trial took place in 32 rural and eight peri-urban disadvantaged communities in the Eastern Cape, South Africa. Table 3 provides selected data on population, access to basic services, education and health outcomes, violence and crime in the Eastern Cape. Provincially and nationally representative statistics have shown that the Eastern Cape is amongst the poorest and most violent provinces in South Africa (Africa Check, 2017; Hunter et al., 2017; Scotti, Schaayi, Schneideri, & Sandersi, 2017; Statistics South Africa, 2011, 2015a, 2016a, 2016c, 2017b). In the Sinovuyo Teen S, very low-income and historically disadvantaged Xhosa communities were selected in the district municipalities of Amathole and Buffalo City Metropolitan. These communities were proposed by the national government, were situated within a one-hour drive from the main study office in King William’s Town and were especially characterized by high rates of unemployment, HIV prevalence and poor infrastructure. Figures 5 & 6 presents two pictures of two communities participating in the Sinovuyo Teen Study.

Figure 5 Informal Houses in a Peri-Urban Community



Figure 6 A Rural Village on the Outskirts of King William's Town



Table 3 Eastern Cape: People and Households

<i>Population</i>	
Persons aged 1 year or older speaking Xhosa ¹	82.7%
Unemployment (population 15 to 64 years) ²	43.8%, (the highest provincial unemployment rate amongst all SA provinces)
<i>Household poverty and hunger</i>	
Households running out of money to buy food (past 12 months) ¹	26.2%
Households skipped a meal because there was no food (past 12 months) ¹	17.6%
Households where grants are the dominant source of income ¹	59.1%
Households classified as 'multi-dimensionally' poor ¹	12.7% (the poorest province in SA)
<i>Access to basic services</i>	
Informal dwelling ¹	7.4%
Households with access to electricity ¹	85.4%
Households with access to piped water for drinking inside dwelling ¹	75.0%
Ideal clinics ^{3,4}	1.8% (14 out of 771 health facilities)
<i>Health</i>	
Infant mortality rate (IMR) ^{3,5}	40.3 per 1,000 live births (the highest IMR amongst all SA provinces)
Persons aged 15 and older showing signs of problem drinking by the CAGE ⁶ test ⁷	3.3% (women); 18.50% (men)
Percentage of women aged 15-19 who have had a live birth (teenage mothers)	14.2%
HIV prevalence ⁸	12.1%, contributing approximately 16% of the country's new HIV infections
Persons living with disabilities ⁹	6.8%
Percentage of women and men aged 15 and older with a body mass index (BMI) ≥ 35 ⁷	20.0%
Prevalence of hypertension amongst persons aged 15 and older ^{7,10}	49.8% (women); 47.3% (men)
<i>Educational attainment</i>	

Chapter 5 METHODOLOGY

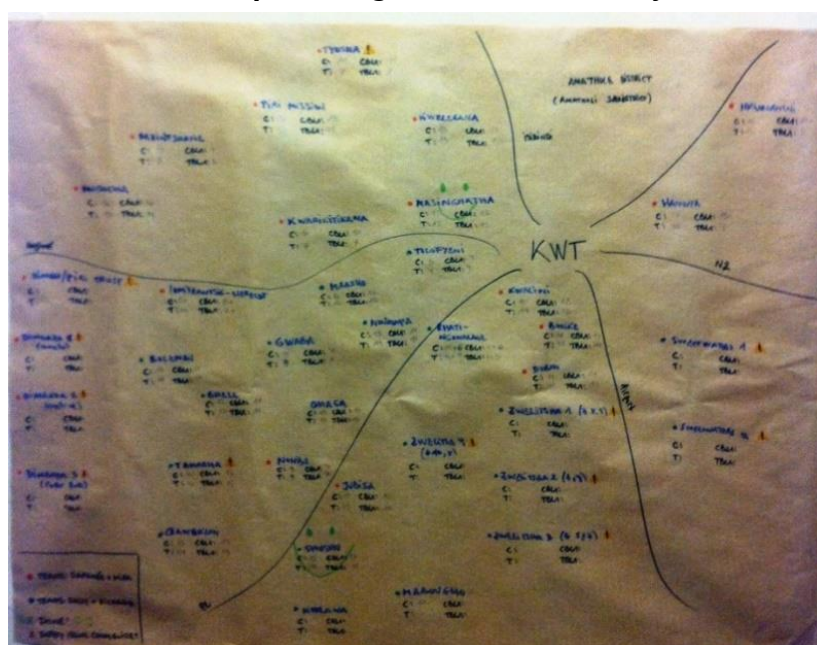
Persons aged 20 years and older with no schooling ¹	8%
Persons aged 20 years and older who completed primary education and higher ¹	77.6%
Persons aged 20 years and older who completed secondary education and higher ¹	32.2%
<i>Crime, violence and safety within the households %</i>	
Homicide rate ¹¹	55.9 people killed per 100,000 (the highest homicide rate amongst all SA provinces)
Households experiencing home robbery or house break-ins in the past 12 months ⁷	4.0%
Households feeling a bit or very unsafe during the day in the past 12 months ⁷	21.2%
Households feeling a bit or very unsafe at dark ⁷	69.5%
Ever-partnered women age 18 and older who have ever experienced physical violence by any partner ⁷	31.6% (the highest provincial prevalence amongst all SA provinces)
Ever-partnered women age 18 and older who have ever experienced sexual violence by any partner ⁷	6.7%

¹Community Survey in Brief 2016; ²Quarterly Labour Force Survey April-June 2016; ³South African Health Review 2017; ⁴Data from the Ideal Clinic Realisation and Maintenance (ICRM) programme. An 'Ideal Clinic' is defined as a clinic with good infrastructure (i.e. physical condition and spaces, essential equipment, and information and communication tools), adequate staff, adequate medicines and supplies, good administrative processes, and adequate bulk supplies; ⁵Data from Census 2011; ⁶The CAGE (Concern/Cut-down, Anger, Guilt, and Eye-Opener) test is used to screen for problem drinking and alcoholism. Two 'yes' responses indicate the possibility of alcoholism; ⁷South Africa Demographic and Health Survey 2016; ⁸Eastern Cape Provincial AIDS Council Annual Progress Report 2014-2015; ⁹General Household Survey 2015; ¹⁰An individual was classified as having hypertension if he/she had a systolic blood pressure of 140 mmHg or above, or a diastolic blood pressure of 90 mmHg or above at the time of the survey, or was currently taking antihypertensive medication to control his/her blood pressure. ¹¹Africa Check 2017. Data from Statistics South Africa's 2017 mid-year population estimates.

1.2 Study design

The study used a pragmatic cluster-randomized controlled trial with randomization at the village level, with one parenting group per village (see Figure 7: Fieldwork Cluster Map). Thus, the study randomly allocated 40 villages/ peri-urban sites to intervention (n=20) and control (n=20) clusters, with a total of 552 caregiver-adolescent dyads. Minimization techniques were used to ensure balance across trial-arm groups. Thus, data was stratified by rural/peri-urban locations. Baseline data collection took place from May until September 2015, while the post-test intervention surveys were conducted from January to July 2016.

Figure 7 Fieldwork Cluster Map: Approximate Locations of all Sinovuyo Teen Study Communities from King William's Town City Center



1.3 Screening and recruitment procedures

Overall, three recruitment strategies were used for the Sinovuyo Teen Study: first, school principals, social workers and community leaders were asked to identify families in their communities who might benefit from the program; second, community guides were recruited to help the research team reach more families following a door-to-door procedure; and third, some families self-referred when they found out about the program.

Chapter 5 METHODOLOGY

Overall, the majority of eligible adolescent participants were identified through the community guides and door-to-door visits by the research team. This is because teachers mainly referred adolescents with behavioral issues in the school, while social workers pointed to the poorest families, not necessarily experiencing arguments and fights at home.

Sinovuyo Teen Study inclusion criteria were: adolescents had to be 10 to 18 years old, they had to sleep at least four nights a week in the same household as their main caregiver, and they identified regular arguments at home in a brief screening questionnaire. However, no exclusion criteria were applied. No requirements for a biological relationship between caregiver and adolescent were considered given that many adolescents in South Africa do not live with their biological caregivers. This is due to the ‘domestic fluidity’ of adolescents. ‘Domestic fluidity’ is the common movement of children between extended households and schools across geographical spaces (Bray et al., 2010, p 53). It is explained by the large numbers of orphans, by close family members relocating to urban areas in search of job opportunities, and by the impacts of income poverty, violence and *community families* (Bray et al., 2010; Yaw, Heaton, & Kalule-Sabiti, 2007).

Further information on the Sinovuyo Teen Study ethics, recruitment, design and methods can be found in the RCT protocol (Cluver, Meinck, Shenderovich, et al., 2016; see Appendix 1) and the article reporting the effects of the program on the main and secondary outcomes (Cluver et al., 2018).

2. Data collection and management

2.1 Fieldwork procedures

A team of three project managers (the candidate being one of them), 10 fieldwork coordinators and 40 research assistants worked in the Sinovuyo Teen Study RCT data collection from May 2015 until July 2016. Research assistants conducted face-to-face interviews with adolescents before (baseline) and after (post-test) the parenting program. All research assistants were local to the area and spoke both English and Xhosa. In total, they received two three-day training rounds, adding up to more than 20 hours of training. They were trained on the study methods, data collection tools and interview techniques (see Figures 8 and 9 of the Sinovuyo Teen Study data collection team). Research assistants also received regular supervision sessions and weekly refreshers.

Figure 8 Data Collection Research Team: Team Building Day



Figure 9 Research Assistants: Baseline Training Day



Fieldwork challenges

There were several expected and unexpected challenges during fieldwork. During the period of data collection, access to electricity was unreliable in South Africa with constant power shortages in the remote research areas; electricity was cut off for between two and eight hours a day. Although official ‘load-shedding’ schedules were disseminated by local authorities, these were not always followed. Thus, the project had to invest in ‘Mifi’ devices and mobile phone technology with battery chargers. Figure 10 shows the DPhil candidate carrying out data checking during a power outage in the King William’s Town office.

Figure 10 Candidate Conducting Data Checking During a Power Outage



Various outbreaks of violence in the study areas occurred throughout 2015 and 2016: from riots related to protests over lack of services such as housing in research areas, to student riots over high tertiary tuition fees, to violent political rallies from opposition parties, to xenophobia-related violence outbreaks. To the candidate's knowledge, none of these violent outbreaks caused direct harm to either the research team or study participants. However, they did cause delays in data collection, the temporary close down of the research office on a few occasions, and extra costs for the project to ensure safe lifts home for research assistants and sometimes even Sinovuyo Teen Study participants. When safety could not be ensured, data collection was postponed until local research assistants considered the risk had ended.

Public transport in the study areas was virtually non-existent, and road infrastructure was extremely poor, resulting in the need for the research study to acquire more 4x4 vehicles than originally anticipated. Furthermore, to prevent hijacking (very common in these areas), all vehicles had to be decorated (see Figures 11 and 12). Additionally, road safety was an important problem in South Africa. Car accidents and road deaths are common. In fact, during data collection, the team was involved in two car accidents causing both physical and emotional harm to several team members.

Figure 11 Muddy Road to a Rural Community



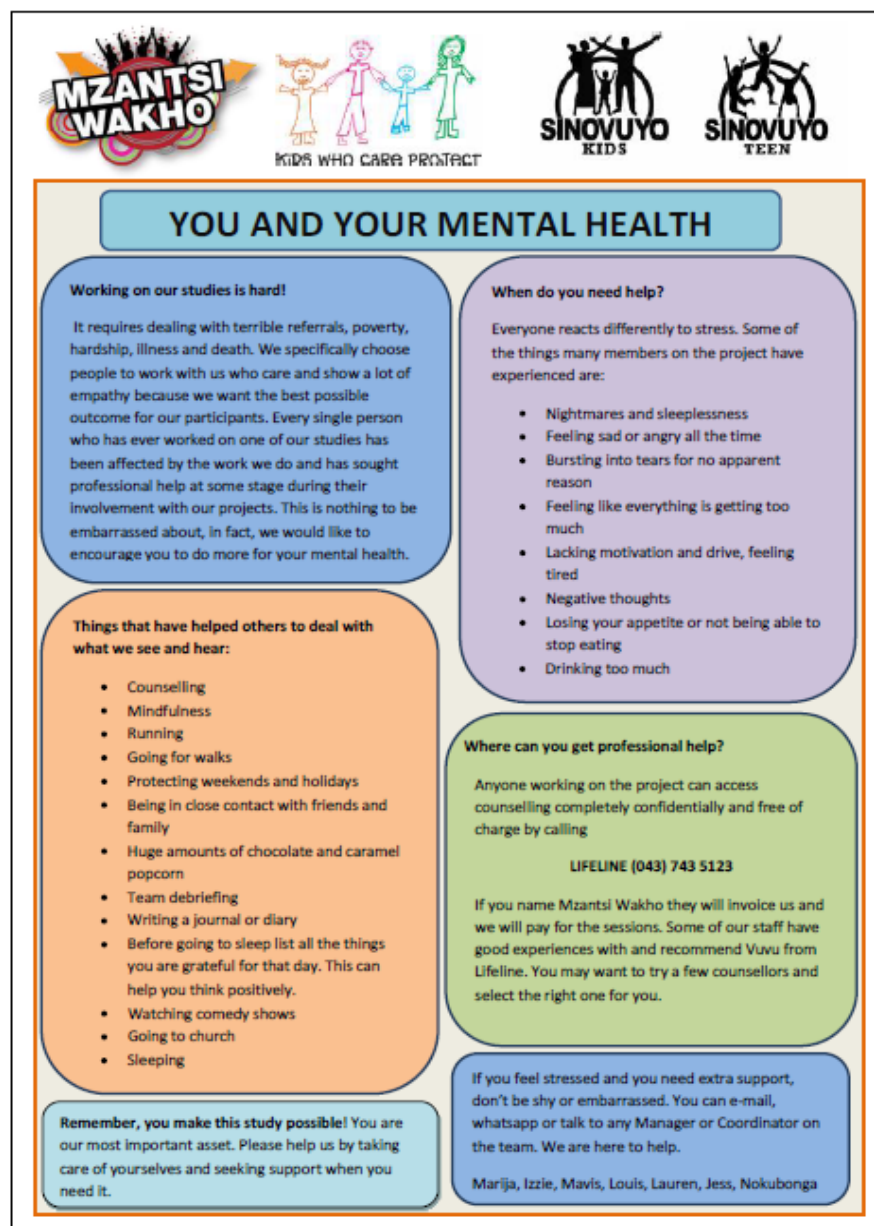
Figure 12 Decorated Research Vehicles



Given the overall exposure to traumatic and violent events, the team decided to implement both preventive and intervention measures: 1) a Safety Protocol was developed which all staff members had to read and endorse. The candidate (alongside two co-project managers) ensured the enforcement of the protocol for all staff members at all times. 2) Training on defensive driving techniques was made obligatory for any staff member driving study vehicles. 3) Mental health leaflets were also drafted, distributed and hung in the office walls for anyone to consult (see Figure 13).

Furthermore, due to certain trauma occurrences related to car accidents, listening to participants' distress, and frequent violence episodes in the communities where staff members lived, individual counselling services were arranged by the project on demand, and group counselling sessions by trained psychologists for the whole team were organized. Both were free of charge to their users.

Figure 13 Mental Health Leaflet



2.2 Data collection instruments

This DPhil uses data obtained by means of several data collection tools. Apart from adolescents' self-report data, the candidate designed and led data collection in schools where Sinovuyo Teen Study adolescent participants attended.

Adolescents data

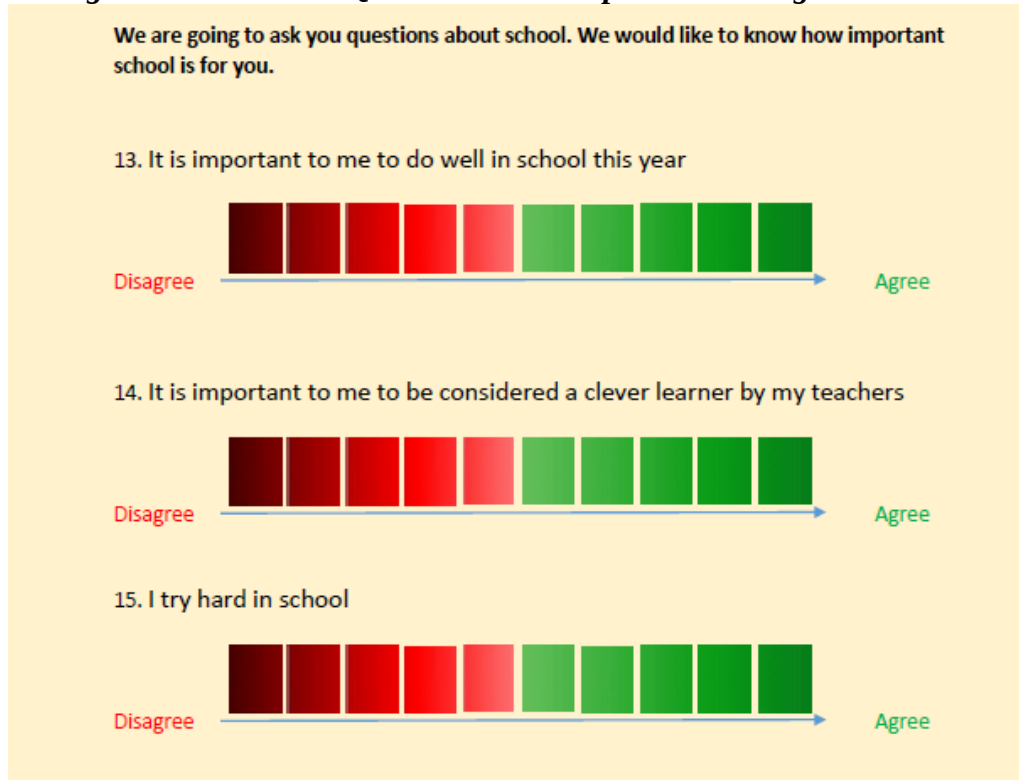
Questionnaire development and pilot

Adolescent questionnaires (known as 'teen questionnaires' in the Sinovuyo Teen Study) were designed by the research team in Oxford (the candidate was part of this team). The vast majority of the measures were selected because they had been used in similar samples in South Africa (see Section 2.4, Chapter 5) and had shown good psychometric characteristics in these similar samples. Adolescent report measures were piloted several times, first in Oxford amongst team members and then in South Africa. These questionnaires were finally adapted after the pre-post pilot study with 120 families from low-income Xhosa communities in the Eastern Cape, South Africa in 2014 (Cluver, Meinck, Yakubovich, et al., 2016). A few scales were replaced and some were adapted to suit Xhosa language and culture, and contextual characteristics. These changes were based on participants' quantitative data (missing data, scales' reliability alphas, and descriptive statistics) and also on research assistants' qualitative feedback on the questionnaires:

- 1) Some of the response categories were not well translated into Xhosa, as some concepts do not exist in Xhosa culture. For instance Likert-type responses using a scale from zero to 10 asking adolescents how much they agreed with the statements were not well understood in Xhosa culture. Thus, these items were adapted and piloted using a color-coded scale. A few tutorial items were introduced into the electronic questionnaires to ensure adolescents understood

how these scales worked. Adolescent questionnaire sample items using the color scale can be found in Figure 14.

Figure 14 Adolescent Questionnaire Sample Items Using Color Scales



- 2) The pre-post pilot study also helped the candidate to refine factors to be investigated. For instance, based on the literature review conducted in 2015 the candidate's original plan included the analysis of parental academic expectations for adolescents' education (Bray et al., 2010; Dass-Brailsford, 2005). However, descriptive results from the pre-post study conducted in 2014 showed that there was little variation in parents' responses (i.e. over 90% of parents in the pre-post study sample said they expected their children to finish school and pursue tertiary education). Thus, the candidate decided to not include this factor and scale.
- 3) Another example of items being adapted after piloting is the replacement of the terms 'mum' and 'dad' by the word 'caregiver' in the Alabama Parenting Questionnaire sub-scales. In Xhosa culture, children rarely live with their

biological parents and usually stay with extended families (biological or other).

Thus, sometimes, older sisters, grandmas, and ‘aunties’ are considered as ‘moms’ by Xhosa children, given that they are the people taking care of them every day.

Another key lesson learnt derived from the pilot study - the need to break adolescent baseline questionnaires into two different questionnaires - was advised for two reasons. First, the total amount of time needed in order for adolescents to respond to all the items in the baseline questionnaire was above two hours. Interviews needed to take place after school hours and before dark (due to security issues). Many adolescents walked from school to their homes and were only arriving home after 2 or 3pm. Sometimes, small breaks were needed in order to avoid adolescents losing concentration. The second reason involved not asking adolescents about very sensitive issues the first time they met a research assistant. That way, in most cases and when possible, the same RAs would interview the same adolescent twice, only asking them about abuse and parenting issues in the second face-to-face interview when certain rapport was built. Post-test questionnaires were not split into two. Other methods were used to ensure the feasibility of these interviews. For instance, for those adolescents arriving home late, interviews were conducted on Saturday morning or in the school grounds, either after school hours or during breaks.

Face-to-face interviews and Computer-Assisted Personal Interviewing (CAPI)

Research assistants conducted face-to-face interviews using tablet-based questionnaires translated into Xhosa within a Computer-Assisted Personal Interviewing (CAPI) process. For the more sensitive questions such as questions asking about child abuse, tablets with Audio Computer-Assisted Self-Interview Software (ACASI) options were available. For participants with low literacy rates and/or very low IT knowledge, the research assistant

would offer to read questions out loud and tick participants' answers in the tablet questionnaires.

Adolescent questionnaires

Table 4 shows a descriptive summary only for the Sinovuyo Teen Study adolescent questionnaire sections used in this DPhil study. Appendix 2 includes the full Sinovuyo Teen Study adolescent questionnaires with all their items.

Table 4 Summary of DPhil Adolescent Questionnaire

Instrument	Description/Sections	Factors/Constructs
Questionnaire 1	Section 1: About You	Demographics: age, gender, geographical location, main spoken language
	Section 2: At home	Household poverty: employment, type of dwelling, access to piped water
	Section 3: My school	Educational outcomes: school attainment, school enrollment, academic motivation, school progress School dynamics: teachers' academic support, perceived school violence School type: name, level, fees
	Section 4: Having what we need	Household poverty (basic necessities) and food insecurity
	Section 10: Me and my community	Direct and indirect exposure to community violence
	Section 11: My Social Network	Social support from caregivers and teachers
Questionnaire 2	Section 6: Challenges at home	Adolescent abuse by caregivers, domestic violence
	Section 7: My caregiver	Parenting practices: positive parenting, involved parenting, consistent discipline, regular monitoring

School-level data

Questionnaire development and pilot

School instruments were piloted in ten schools from low income Xhosa communities in the Eastern Cape at the end of 2014. Overall, school principals and research assistants reported that questions were clear and comprehensive. Some key advice was given on how questions should avoid creating false expectations about schools receiving material and financial resources (i.e. asking about how many computers the school has or the school's internet access in the school principal questionnaire); should avoid asking

teachers about their previous qualifications and training as they can feel intimidated or judged (some of them thought the research assistants were sent by the government); and should avoid social desirability bias by making sure interviewers explain they are not going to share information with anyone other than the research team members.

Only one of the schools where questionnaires were piloted had the administrative position of a school secretary. Hence, in schools where there were no secretaries, the school's principal answered the secretary's questionnaire. However, it was decided to leave two separate questionnaires for those schools in the main study with secretaries, to avoid consuming too much of the principals' time. School principals from poorly-resourced schools tend to be incredibly busy due to demands made by teachers, learners, and management. Thus, interviews with the principals were as short as possible, leaving administrative staff to answer administrative questions (when possible).

Most schools did not have electronic school records. School-level, paper-based records on national exams were accessed mainly via school principals, while in most cases, teachers had specific records for each of their learners. Hence, school records measuring the overall school performance were accessed via school principals, while specific Sinovuyo Teen Study adolescents' results were accessed via teachers.

During the pilot of the school questionnaires, an important lessons was learnt. While the length of the questionnaires varied from 15 to 20 minutes and school principals were willing to participate, a first visit by a senior person in the project (i.e. project manager or fieldwork coordinator) was advised to introduce the objective of the study and to set up appointments for interviews by local research assistants. The candidate and a trained fieldwork coordinator visited all schools to introduce the study from October to December of 2015.

School questionnaires

Three types of data were collected: first, observational data on school safety and infrastructure; second, administrative data (school administrative information and school records of Sinovuyo Teen Study participants); and third, self-report data on classroom learning environments and teaching experiences were collected from teachers and principals. Table 5 presents a summary of questionnaires used in schools. These were paper-based questionnaires. All questionnaires were in English; the main language used in teaching and administrative paperwork in state secondary schools in South Africa. These questionnaires can be found in Appendix 3. Although all of these questionnaires were used to collect school-level data, only data from the school secretary questionnaire and teacher questionnaire were finally used in the current DPhil analysis (see Section 2.2 in Chapter 5 for more information).

Table 5 Summary of School Instruments

Instrument	Description/Sections	Factors/Constructs
School principal questionnaire	School protection systems, school safety	School resources and organization
School secretary questionnaire	School socioeconomic characteristics, school infrastructures and resources, language of instruction, teacher-learner ratios	School administrative characteristics, resources and infrastructures
Teacher questionnaire (Maths and Xhosa/English teacher)	Classroom environment and management, teacher experience, and teacher work pressure	Teacher characteristics, classroom learning environment and teaching practices
Observational questionnaire – school	School learning environment	School learning environment
School records form	STS Participants' Annual National Assessment (ANA) and/or school Maths and Home Language results in grades 3, 6 and 9. Senior Certificate Examination school result; STS participants' school reports (Maths and Home Language subjects)	Educational outcomes: academic achievement in Maths and Home Language Overall school achievement

STS= Sinovuyo Teen Study

2.3 Data management, data cleaning and data protection notes

Adolescent data

Adolescent data was collected using the Open Data Kit (ODK), a free and open-source set of tools which help field and manage CAPI data collection solutions. CAPI techniques reduced data entry errors as adolescent responses were entered into the tablet (ODK Collect) during the interview process and then routinely transmitted to a password-protected, encrypted remote server where data was captured and stored (ODK Aggregate Platform). Only the study principal investigators and the three project managers had full access to this database. Adolescents' responses were only linked to a nickname chosen by the participant and a random serial number.

During the early days of data collection in 2015, a hard drive problem within Oxford University (where all data was stored) resulted in the loss of data on the main server. Although the team was able to restore most data using backed-up data, four adolescent baseline interviews were lost. Thus, to ensure data was protected in the event of further server failures, a technological consultant was hired to set up and manage data and backups on secure University servers. Consequently, three procedures were strictly enforced: first, anonymized and encrypted data from tablets was also backed-up daily on a hard-drive kept in a safety-box in the main office; second, all interviews were also backed up on an offline server and deleted from the tablets on a weekly basis; and third, a new online server was housed in MySQL and managed by the Department of Social Policy and Intervention in Oxford. Further information on data protection can be found in the Ethics considerations section (see Section 4, Chapter 5).

Fieldwork coordinators conducted instant checking before uploading data from the tablets to the server every day in the office after research assistants were back from the field. The DPhil candidate cross-checked online and offline server data with RA and

fieldwork coordinators' tracking lists weekly. Fieldwork coordinators and project managers conducted regular field visits to ensure data collection compliance with research protocols. Weekly meetings were also held at the main office to monitor data collection progress.

All adolescent participants received a unique code used for storage and analysis. Adolescent data was exported from the ODK server to SPSS where caregiver and adolescent baseline and post-test data were merged. The trial data was cleaned by the candidate and two other doctorate students (also Sinovuyo Teen Study project managers) from October 2016 to April 2017. Consistency cross-checks were conducted and discrepancies were discussed with the relevant RA and the overall research team in the field when needed. As CAPI procedures allow the inclusion of skip patterns in the questionnaires, adolescent missing data was very low: 0% in the variables analyzed as part of this thesis except for two variables with 0.9% missing data (see Section 5.2 in Chapter 5 for more information on missing data). A cleaned version of the caregiver and adolescent dataset was then merged to the school dataset and exported to Mplus and Stata by the candidate to conduct the analyses presented in the current thesis. In reporting the findings of this DPhil study, participant names were omitted and only general locations in which the study took place were reported.

School data

School data was collected using paper-based questionnaires. A blank dataset was designed and developed in SPSS by the candidate with the assistance of two fieldwork coordinators. Data capture, quality and consistency checks were conducted by one administrative research assistant and one fieldwork coordinator daily. They also cross-checked data captured by the other person to ensure data was entered accurately. Discrepancies were discussed with the relevant RA and the DPhil candidate. The DPhil

Chapter 5 METHODOLOGY

candidate also conducted regular checks and merged data. Team meetings were held in the main office to monitor data collection progress. The candidate visited 40 out of the 70 schools to ensure data collection was introduced and implemented according to the study protocols, while the trained fieldwork coordinator covered data collection in the rest of the schools

Teacher questionnaires were administered to adolescent participants' maths and first language teachers (English or Xhosa teachers). Due to high rates of missing data, it was not possible to link teacher self-report data to school records and adolescents' self-report data (more information on teacher missing data can be found in Section 5.2 in Chapter 5). Teacher missing data was mainly explained by the project's limited time and resources, coupled with a high rate of teacher absenteeism. As a result, the candidate decided to only survey schools where two or more Sinovuyo Teen Study adolescent participants were enrolled, as well as establishing a maximum number of three visits per school in order to cover all school staff interviews. While teacher self-report data was not used to triangulate adolescent self-report data on teacher support in Paper 3, descriptive analyses were conducted in May 2017 to contextualize the teacher sample. These analyses were included in Appendix 4 and summarize the socioeconomic and teaching characteristics of the Sinovuyo Teen Study adolescents' teachers.

The candidate attempted to collect data on academic achievement in Mathematics and Home Language using school reports and the school records of the South African standardized Annual National Assessment (ANA) Learner Report. Results in the two subjects were going to be standardized across schools and coded so that a third educational outcome would have been investigated (academic achievement). However, academic achievement was not able to be analyzed due to a) inaccurate and incomplete records within schools, and b) the last minute postponement of the writing of the 2015

ANA by the government¹⁰; announced one week before the planned date for administering the ANA. The postponement was in response to concerns raised by teacher unions related to the frequency of the administration of the ANA and its administrative demands.

School data was stored in a locked office during fieldwork and is currently kept safe in a locked room in the Department of Social Policy and Intervention in the University of Oxford. In reporting the findings of this DPhil study, school names were omitted and only general locations in which the study took place were reported. School data will be kept for a period of up to five years after collection in an anonymous version.

2.4 Measures

This section displays measures used in the analyses presented in the current thesis. Table 6 summarizes the study time points and time periods when these measures were used to collect data.

¹⁰ The ANA test was never performed, neither in 2015 nor 2016. In May 2017, the South African Minister of Basic Education announced that the ‘controversial’ ANA test would be replaced by the National Integrated Assessment Framework (NIAF). This new diagnostic test, which re-conceptualizes the former ANA test, will be sample-based and administered in Grades 3, 6 and 9, once every three years starting in 2019.

Table 6 DPhil Measures: Time Points and Periods

	Time point	Time period
Adolescent characteristics	STS trial baseline	May-September 2015
Household characteristics	STS trial baseline	May-September 2015
School characteristics	School data collection single time point	October-November 2015
Teacher characteristics	School data collection single time point	October-November 2015
Educational outcomes	STS trial post-test	January-July 2016
Exposure to violence	STS trial baseline	May-September 2015
Supportive parenting	STS trial baseline	May-September 2015
Teacher support	STS trial baseline	May-September 2015

STS= Sinovuyo Teen Study

Demographic, socioeconomic and other descriptive characteristics

Adolescent demographics

Adolescent age, gender, and basic demographic information, such as languages spoken at home and geographical location of residence, were asked using items from the South African Census (2001; Statistics South Africa, 2001). A dichotomous measure recorded whether adolescents were participants in the intervention or the control trial arm in the main Sinovuyo Teen Study trial; coded 0=control group (n=252) and 1=intervention group (n=251). Orphanhood was investigated by asking adolescents whether his/her biological father or mother had deceased.

Caregiver demographics and socioeconomic characteristics

Caregiver age, gender, and basic socioeconomic information, such as marital status, school attainment and current employment situation was asked using items from the South African Census (2001; Statistics South Africa, 2001). Furthermore, caregivers were asked about their relationship to the adolescent participant. Caregivers could choose one of the following options: biological mother, biological father, biological

grandmother/grandmother, biological grant-grandfather/ grant-grandmother, stepmother/stepfather, sister/brother, aunt/uncle or “*other*”¹¹.

Household socioeconomic characteristics

Adolescents were asked about poverty, food insecurity, unemployment and access to tap water at home. Poverty was measured using an eight-item scale recording adolescents’ access to basic necessities (i.e. ‘a visit to the doctor when someone was ill’) in the past month. These items were developed by the Centre for South African Social Policy (G. Wright, 2008) and endorsed by 80% of the South African population in a nationally representative survey (Pillay, Roberts, & Rule, 2006). Adolescents’ responses indicated whether or not they had enough money to cover each basic necessity by answering ‘yes’ or ‘no’. A composite total poverty score was calculated by adding the eight items so higher scores indicated higher poverty. Food insecurity was measured using one item from the South African National Food Consumption Survey of 1999 (Labadarios et al., 2007). The scale time periods were “over the past week” for the South African National Food Consumption Survey and “in the past month” for the socially-perceived necessities scale.

Household employment was measured using three adapted items from the South African Census 2001 (Statistics South Africa, 2011). Adolescents were asked whether anyone in the household had a regular job (every day), a part time job (some days each week), or a 'sometimes' job (i.e. just over harvest or on a building project). Finally, research assistants added information on the type of dwelling the adolescent lived in (formal, informal or traditional structures.) using an item from the South African Census (Statistics South Africa, 2011).

¹¹ Appendix 9 shows that the majority of adolescent caregivers in the sample were biological mothers (44.7%) or biological grandparents (32.6%).

School administrative and socioeconomic characteristics

School principals or administrative staff were asked about the socioeconomic characteristics of the school. Name of school, school level, school location, school funding type, school's quintile, and school language of instruction per grade were measured using items from the South African EMIS Annual School Survey for Ordinary Schools (Department of Basic Education, 2010). School assistance was measured using one question about the support offered by the school; this has been used in a previous study with vulnerable children in South Africa (Boyden & Dercon, 2008) and asks about the provision of school feeding schemes, free school transport, free school uniform, and free school books.

Teacher characteristics

Teaching practices and characteristics were measured using two sources. Six items from the South African EMIS Annual Educator Survey asked teachers about their teaching subject, grade, and experience, as well as asking about their confidence in and satisfaction with teaching their subject (Department of Basic Education, 2010). Teacher work pressure was measured using the eight-item Work Pressure Scale validated in South Africa (internal reliability $\alpha=0.69$; Laugksch, Aldridge, & Fraser, 2007).

Educational Outcomes

Table 7 presents a summary of the measures used to assess School Delay and Low Academic Motivation.

Table 7 School Delay and (Low) Academic Motivation Measures

Measures	Sum Scale/Scale (# Items)	Items	Items Response Codes
School Delay	SDECON T3 School Delay (1 item)		-3= Three grades higher -2= Two grades higher -1= One grade higher 0= Age appropriate grade 1= One grade lower 2= Two grades lower 3= Three grades lower
(Low) Academic Motivation	LAMST3 SAHA (4 items)	It is important for me to do well in school this year (reversed) It is important to me to be considered clever by my fellow learners and my teachers (reversed) I try hard in school (reversed) I can't wait to leave school	<i>How strongly do you agree with the statements?</i> Continuous response options from 0 to 9. Sum scale ranges from 0 to 36

SDECONT3= School Delay (continuous measure) measured at post-test; LAMST3 SAHA= Low Academic Motivation Social and Health Assessment measured at post-test.

School Delay

School delay was assessed using a continuous scale based on grade appropriateness by age in South Africa. The South African Schools Act of 1996 specifies that the age of admission to Grade 1 is the year in which a child turns seven (Republic of South Africa, 1996). However, a decision made by the Constitutional Court in 2004, resulted in the school-going age for Grade 1 being changed to age five if a child turns six on or before 30 June in the Grade 1 year (Department of Basic Education, 2010). Furthermore, many parents decide that their child should start school earlier. Subject to the availability of places, a learner may be admitted to Grade 1 at a younger age if it is in the child's best interests (UNESCO International Bureau of Education, 2006). Thus, school delay calculations used a conservative definition of age norm per grade (age-appropriate grade) in the current investigation (e.g. grade 1 + 6 = age 7; grade 9 + 6 = age 15; grade 12 + 6 = age 18). Adolescents who were enrolled in the age-appropriate grade scored 0 in the School Delay scale. A positive score indicated that the adolescent had dropped behind

the South African age-appropriate grade, while a negative score indicated a higher number of grades ahead.

(Low) Academic motivation

(Low) Academic motivation was measured using four adapted items from the standardized ‘Academic Motivation Scale’ of the SAHA study (Ruchkin, Schwab-Stone, & Vermeiren, 2004); the original scale was validated in the US ($\alpha=0.66$) and the adapted items were used in previous research with adolescents from socioeconomically disadvantaged communities in Cape Town (Ward et al., 2007). In the current investigation, these items were answered using a color-coded scale representing zero to nine with lower scores indicating higher levels of academic motivation. The items were adapted to fit the South African school context. For instance, “*It is important to me to do well in school this year*” was used instead of “*It is important to me to get at least a B average this year*”. Internal consistency (Cronbach’s alpha) for *Academic Motivation* was 0.67.

Exposure to violence

Six scores measuring the frequency of adolescents’ past-month direct and indirect exposure to six types of violence in the home, at school and in the community were used to measure *domestic violence between household members*, *adolescent physical abuse by caregivers*, *adolescent emotional abuse by caregivers*, *perceived school violence*, *witnessing community violence*, and *community violence victimization*. Each score was a standardized sub-scale that measured the frequency of past-month violence exposure. The six sub-scales had been previously used in other studies with similar samples in South Africa and other Sub-Saharan countries (see below in this Section). In the DPhil study, the six sub-scales were adapted to match both cultural and trial characteristics. Composite variables of the six forms of violence are summarized in Table 8.

Table 8 Measures Recording Exposure to Violence

Measures	Sum Scale (# Items)	Items	Items Response Codes	Scale Score Range
Domestic violence between household members	ICASTDVT ICAST (2 items)	In the past month, how many days were there arguments with adults shouting in your home? In the past month, how many days were there arguments with adults hitting each other in your home?	0= Never 1, 2 3, 4, 5, 6, 7 times 8= 8 or more times	0-16
Adolescent physical abuse by caregivers	PHYABCPT ICAST-TRIAL+ APQ (7 items)	In the past month, how often did an adult in your house ...Push, grab, or kick you? ...Shake you? ...Hit, beat, or spank you with a hand? ...Hit, beat, or spank you with a belt, paddle, a stick or other object? Your caregiver spanks you with their hand when you have done something wrong Your caregiver slaps you when you have done something wrong. Your caregiver hits you with a belt, switch, or other object when you have done something wrong.	0= Never 1, 2 3, 4, 5, 6, 7 times 8= 8 or more times Original response values were multiplied by 2. New response codes: 0= Never; 2= Almost never; 4= Sometimes; 6= Often; 8= Always	0-56
Adolescent emotional abuse by caregivers	ICASTEMT ICAST-TRIAL (8 items)	In the past month how often did an adult ...scream at you very loudly and aggressively? ...Call you names, say mean things or swear at you? ...Make you feel ashamed/embarrassed in front of other people in a way that made you feel bad? ...Say that they wished you were dead or had never been born? ...Threaten to leave you forever or abandon you? ...Lock you out of the home for a long time? ...Threaten to call evil spirits against you or hurt or kill you? ...Refuse to speak to you because they were angry with you?	0= Never 1, 2 3, 4, 5, 6, 7 times 8= 8 or more times	0-64
Perceived school violence	SCHUNST UNICEF (5 items)	I feel safe at school (reversed) I feel safe walking both to and from school (reversed) I sometimes don't use the toilets at school because they are not safe This school is being ruined by bullies This school is badly affected by crime and violence in the community	0= Definitely not true 1= Mostly not true 2= Mostly true 3= Definitely true	0-15
Witnessing community violence	WCOMVIOT SAHA (5 items)	Someone else being threatened Someone else being mugged and his/ her your stuff stolen People fighting Someone else being hit or harmed People being drunk or on drugs and being argumentative	0= Never 1= Once or twice 2= 3-5 times 3= More than 5 times	0-15
Community violence victimization	VCOMVIOT SAHA (5 items)	Threatened by someone else Mugged and have your stuff stolen Caught up in a fight Hit or harmed. With friends that were drunk or on drugs and argumentative	0= Never 1= Once or twice 2= 3-5 times 3= More than 5 times	0-15

ICASTDVT= ISPCAN Child Abuse Screening Tool Domestic Violence subscale; PHYABCPT= Physical Abuse; ICAST-TRIAL= ISPCAN Child Abuse Screening Tool trial version; APQCP= Alabama Parenting Questionnaire Corporal Punishment subscale; ICASTEMT= ISPCAN Child Abuse Screening Tool Emotional Abuse subscale; SCHUNST UNICEF= School Unsafety subscale UNICEF Safe and Caring Child-Friendly School Study; WCOMVIOT SAHA= Community violence victimization subscale Social and Health Assessment; VCOMVIOT SAHA= Community violence victimization subscale Social and Health Assessment

Violence happening at home

Three forms of violence happening at home were measured. *Domestic violence between household members, adolescent physical abuse by caregivers* and *adolescent emotional abuse by caregivers* were measured using a culturally adapted version of the ISPCAN Child Abuse Screening Tool (ICAST): Children's Version ICAST-C (Runyan et al., 2009), and the ICAST-TRIAL. The ICAST-TRIAL measured the prevalence of exposure to violence in the past month. Response codes range from '0' (Never) to '8' (8 times or more; Meinck et al., 2018). Higher scale scores indicated a greater frequency of violence experiences. Three additional items from the Alabama Parenting Questionnaire (APQ) Corporal Punishment sub-scale (Frick, 1991), also adapted to measure the past month, were added to the ICAST-TRIAL to composite the *adolescent physical abuse by caregivers* measure. APQ items' response options range on a 5-point Likert scale from 'Never' to 'Always'. APQ response values were multiplied by two in order to match the eight response options of the ICAST-C child physical abuse scale before summing. Internal consistency (Cronbach's alpha) of the violence subscales were 0.67 (*Domestic violence between household members*, two items), 0.81 (*Adolescent emotional abuse by caregivers*, four items) and 0.88 (*Adolescent physical abuse by caregivers*, four items). Further information on the psychometric properties of the ISPCAN Child Abuse Screening Tool for use in trials among South African adolescents can be found in Meinck et al. (2018).

Violence happening at school

Perceived school violence was measured using a composite scale with five items from the Student Survey Physical and Emotional Safety sub-scale used in the UNICEF Safe and Caring Child-Friendly Schools Study (UNICEF, 2009). This sub-scale measures how physically and emotionally safe students felt in school in the past term and includes

items asking about bullying and crime in both the school grounds and surroundings. The response code ranged on a four-point Likert scale from ‘Definitely not true’ to ‘Definitely true’ with higher scores showing higher levels of unsafety. The psychometric properties of the original student-reported measure can be found in an international study using data from 68 schools across the Philippines, Nicaragua and South Africa – including schools in extremely difficult socioeconomic conditions in the Eastern Cape province (Godfrey et al., 2012). In the global evaluation, internal consistency of the original Physical and Emotional Safety sub-scale across all countries was 0.74. Internal consistency of the perceived school violence scale in the current investigation was 0.94.

Violence happening in the community

Two forms of violence happening at the community level were measured. *Witnessing community violence* and *community violence victimization* were measured using risks identified in the child version of the standardized Exposure to Violence Scale from the Social and Health Assessment (SAHA) study (Ruchkin et al., 2004; Ward et al., 2007). This sub-scale was also validated in the US and has since been used in research with adolescents from socioeconomically disadvantaged communities in Cape Town (Ruchkin et al., 2004; Ward et al., 2007). The scale consisted of two five-item sub-scales assessing incidents of children witnessing and experiencing community violence in the past month. The response code ranged from “Never” to “More than 5 times”. In the current investigation, internal consistencies (Cronbach’s alpha) of the SAHA Exposure to Violence subscales were 0.78 (Witnessing community violence) and 0.63 (Community violence victimization).

‘Poly-violence’

Different approaches to measuring multiple exposure to violence amongst children and adolescents can be found in the literature. The term ‘poly-victimization’ has been largely

used to identify different groups of children exposed to different forms of violence across studies. For instance, ‘poly-victimization’ can refer to multiple victimizations across settings, multiple number of victimizations, exposure to multiple clusters of violence (physical, emotional or sexual abuse), or multiple victimizations by different perpetrators. Depending on the time period analyzed, poly-victimization usually denotes lifetime prevalence or past-year incidence of exposure to multiple types of violence.

Cumulative approach - The concept of ‘*poly-victimization*’ was first introduced by Finkelhor and colleagues in various studies in the US (Finkelhor, Hamby, Ormrod, R., & Turner, 2005; Finkelhor et al., 2007). In these studies, poly-victims were adolescents “who experienced four or more types of victimization in a given year” (Finkelhor et al., 2007). By creating a continuous variable, that is a summative scale based on the Juvenile Victimization Questionnaire, and applying different categories based on thresholds, Finkelhor et al. (2007) identified 22% of children as poly-victims in a study with 2,030 children aged 2–17. Finkelhor et al. (2007) justify using the cutoff of being exposed to more than four types of victimization based on the high frequency of victimizations and the inclusion of less severe types of victimization.

Ever since Finkelhor’s pioneering studies on poly-victimization, many authors have applied similar cutoffs to identify poly-victims using Finkelhor’s Juvenile Victimization Questionnaire. Such studies include those from countries such as the US, Finland, South Africa and Spain (Charak et al., 2016; Ellonen & Salmi, 2011; Leoschut & Kafaar, 2017; Pereda, Guilera, & Abad, 2014) . For instance, in South Africa, Leoschut et al. (2017) identified 64.9% of the total adolescents sample to be exposed to some level of life-time poly-victimization (i.e. exposed to more than four events), of which 12.6% were categorized as being exposed to “very high poly-victimization” (i.e. exposed to between 9 and 28 events).

Another cumulative approach to measuring lifetime poly-victimization has been introduced by Finkelhor. This approach is also based on a continuous summative score and takes into account the child developmental stage: poly-victims are the most victimized 10% of the sample in each age group, regardless of the actual number of victimizations (Finkelhor, Ormrod, & Turner, 2009; Finkelhor, Shattuck, Turner, Ormrod, & Hamby, 2011).

These cumulative approaches to either past-year or lifetime “poly-victimization” have two main limitations: first, cumulative indices and cutoff points are not able to consider repeated victimization or the frequency of episodes of violence; second, they give the same importance to all different types of experiences of violence.

Clustering approach - In contrast, another approach to measuring multiple exposure to violence consists of clustering victimizations across multiple areas (Holt et al., 2007). Using this approach, a poly-victim would be an adolescent exposed to more than one victimization cluster (e.g. exposed to both sexual and physical abuse by caregivers). For instance, results from a cross-sectional study in the US on the psychological and academic effects of exposure to bullying, family-based and community-based violence, indicated that 10% of adolescents were categorized as ‘multiple victims’ as they were exposed to more than one type of violence in the previous year (Holt et al., 2007). A similar rate for lifetime poly-victimization prevalence was estimated using this clustering approach in a cohort study following 1,000 participants from infancy to adulthood in Australia (14% adolescents were considered lifetime poly-victims; Price-Robertson, Higgins, & Vassallo, 2013).

In South Africa, studies using the clustering approach with adolescent community-based samples show considerably higher rates of lifetime ‘poly-victimization’, compared to results in HIC studies. In a study measuring six types of violence victimization (lifetime

direct and indirect adolescent domestic violence, child maltreatment, community violence and sexual abuse victimization) in Cape Town, 93.1% of learners aged 12 to 15 years were found to be exposed to at least two types of violence (Kaminer, Debra, du Plessis, Hardy, & Benjamin, 2013). In another study analyzing exposure to ten different types of violence (emotional abuse, community assault, domestic assault, witnessing community violence, witnessing domestic violence, indecent assault, neglect, rape, and domestic injury), 81% of adolescents aged 12 to 18 reported exposure to two or more types of childhood victimization in their lives (Collings et al., 2014). While clustering approaches discriminate across different types of victimizations, they have similar limitations to Finkelhor's cumulative approach: these approaches do not consider repeated victimization or frequency of exposure.

DPhil approach – Given the original approach applied to measure past-month multiple exposure to violence in this DPhil investigation, the term 'poly-victimization' was not used. For the purpose of this DPhil investigation, the term '*poly-violence*' is used to measure multiple and repeated direct and indirect past-month exposure to different forms of violence.

Given the high rates of multiple types of violence adolescents were exposed to in the home, at school, and in their communities, '*poly-violence*' was defined as being exposed to more than one of the six forms of violence already described above: *Domestic violence between household members*, *Adolescent physical abuse by caregivers*, *Adolescent emotional abuse by caregivers*, *Perceived school violence*, *Witnessing community violence* and *Community violence victimization*. Descriptive analyses showed that the majority of adolescents in the sample were exposed to '*poly-violence*' (93.8%). This rate was similarly high to rates observed in previous studies using clustering approaches with similar samples in South Africa (Collings et al., 2014; Kaminer, Debra et al., 2013).

While the operationalization of ‘*poly-violence*’ in this DPhil thesis does use the traditional method of clustering different victimizations across typologies (i.e. based on six types or sub-scales of violence), it also takes into consideration the frequency of exposure. Thus, the main contribution of the DPhil concept of ‘*poly-violence*’ is that it allows for the identification of various sub-groups of children with similar victimization profiles, based not only on the type of violence, but also on the frequency and exposure (Pears, Kim, & Fisher, 2008). This is particularly important as global evidence suggests that both repeated and multiple exposure to violence predict worse educational outcomes amongst adolescents (Romano et al., 2015). See the Analysis section in Chapter 5 for more information on the analysis used to identify different groups exposed to ‘*poly-violence*’.

Supportive parenting¹²

This DPhil study used five measures recording supportive parenting factors: *Positive parenting*, *Consistent discipline*, *Good monitoring*, *Parental involvement* and *Perceived social support from caregivers*. Composite variables for all supportive parenting factors are summarized in Table 9.

Positive parenting, *Consistent discipline*, *Good monitoring*, and *Parental involvement* were measured using adapted versions of the four standardized sub-scales from the Alabama Parenting Questionnaire (APQ; Frick, 1991). The APQ has been used in previous studies with vulnerable adolescents and orphans in South Africa (Lachman et al., 2014). A five-point Likert scale was used with response options ranging from ‘never’ to ‘always’. Adolescents’ recall period was adapted to past-month. The term “main

¹² The term “parenting” refers to primary caregiving (i.e. primary childcare duties). See Key Terms introductory section and Appendix 9 for further information on the type of relationship to the adolescents that these caregivers had.

caregiver” was used instead of “mom” and “dad”. In the current study, internal consistencies (Cronbach’s alpha) of the APQ subscales were: 0.88 (*Positive parenting*), 0.67 (*Consistent discipline*), 0.75 (*Good monitoring*) and 0.86 (*Parental involvement*).

Perceived social support from caregivers was measured using an adapted version of the Medical Outcome Social Support Survey (MOSS; Sherbourne & Stewart, 1991a). The MOSS scale, which has been used in previous studies with vulnerable adolescents in South Africa (Cluver & Gardner, 2007), includes questions about emotional/informational, tangible, affectionate, and positive social interactions. In the current study, adolescents were asked how often in the past month they received different types of support from their caregivers. Response options ranged on a three-point Likert scale from “never” to “sometimes” to “always”. Internal consistency (Cronbach’s alpha) for *Perceived social support from caregivers* was 0.99.

Table 9 Measures Recording Supportive Parenting Factors

Measures	Sum Scale (# Items)	Items	Items Response Codes	Scale Score Range
<i>Positive Parenting</i>	APQ (6 items)	Your caregiver tells you that you are doing a good job Your caregiver rewards you or gives you something extra to you for behaving well. Your caregiver compliments you when you have done something well. Your caregiver praises you for behaving well Your caregiver hugs or kisses you when you have done something well. Your caregiver tells you that he/she likes it when you help around the house	0= Never 1= Almost never 2= Sometimes 3=Often 4= Always	0-24
<i>Consistent Discipline</i>	APQ (6 items; all reversed)	Your caregiver threatens to punish you and then does not do it You talk your caregiver out of punishing you after you have done something wrong. Your caregiver gives up trying to get you to obey them because it's too much trouble. Your caregiver lets you out of a punishment early (like lift restrictions earlier than they originally said) Your caregiver does not punish you when you have done something wrong The punishment your caregiver gives depends on their mood	0= Never 1= Almost never 2= Sometimes 3=Often 4= Always	0-24
<i>Good Monitoring</i>	APQ (10 items; all reversed)	You fail to leave a note or let your caregiver know where you are going You stay out in the evening past the time you are supposed to be home Your caregiver does not know the friends you are with You go out without a set time to be home You go out after dark without an adult with you. Your caregiver gets so busy that he/she forgets where you are and what you are doing You stay out later than you are supposed to and your caregiver doesn't know it. Your caregiver leaves the house and doesn't tell you where he/she is going. You come home from school more than an hour past the time your caregiver expects you to be home You are at home without an adult being with you	0= Never 1= Almost never 2= Sometimes 3=Often 4= Always	0-40
<i>Parental Involvement</i>	APQ (10 items)	In the past month...You have a friendly talk with your caregiver Your caregiver helps with some of your special activities (such as sports, church youth group) You play games or do other fun things with your caregiver Your caregiver asks you about your day in school Your caregiver helps you with your homework Your caregiver asks you what your plans are for the coming day. Your caregiver accompanies you to a special activity. Your caregiver talks to you about your friends You help plan family activities Your caregiver goes to a meeting at school or a caregiver/teacher conference	0= Never 1= Almost never 2= Sometimes 3=Often 4= Always	0-40
<i>Social Support</i>	MOSS (19 items)	How often can you count on {caregiver_name} to listen to you when you need to talk? How often does {caregiver_name} give you information and help you understand the situation? How often does {caregiver_name} give you good advice about a crisis? How often can you confide or talk about your problems with {caregiver_name}? How often does {caregiver_name} give you advice you really want? How often can you share your most private worries and fears with {caregiver_name} How often you do turn to {caregiver_name} to talk about how to deal with your personal problems Does {caregiver_name} understand your problems? When you are ill in bed, how often does {caregiver_name} help you? How often does {caregiver_name} take you to the doctor when you need to go? How often does {caregiver_name} prepare meals for you when you are unable to do it? How often does {caregiver_name} help you with your daily chores if you are sick? How often does {caregiver_name} show you love and affection? How often does {caregiver_name} make you feel loved and wanted? How often does {caregiver_name} hug you? Do you have a good time with {caregiver_name}? Do you and {caregiver_name} relax together? Do you and {caregiver_name} do enjoyable things together? Do you often do things with {caregiver_name} to help you get your mind off things	0= Never 1= Sometimes 2= Always	0-38

APQ=Alabama Parenting Questionnaire; MOSS= Medical Outcome Study Social Support Survey

Teacher support

A diversity of measures and terms can be found in the literature investigating the effects of support from teachers on students' outcomes. Most studies analyze the positive relationship between 'teacher support' and educational outcomes using a very broad concept of 'support' which includes academic support, as well as social subtypes of support, such as emotional, informational, instrumental and motivational support (Ahmed, Minnaert, Werf, & Kuypers, 2010; Ansong et al., 2017; Brewster & Bowen, 2004; Zee, Koomen, & Veen, 2013). Nonetheless, other studies have focused on the direct and unique positive effects of teacher emotional support (Rudasill, Gallagher, & White, 2010; Ruzek et al., 2016) or teacher academic support (Chen, 2005) on the academic achievement of middle and high school students. In the current study the following measures were used to investigate teacher support: *Perceived academic support* and *Perceived emotional support*. Adolescents were asked to think about their overall perception of their mathematics and first language teachers when replying to these questions.

Academic support from teachers was measured via student self-report using three items adapted from the Emotionally Supportive Climate scale used in the UNICEF Safe and Caring Child-Friendly Schools Study (UNICEF, 2009). This scale measured the extent to which students felt listened to and helped by teachers as well as other adults at school. The response code was adapted to a scale from 0 to 8 (see Table 10). Internal consistency (Cronbach's alpha) for *Academic support from teachers* was 0.84.

Emotional support from teachers was measured via student report using three items from the emotional/information subscale of the Medical Outcome Social Support Survey (MOSS; Sherbourne & Stewart, 1991a). Responses correspond to a three-point Likert

scale ranging from “Never” to “Always” (see Table 10). Internal consistency (Cronbach’s alpha) for *Emotional support from teachers* was 0.87.

Table 10 Measures Recording Teacher Support of the Students

Measures	Authors	Items	Items Response Codes	Scale Score Range
Academic Support	UNICEF (2009). 3 items	1. Teachers notice if I am having difficulty with my lessons 2. I can talk to teachers at school if I am having problems in class 3. My teachers give me feedback on my assignments that help me to improve my work	0= Never 1, 2 3, 4, 5, 6, 7 = that many times 8= 8 or more times	0-24
Emotional Support	Sherbourn e and Stewart (1991). 3 items	1. Is your teacher someone you can count on to listen to you when you need to talk? 2. Is your teacher someone to confide in or talk to about yourself or your problems? 3. Is your teacher someone who understands your problems?	0= Never 1= Sometimes 2= Always	0-6

3. DPhil final study sample

In total, 552 adolescents aged 10 to 18 and their primary caregivers were eligible to participate in the overall Sinovuyo Teen Study. Of those, four adolescents did not have baseline 1 interviews (adolescent questionnaire 1; see Section 2.3, Chapter 5) and thus, they were not included in the DPhil study. Finally, only adolescents who did not subsequently drop out from the trial (n=22), or had no missing data on educational outcomes (i.e. were out of school) in the post-test survey (n=23) were included in the current DPhil analysis (total included n=503).

3.1 Sinovuyo Teen Study: study dropouts

Table 11 compares baseline characteristics of those adolescents included in the final DPhil sample with adolescents who dropped out from the Sinovuyo Teen Study trial.

Chapter 5 METHODOLOGY

Bivariate regressions were run using *Stata* in which each potential predictor was tested to determine whether a significant difference in baseline characteristics existed between adolescents included in the final DPhil sample and those who dropped out from the Sinovuyo Teen Study trial. Standard errors were clustered at the community level (Glennester & Takavarasha, 2013). Results showed that adolescent dropouts reported higher exposure than included adolescents to *domestic violence between household members* ($p < 0.05$), and *community violence victimization* ($p < 0.01$) at baseline.

Table 11 Comparison of Baseline Adolescents' Characteristics: Adolescents in the DPhil Final Sample Versus Adolescents who Dropped Out From the Sinovuyo Teen Study Trial

	DPhil Final sample n=503	STS trial dropouts n=22	Bivariate Regression Coefficient	<i>p value</i>
	Mean (SD) or n (%)	Mean (SD) or n (%)		
<i>Demographics and socioeconomic characteristics</i>				
Adolescent Age (years)	13.71 (2.34)	14.68 (2.63)	-0.13	0.272
Poverty	3.28 (2.16)	3.09 (2.14)	0.10	0.365
<i>Past-month exposure to violence</i>				
Domestic violence between household members	2.44 (3.57)	3.32 (3.94)	-0.10	<0.05
Physical abuse by caregivers	7.28 (8.63)	7.95 (13.62)	-0.01	0.670
Emotional abuse by caregivers	6.03 (7.98)	9.5 (17.48)	-0.00	0.880
Perceived school violence ^{1,2}	8.9 (2.75)	8.55 (2.28)	0.00	0.177
Community violence (victimization)	0.72 (1.31)	0.95 (1.33)	-0.15	<0.01
Witnessing community violence	2.73 (2.69)	2.55 (2.28)	0.16	0.195
Exposed to 'poly-violence'	472 (93.8%)	20 (90.9%)	0.10	0.307
Exposed to all six forms of violence	57 (11.3%)	2 (9.1%)	1.30	0.289
<i>Supportive parenting</i>				
Positive parenting	14.49 (5.89)	13.27 (7.19)	0.03	0.665
Consistent discipline	16.62 (4.68)	17.36 (4.95)	0.05	0.371
Good monitoring	26.61 (7.39)	26.45 (7.14)	-0.00	0.982
Involved parenting	18.61 (9.18)	16.81 (10.34)	-0.02	0.696
Social support	22.32 (7.67)	22.33 (7.85)	-0.01	0.788
<i>Teacher support</i>				
Academic support ^{1,2}	6.90 (2.14)	7.00 (2.29)	-.02	0.233
Emotional support ³	3.30 (1.96)	3.7 (2.15)	-.20	0.119

STS= Sinovuyo Teen Study; Note: significant *p*-values are bolded.

¹Adolescents who were out of school at baseline did not answer questions about perceived teacher academic support and perceived school violence; ²In total, three out of the 22 adolescents who dropped out from the Sinovuyo Teen Study trial at post-test were out of school at baseline, while five out of the 503 adolescents in the final DPhil sample were out of school at baseline; ³Adolescents who were out of school at baseline replied to questions about perceived emotional support from their former maths or language teacher.

3.2 Out-of-school adolescents

Table 12 compares baseline characteristics of those adolescents included in the final DPhil sample with adolescents who were out of school at post-test. Bivariate regressions results showed that adolescents who were not in school at post-test were older ($p < 0.05$), compared to adolescents included in the final DPhil sample. Furthermore, adolescents out of school at post-test reported experiencing higher poverty ($p < 0.05$), more frequent

community violence (witnessing; $p < 0.01$), more consistent discipline ($p < 0.001$) and higher social support from their parents ($p < 0.01$) than adolescents included in the final DPhil sample at baseline.

Table 12 Comparison of Baseline Adolescents' Characteristics: Adolescents in the DPhil Final Sample Versus Adolescents Who Were Out of School at Post-test

	DPhil Final Sample (n=503)	Out-of- School Adolescents (n=23)	Bivariate Regression Coefficient	<i>p-value</i>
	Mean (SD) or n (%)	Mean (SD) or n (%)		
<i>Demographics and socioeconomic characteristics</i>				
Adolescent Age (years)	13.71 (2.34)	16.83 (1.56)	-0.78	<0.05
Poverty	3.28 (2.17)	4.09 (2.29)	-0.46	<0.05
<i>Past-month exposure to violence</i>				
Domestic violence between household members	2.44 (3.57)	3.96 (4.44)	-0.08	0.640
Physical abuse by caregivers	7.28 (8.63)	7.65 (4.16)	0.00	0.993
Emotional abuse by caregivers	6.03 (7.98)	12.35 (15.34)	0.09	0.131
Perceived school violence	8.9 (2.75)	----- ¹	----- ¹	----- ¹
Community violence (victimization)	0.72 (1.31)	1.13 (1.22)	0.15	0.592
Witnessing community violence	2.73 (2.69)	3.74 (2.51)	-0.28	<0.01
Exposed to 'poly-violence'	472 (93.8%)	22 (100%)	----- ²	----- ²
Exposed to all six forms of violence	57 (11.3%)	3 (13%)	-0.63	0.582
<i>Supportive parenting</i>				
Positive parenting	14.49 (5.89)	10.17 (6.18)	0.19	0.085
Consistent discipline	16.62 (4.68)	18.71 (5.43)	0.24	< 0.001
Good monitoring	26.61 (7.39)	24.00 (8.07)	0.10	0.121
Involved parenting	18.61 (9.18)	11.35 (9.69)	-0.09	0.178
Social support	22.32 (7.67)	25.5 (7.22)	-0.17	< 0.01
<i>Teacher support</i>				
Academic support ¹	6.90 (2.14)	----- ³	----- ³	----- ³
Emotional support ⁴	3.30 (1.96)	1.75 (2.89)	0.00	0.960

Note: significant *p*-values are bolded.

¹Adolescents who were out of school at baseline did not answer questions about perceived teacher academic support and perceived school violence; ²Stata omitted 'poly-violence' from the analysis, this was indicative of no variation between the two groups; ³In total, 14 out of the 23 adolescents who were out of school at post-test were already out of school at baseline. Therefore, there was insufficient data to run mean comparison analyses of perceived academic support by teachers of adolescents in the final sample and adolescents who were out of school at post-test;

⁴Adolescents who were out of school at baseline replied to questions about perceived emotional support from their former maths or language teacher.

4. Ethics considerations

4.1 Ethical and regulatory compliance

Ethical approval was obtained from Research Ethics Committees at the University of Oxford (SSD/CUREC2/11-40), the University of Cape Town (PSY2013-46), and the European Research Council (ERC-2012-StG 313421-PACCASA), as well as from the South African Departments of Social Development, and of Basic Education. The candidate sought and obtained permission from the provincial Department of Basic Education to visit and collect data in schools. Ethics approval and permission letters can be found in Appendix 5.

4.2 Informed consent and assent

Traditional chiefs play an important role in most of the communities where the Sinovuyo Teen Study was conducted (especially in rural locations). Thus, the research team held informative meetings with traditional chiefs in most of the communities. In these meetings, informed, verbal consent was sought from traditional chiefs on behalf of a group prior to the start of recruitment procedures in their communities. Furthermore, verbal informed consent was sought from the municipal or district authorities. In those peri-urban communities without traditional authorities, informed verbal consent was sought only from municipal or district authorities.

All caregivers gave written informed consent to participate in the study. Caregivers also had to give their consent for their adolescents to participate and for the research team to visit their adolescents' schools. Consent forms were read aloud for participants with limited literacy. Given that children cannot give proper informed consent, they should only participate in research studies if they can directly benefit from their participation (Schenk & Williamson, 2005); this is of particular importance in research studies analyzing family violence (Berry, 2009). However, although children cannot give informed consent, their

wishes to participate in a research study should be respected regardless of their parental consent (Berry, 2009). In the Sinovuyo Teen Study, adolescents had to additionally give their assent to participate (World Medical Association, 2001). Privacy, confidentiality and anonymity issues were added into the caregiver and adolescent information sheets. In order to avoid social stigmatization and over-disclosure amongst potential participants (Berry, 2009), information sheets included *compromise language* (e.g. “*Sinovuyo Teen is a programme to help parents and their teenagers to get on better*”). Information and consent sheets can be found in Appendix 6.

Finally, school principals gave informed written consent for their schools to be part of the study and for them to be interviewed by the research team. All teachers had to give their written consent to participate in the study as well. Privacy, confidentiality and anonymity issues were added into the school and teacher information sheets about the study (see Appendix 7). Out of the 70 visited schools, only one school refused to participate.

Caregivers, adolescents, school principals and teachers were informed about their right to refuse to take part in the study, their right to withdraw consent at any time and their right for their decision to refuse participation to not have any negative consequence (World Medical Association, 2001). Adolescents were informed that confidentiality would be maintained unless interview responses disclosed them as being under significant risk (Berry, 2009).

4.3 Privacy, confidentiality and potential risks to participants

The Sinovuyo Teen Study trial evaluated a program aimed at preventing child maltreatment by parents/ caregivers. In order to avoid stigma in their schools and

communities, the study was introduced as a program to support families with adolescents (see Section 4.2, Chapter 5).

In order to protect confidentiality of all adolescent participants, the vast majority of interviews were conducted in their homes, in a private space and without the close presence of their caregivers. Confidentiality was maintained, except if participants were at risk of significant harm or requested assistance. Although research assistants were trained to flag issues, different types of automatic referral flags were included into the adolescent and caregiver questionnaires so action was not only subject to research assistants discretion and moral obligation to report (Berry, 2009). A total of 33 adolescents and their families were referred to social and health services due to family issues, sexual abuse and suicide risk. At post-test, one adolescent had passed away due to prior bad health conditions not related to participating in the program.

Safety is an issue in many of the communities where adolescents lived. Thus, the research team made sure that most of the interviews were conducted in their homes and before dark. If adolescents needed to be interviewed outside of their homes, interviews were done right after school time or during class breaks, in a private space.

4.4 Reimbursement for participation

A small ‘thank you pack’ of stationery was given to all adolescents for each completed interview as well as refreshments and certificates of participation. No monetary compensation was given either to adolescents or their families.

5. Data analysis

Besides baseline comparisons, which were analyzed using Stata (see Section 3, Chapter 5), all statistical analyses were conducted using SPSS and the Mplus v7.0 software (Muthén & Muthén, 2010).

5.1 Prospective analysis

This DPhil study uses baseline and post-test self-report data from the Sinovuyo Teen Study adolescent participants. Risk and protective factors were measured before the educational outcomes (Murray et al., 2009). Thus, a prospective approach (five to nine months) is applied in order to investigate the detrimental effects of violence and socioeconomic disadvantage on adolescents' education, as well as focusing on the interpersonal protective factors from parents and teachers contributing to adolescents' resilience in education in South Africa.

5.2 Missing data

Adolescent self-report data

Adolescent self-report data was collected using ODK CAPI system. This procedure ensures that participants cannot skip unanswered questions therefore minimizing the risk of missing data¹³. Thus, the only missing data in this study is due to intentional skip patterns in the questionnaires. For instance, adolescents who were out of school at baseline did not have to answer to questions assessing perceived violence in school and teacher academic support. Consequently, the only missing adolescent data in the DPhil study is on the *Perceived school violence* measure (0.9%) and the *Perceived teacher academic support* (0.9%), as five adolescents out of the final DPhil sample (n=503) were out of school at baseline. Maximum-likelihood estimation was used to estimate missing data on the latent profile risk indicators in Mplus.

¹³ In compliance with ethics issues, participants were regularly reminded by research assistants about their right to refuse to answer questions and their right to withdraw at any time during the process. Research assistants were trained on how to comply with ethics matters at all times.

School administrative data

Adolescents attended 94 different schools. Out of the 503 adolescent participants, 24 were the only Sinovuyo Teen Study participants in their schools. Therefore, due to resources and time constraints, school level characteristics were only collected from the 70 schools with two or more Sinovuyo Teen Study adolescents. This accounted for 94% of the sample's adolescents (473 adolescents). Administrative data for those schools where data was not collected directly (n=24) was retrieved from the online master lists of South African schools (Department of Basic Education, 2016b; Van Wyk, 2015). Master lists of schools are maintained by the provincial Departments of Basic Education and together include a record of each school in South Africa. Lists include data such as sector – state or private -, phase, school feeding scheme and quintile – school ranking indicating the socioeconomic status of the school-. Thus, there was not administrative and socioeconomic data missing at the school level.

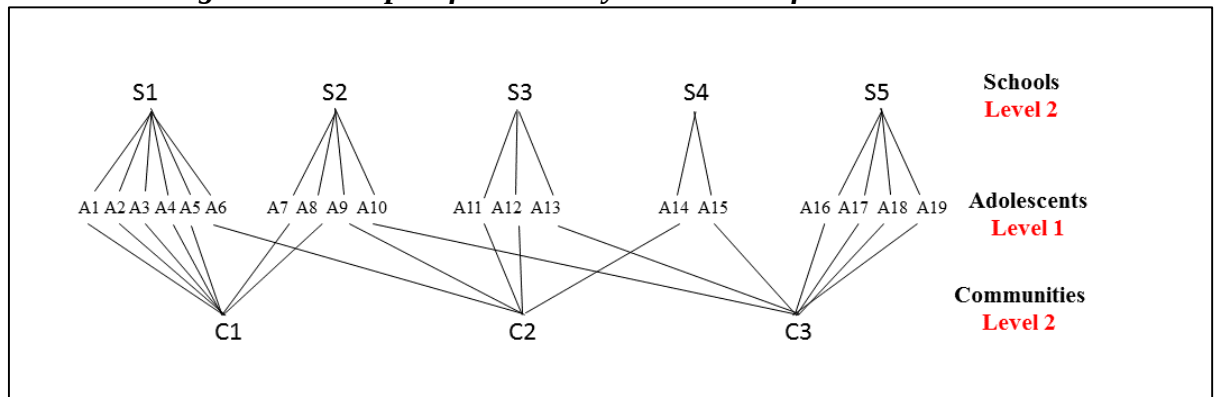
Teacher self-report data

Due to high rates of missing data, it was not possible to link teacher self-report data to school records and adolescents' self-report data. Overall, 232 teachers were interviewed. There was missing data for 42 adolescents' English teachers (8.35% of the total DPhil sample) and 71 adolescents' Maths teachers (15.11% of the total DPhil sample). The final number of teachers who were not interviewed (and should have been) cannot be known. Often, and especially in primary schools, adolescent participants had the same English and/or Maths teacher regardless of the grade they were in. Some other times, adolescents had the same teacher for both subjects. These cases were only clarified once the research team visited the school and had access to school records (when these were available), otherwise it was confirmed by the teachers and principals. Descriptive statistics of these 232 teachers can be found in the afterword analysis in Appendix 4.

5.3 Cross-classified multilevel data

The 503 adolescents (level 1) were nested in 94 schools (level 2) and in 40 communities (level 2); level 2 shows cross-classified higher levels. Thus, DPhil data has a two-way cross-classified (non-hierarchical) structure: the schools' and communities' hierarchies are crossed with one another (see Figure 15).

Figure 15 Example of a Two-Way Cross-Classified Structure



Identification codes were allocated to all adolescents' schools and communities to inform the potential effects of nesting within schools and communities (multilevel data). These codes were used to investigate the design effects and the Intra Class Correlations (ICC). Table 13 summarizes the design effects and ICC results.

Table 13 Design Effects and Intra Class Correlations (ICCs) of Cross-Classified Levels of Nesting (n=503)

	School Delay			Low Academic Motivation		
	Design effect	Variance Estimate (p-value)	ICC	Design effect	Variance Estimate (p-value)	ICC
Community	1+ (12.575-1)*0.152 = 2.759	0.152 (0.03)	8.4%	1+ (12.575-1)*0.254 = 3.94	0.254 (0.201)	2.3%
School	1+ (5.41-1)*0.129 = 1.568	0.129 (0.072)	7.2%	1+ (5.41-1)*0.294 = 2.3	0.294 (0.212)	2.8%

School Average cluster size= 5.41 (cluster sizes ranged from one to 23; 22 schools had only one STS participant)
Community Average cluster size = 12.575 (cluster sizes ranged from seven to 16); *Significant p-values are bolded.*

The effect of families being nested within communities (though not schools) was statistically controlled for via the specification of clustered standard errors. This decision to control for the effect of nesting within one of the two higher levels (cross-classified multilevel data) was made on the basis of the results showed in Table 13. Putting the statistics within Table 13 into context, within studies considering educational outcomes, a threshold ICC value of 10-15% is considered a *medium to high effect* (Hox, 2010). Thus, the ICCs shown in Table 13 indicated that a small proportion of variance in school delay was due to differences between communities (variance estimate=0.15, $p<0.05$, ICC=8.4%). However, no significant results were found due to differences between schools on either school delay or academic motivation. This might be explained by the very similar type of schools that the adolescents attended (see schooling characteristics in Table 16 in Chapter 6). However, it is also very plausible that the average low number of adolescents at the school level made the detection of school effects problematic. Thus, the study sampling may have also accounted for lack of school level variance detected. Different samples and study designs may yet show that these schools, and other schools, may have an effect on adolescents' school delay of academic motivation.

5.4 Study 1: Latent Profile Analysis (LPA)

Measuring exposure to multiple forms of violence: rationale for the use of LPA

Exposure to multiple forms of violence has been operationalized using two different approaches: variable-centered (i.e. cumulative risk indices) versus person-centered approaches (i.e. Latent Class and Latent Profile Analysis). By creating a continuous measure - an index summing dichotomized items (at-risk thresholds) from several subscales-, researchers have traditionally considered endorsement to any dichotomized item in the index as a presence of violence victimization (Charak et al., 2016; Finkelhor et al., 2007). Using this construct of violence victimization, researchers have classified adults

and children into different groups or classes. These classes range from “none”, “least victimized–exposed” or “one type of violence victimization” to “highly poly-victimized–exposed” and/or, “more than three violence victimizations” (Charak et al., 2016; Finkelhor et al., 2007). Thus, for these researchers, “poly-victimization” indicates that a person has experienced at least four different types of violence victimizations in the past year (Charak et al., 2016; Finkelhor et al., 2007). This approach to “poly-victimization” has two limitations: first, these models are not able to consider repeated victimization or the frequency of episodes of violence; second, they give the same importance to all different types of experiences of violence.

A second method is to use a person-centered alternative that considers multiple violence experiences based on various violence scale scores, such as Latent Class Analysis (LCA) or Latent Profile Analysis (LPA; Holt et al., 2007). This approach allows comparisons between different levels of exposure to violence by asking participants how often they have experienced different types of victimization in the past month. For instance, by using LPA, participants can be classified in groups based on their victimization profiles (for example, ‘high neglect/ low physical and emotional abuse’ profile versus ‘high neglect, physical and emotional abuse’ profile versus ‘high sexual and emotional abuse’ profile). These profiles can then be compared to each other based on their mean scores (Holt et al., 2007). Compared to variable-centered techniques, LPA avoids the use of arbitrary cut-off points on underlying dimensions and makes it possible to retain the continuous nature of frequency ratings of exposure to violence (Pears et al., 2008). Thus, the strength of this method, which has been used in other studies on child maltreatment (Charak et al., 2016; Clarke et al., 2016), is its ability to identify various sub-groups of children with similar victimization profiles, based on the frequency and type of violence exposure (Pears et al., 2008). Thus, in contrast to variable-centered models, person-centered

models allow researchers to identify differences in the exposure to multiple and co-occurring risks and outcomes of interest between sub-groups of children (Masten, 2014). Furthermore, Latent Class and Latent Profile Analysis are increasingly used to measure the interplay of different risk factors and multiple forms of exposure to violence (Charak et al., 2016; Clarke et al., 2016; Lanza, Tan, & Bray, 2013; Petrenko, Friend, Garrido, Taussig, & Culhane, 2013).

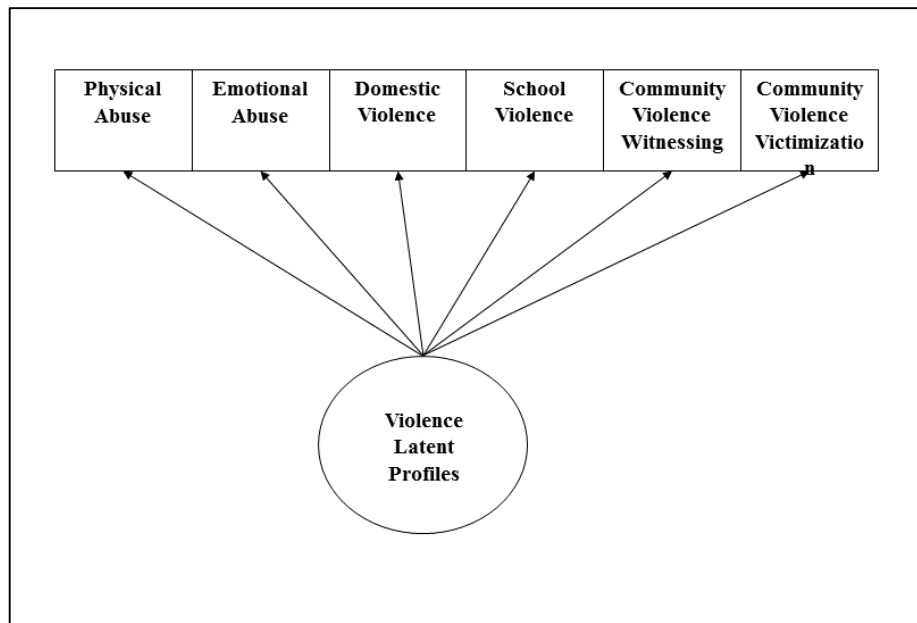
In this DPhil investigation, two types of data were collected to measure violence risk indicators. While *domestic violence between household members*, *adolescent physical abuse by caregivers*, and *adolescent emotional abuse by caregivers* were measured using count data (number of times a violent episode occurred in the past month), *perceived school violence*, *witnessing community violence* and *community violence victimization* were measured using the Likert response format (ordinal data to indicate frequency of exposure to violence). Nonetheless, all items within each violence sub-scale were added and treated as continuous (see LPA Model, Chapter 5 for more information). Thus, LPA was therefore applied rather than LCA, which is based on categorical risk indicators.

LPA Model

In this thesis, Latent Profile Analysis (LPA) was used to explore distinct patterns of exposure to violence in the sample. LPA is a person-centered type of Structural Equation Model (SEM); a mixture model which identifies unobserved homogeneous groups or subpopulations from a heterogeneous population; these homogeneous groups are based on mean-level response patterns across multiple continuous risk indicators (Masyn, 2013).

Violence indicators

The following six violence risk indicators were included in the LPA: *domestic violence between household members*, *adolescent physical abuse by caregivers*, *adolescent emotional abuse by caregivers*, *perceived school violence*, *community violence (victimization)* and *community violence (witnessing)*. In the current investigation, incidences of *domestic violence between household members*, *adolescent physical abuse by caregivers*, and *adolescent emotional abuse by caregivers* were measured using count data (number of times a violent episode occurred in the past month). *Perceived school violence*, *witnessing community violence* and *community violence victimization* were measured using the Likert response format (ordinal data to indicate frequency of exposure to violence). In the current study, all item scores within each violence sub-scale were added. LPA was therefore applied, treating ordinal data as ordinal approximations to continuous variables. Thus, the total number of categories for *perceived school violence*, *witnessing community violence* and *community violence victimization* were 20, 25 and 25 respectively. This is a common practice used by researchers within surveys, as ordinal variables with five or more categories can often be treated as continuous variables without detriment to the analysis (D. R. Johnson & Creech, 1998; Norman, 2010; Zumbo & Zimmerman, 1993). The non-normal distributions of the violence indicators are shown in the histograms presented in Appendix 8, the Shapiro-Wilk test and the Kolmogorov-Smirnov test confirmed the rejection of normality for each of the six indicators (Chakravarti, Laha, & Roy, 1967; Shapiro & Wilk, 1965). Figure 16 shows the LPA model with the six violence indicators and the latent profile variable.

Figure 16 LPA Model: Violence IndicatorsEducational outcomes: model-based approach

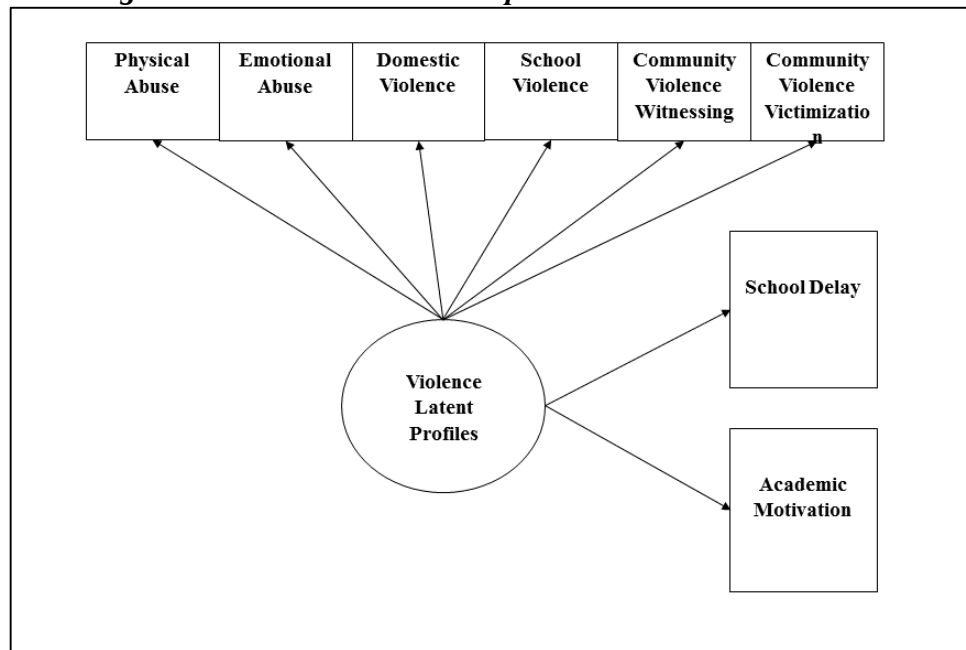
Researchers have typically used ‘classify-analyze strategies’ to investigate the effect of C (latent class) on Z (distal outcome). These strategies include two steps. In the first step participants are assigned to a latent class and in the second step class membership is treated as known (as an observed variable) and used to predict the distal outcome. The main limitation of the two-step approaches is that any association between C and Z is ignored in the classification step, meaning that the effect of C on Z estimated in the second step can be diminished (Lanza et al., 2013).

However, new statistical approaches are now available. Monte Carlo simulation studies comparing model-based approaches and identify-analyze approaches have shown that the one-step approach produces significantly less biased estimates of the effect compared to two-step approaches, as well as being a more consistent model (as n increases, bias is reduced; Lanza et al., 2013). For instance, model-based approaches are “*less vulnerable to potential model mis-specification of the marginal distribution of Z, as Z is estimated directly from the observed data*” (Lanza et al., 2013, p. 18). It is then not only possible,

but also recommended, to simultaneously model the latent class variable and the effect of C on Z in one step using a model-based approach.

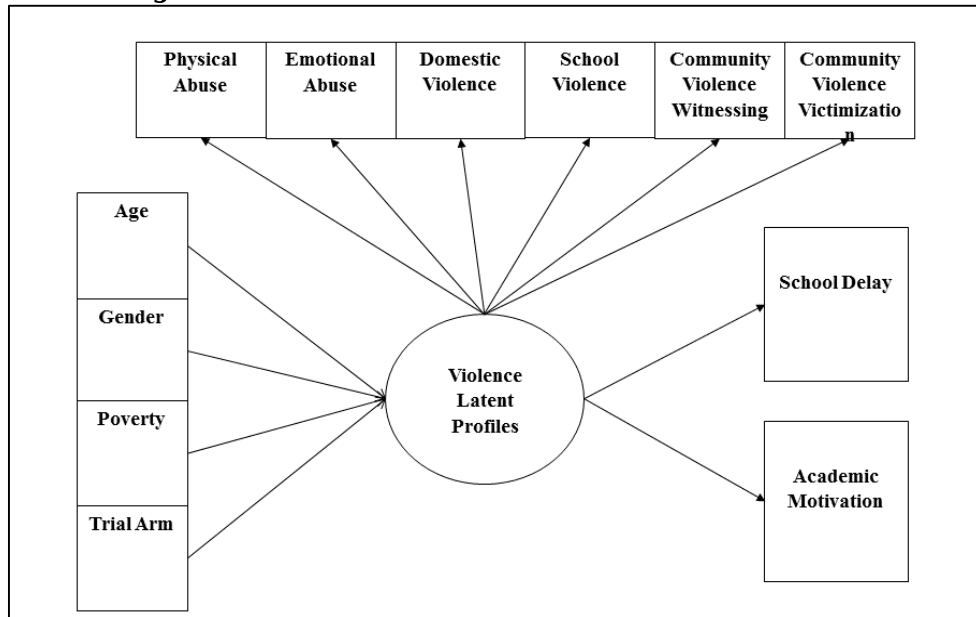
This model-based approach means that the distal outcome is included in the model as a covariate (as another latent class indicator), which makes the model more flexible, compared to the two steps classify-analyze approaches (Lanza et al., 2013). For instance, treating Z as an indicator requires fewer assumptions such as the normal distribution of Z. This is of importance in the present thesis, as histograms in Appendix 8 show the non-normal distributions of the educational outcomes.

Thus, in order to compare educational outcomes across profiles, a one-step ‘distal-as-indicator’ model was applied (Lanza et al., 2013) with six exposure-to-violence risk indicators measured at baseline and the two educational outcomes measured at post-test (*school delay* and *academic motivation*). In this model, the predictor is latent (violence profiles) and the outcomes are manifest (i.e. predicting a distal outcome from latent profile membership). Hence, this model investigates the conditional distribution of distal outcomes, Z (*school delay*, *academic motivation*), given a latent class variable, C (violence latent profiles). Figure 17 shows the LPA one-step ‘distal-as-indicator’ model.

Figure 17 LPA Model: One-Step ‘Distal-as-Indicator’

Individual predictors for profile membership

With a view to identifying factors associated with individual profile membership, probabilistic predictors (age, gender, poverty and trial arm) were included in the model via the post-hoc AUXILIARY option in Mplus (Muthén & Muthén, 2010). This option applies multinomial logistic regressions with the latent profiles as dependent variables using posterior probabilities (L. Muthén & Muthén, 2012). Figure 18 shows the final LPA model with the probabilistic predictors.

Figure 18 LPA Final Model: Probabilistic PredictorsMPlus commands

In order to account for missing data in the violence indicators, the non-normality of violence indicators, and the non-independency of observations, the following commands were used in MPlus:

```
Cluster is = COMMID;
Analysis:
  Type = MIXTURE COMPLEX;
  Estimator = MLR;
```

Maximum-Likelihood Estimation with Robust Standard Errors (MLR) was used to estimate missing data on the latent profile violence indicators. Even if distal outcomes are entered as indicators in the model, this model-based approach requires that there be no missing data on the distal outcomes, which was not an issue in the final DPhil sample. The command MIXTURE (modelling) is designed to capture non-normal indicators. In fact, the skewness is part of what determines the profiles in mixture models (McLachlan & Peel, 2005). In order to account for the nested data (adolescents in communities) clustered standard errors were calculated using the TYPE=COMPLEX feature ('aggregated multilevel modelling'; Muthén & Muthén, 2010).

Model fit and classification quality

After conducting a two-profile LPA, successive LPAs estimating three through five profiles were then estimated in order to fully test for the possibility of multiple homogenous groups/ latent profiles (Nylund & Muthén, 2007). Three types of indices of relative model fit were computed to inform the number of latent profiles that were deemed to exist (Masyn, 2013; Nylund & Muthén, 2007). First, the Lo-Mendell-Rubin Likelihood Ratio Test (LMR-LRT) of goodness of fit, pointing at the ‘best’ model with the smallest number of classes that is not significantly improved by the addition of another class (Masyn, 2013). Second, information criteria Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) were examined, where lower values indicate a better model, although sometimes minimum values are not reached (Masyn, 2013; Nylund & Muthén, 2007). Finally, classification quality was assessed using relative entropy, with higher values being superior (Masyn, 2013).

5.5 Studies 2 and 3: Aggregated Multilevel Structural Equation Model (SEM)

In order to investigate the main and moderating effects of parenting and teacher factors on school delay, aggregated multilevel SEM was applied (L. Muthen & Muthen, 2012). The aggregated multilevel version of SEM was used in order to correct for the non-independence of observations (adolescents nested in communities). Two independent models were run: Model 1 (Study 2) investigated the main and moderating effects of parenting factors on school delay, while Model 2 (Study 3) investigated the main and moderating effects of teacher factors on school delay.

‘Poly-violence’

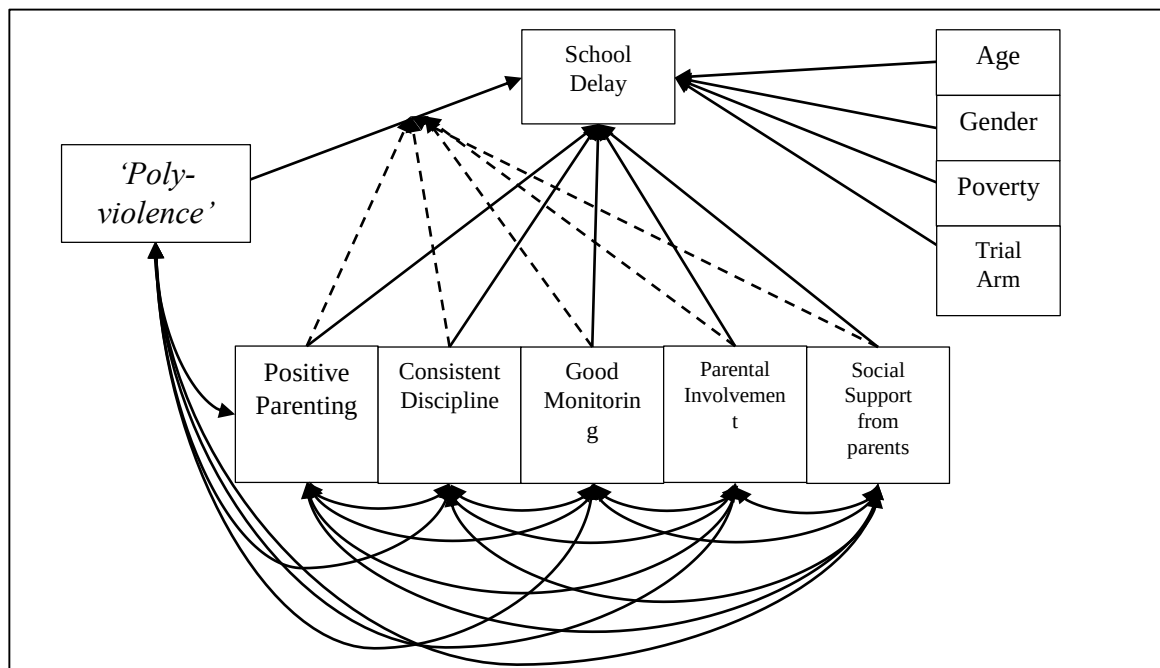
Adolescents were assigned to the latent profile that corresponds to their maximum posterior probability using the Mplus option to save posterior probabilities (CPROBABILITIES). *‘Poly-violence’* was treated as an observed dichotomous predictor

variable: 0= less-frequent exposure to ‘poly-violence’ (n=443); 1= more-frequent exposure to ‘poly-violence’ (n=60). The dichotomous variable of ‘poly-violence’ was entered into models 1 and 2.

Model 1 (Study 2): Supportive parenting factors

Analyses for Model 1 were conducted in two steps: first, a school delay main effects model was run with the five parenting factors and ‘poly-violence’ as predictors; second, an interaction effects model was run including the five interaction terms of the ‘poly-violence’ variable with each of the parenting factors. Both models controlled for the four covariates –age, gender, poverty and trial arm-. The hypothesized direct and interaction effects models are displayed in Figure 19. More information on Model 1 specifications and model fit can be found in the Methods Section in Chapter 7.

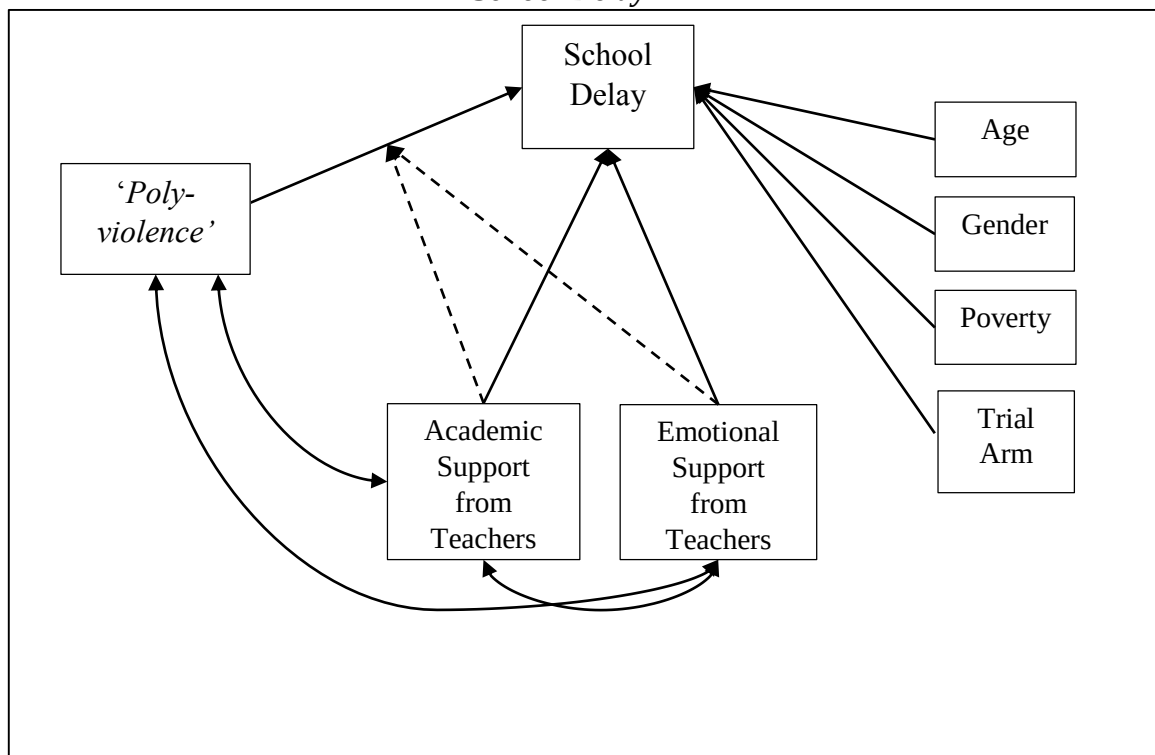
Figure 19 Model 1: Stylized Representation Of The Aggregated Multilevel Structural Equation Model Estimating The Effects Of More-Frequent Exposure To ‘Poly-Violence’ And The Effects Of Supportive Parenting Factors On The Likelihood Of Adolescent School Delay



Model 2 (Study 3): Teacher support

Model 2 was implemented in two stages. First, the direct effects of more-frequent exposure to ‘poly-violence’, plus teachers’ academic and emotional support on school delay were established. Second, two interaction effects between a binary and a continuous variable (‘poly-violence’ x teacher academic support; ‘poly-violence’ x teacher emotional support) were evaluated to investigate potential moderating effects of teacher support on the relationship between students’ exposure to ‘poly-violence’ and school delay. Both models controlled for the four covariates –age, gender, poverty and trial arm-. The hypothesized direct and interaction effects models are displayed in Figure 20. More information about Model 2 specifications and model fit can be found in the Methods Section in Chapter 8.

Figure 20 Model 2: Stylized Representation Of The Aggregated Multilevel Structural Equation Model Estimating The Effects Of More-Frequent Exposure To ‘Poly-Violence’ And The Effects Of Teacher Support On The Likelihood Of Adolescent School Delay



Interpreting interaction effects: Johnson-Neyman graphs

Finally, in order to test and interpret each significant interaction effect, separate *Johnson-Neyman* graphs were obtained using the MODEL CONSTRAINT: LOOP PLOT command in Mplus (Clavel, 2015). The Johnson-Neyman technique (P. Johnson & Neyman, 1936) allows one to calculate the *regions of significance*, and is considered a more advanced approach compared to the *simple slopes* technique (Clavel, 2015; Potthoff, 2006; Preacher, Curran & Bauer, 2006). The traditional simple slopes technique is based on the dichotomization of a continuous moderator into two mutually-exclusive categories; arbitrarily splitting the moderator variable into “low” and “high” in order to compare their simple slopes. In opposition, the Johnson-Neyman technique allows for plotting of the interaction effects between a categorical variable and a continuous variable without splitting the data into artificial false binary groups. The Johnson-Neyman technique is based on the identification of the regions of significance, which are the precise regions of the continuum of the moderator values for which the regression slope of $X \rightarrow Y$ (the moderated statistical relationship) is estimated to be significantly different from zero (Clavel, 2015). More information about this technique can be found in the Methods Sections in Chapters 7 and 8.

6. Methodological limitations and implications for future research

This DPhil investigation has several limitations due to its methodology and design. This section discusses these limitations and their implications, as well as further suggestions for future research implementation.

6.1 Purposive sample

Highly-at-risk adolescents

The study sample was purposively recruited for a violence-prevention parenting program in socioeconomically disadvantaged communities. Adolescents were recruited from

schools, community guides and social workers based on knowledge of relational issues at home. Furthermore, families were selected using a screening tool which asked about past arguments in the home. Hence, findings cannot be extrapolated to all adolescents in South Africa. However, recruitment and selection procedures allowed for the inclusion of very vulnerable adolescents and their families, which is something of paramount importance, given the socioecological resilience framework applied. Thus, this DPhil study complements findings from other studies which in many cases fail to represent the most vulnerable adolescents and the most in-need of interventions.

Adolescents' age

The Sinovuyo Teen Study sample adolescents' ages, and thus the final DPhil sample adolescents' ages, ranged from 10 to 18 years. It is well known that factors and pathways to school success play differently across ages (Crosnoe & Elder, 2004; Lynch & Cicchetti, 1997). Investigations using larger samples and conducting sub-group or moderation analyses by age might help in establishing differences between younger and older students and the effects of parents and teacher support on their academic outcomes.

6.2 Participation in the Sinovuyo Teen Study

Trial arm

The study sample were participating in a research prevention program to reduce harsh parenting and child abuse. While adolescents' exposure to violence at baseline was collected previous to the intervention, adolescents' educational outcomes were collected post-intervention. Thus, it is plausible to think that either academic motivation or school delay might have been influenced by the type of participation in the trial (intervention versus control). However, trial arm was introduced in the LPA and SEM models as a covariate in order to control for study participation. LPA and aggregated multilevel SEM

results showed that trial arm was not associated with either academic motivation or school delay (see Results Sections in Chapters 6, 7 and 8).

Time period

Period of reference for all the measures recording exposure to violence was adapted to “in the past month” due to the RCT design and the intention to reduce participants’ recall bias. Although it is plausible that exposure to violence changes from one month to the next month, it is likely that certain practices leading to violence exposure in the home, such as harsh parenting, occurred as a consistent behavior over the years (Meinck, Cluver, Orkin, et al., 2016). Similarly, adolescents came from contexts characterized by deep-rooted community violence. Thus, past-month exposure to school and community violence may be indicative of long-term exposure to violence.

Furthermore, the time period of the present study (five to nine months) is not long enough to understand the medium and long-term effects of adolescents’ exposure to violence on education. Although all post-test interviews were conducted during the following academic year (compared to baseline interviews), only a snapshot of adolescents’ experiences were measured.

One important condition required to infer causality is that the cause needs to precede the effect (Field, 2013). Despite its prospective approach, this study is unable to determine whether school delay happened before or after adolescents’ experiences of violence, parenting and teacher support. For instance, it is plausible that school delay had occurred over the years prior to this study; in fact, baseline descriptive results showed that more than a third of all adolescents in the sample were already enrolled in at least one grade lower than the one corresponding to their age. As mentioned above, it is also plausible that exposure to violence is likely to have happened more than a month before baseline

data collection, which might have affected adolescents' educational outcomes before the beginning of the study. Thus, given the study design, causality and directionality cannot be inferred. However, this study does not claim any causal relationship between violence, parenting or teacher support and school delay. That said, findings do set up a basis for further prospective longitudinal analyses. These analyses would need to apply both longer time frames and various time points to better understand the associations between violence, parenting, teacher support, socioeconomic disadvantage and school delay. Only then could results support claims linking supportive parenting or teacher support as predictors of later academic outcomes.

6.3 Data collection instruments and measures

Self-report measures

Globally, official records of child abuse are generally not considered an accurate indicator of children's realities, given high rates of underreporting (Berry, 2009). Similarly, violence episodes and crimes against children and women in South Africa often go unreported (Mathews et al., 2016). This makes the administrative data available (e.g. the South African Police Services national crime statistics) an unreliable source for estimating the extent of violence against children. The main factors contributing to the non-reporting of violence victimization in South Africa are: the lack of information regarding their own rights, the lack of confidence in the police and the South African criminal justice system due to previous negative experiences, and the widespread social norm supporting the secrecy of the private sphere of life (Fox et al., 2007; Mathews et al., 2016; National Research Council, 1993; Wood, Lambert, & Jewkes, 2008). This is why qualitative in-depth research and community-based victim survey research are common methodologies used to measure exposure to violence in the South African and other developing contexts (Mathews et al., 2016). While results from qualitative studies

cannot be generalized to the whole population, survey research uses self-report measures which are subject to both recall and social desirability bias.

This study applies self-report measures. Nonetheless, several factors helped reduce bias: first, only asking about exposure to violence in the past month, which is a reasonably recent and limited period of time for adolescents to recall (Willoughby, Desrocher, Levine, & Rovet, 2012); and second, interaction with research assistants was reduced by offering adolescents ACASI options for abuse-related and other sensitive questions. ACASI data collection has been found to offer adolescents more privacy to respond to highly sensitive items (National Data Archive on Child Abuse and Neglect, 2015). As a result, ACASI techniques have been found to increase adolescents' reporting quality (*i.e.* "young people have been found to say much more on screen than when they are interviewed face to face"; ISPCAN, 2016, p.8) by enhancing confidentiality, decreasing bias by reducing adolescents' fear of retaliation, and by assisting adolescents with low literacy to participate (McCreary Centre Society, 2009).

Although standardized tools were used asking adolescents to only recall incidents in the past month, triangulation methods could provide added value in further research studies (*i.e.* school records of violence, teacher reported data, etc.). This would improve the validity of results and reduce these potential biases.

School delay: process outcome

Parenting, teacher and violence factors, as well as academic motivation were measured using standardized self-report scales. However, school delay was measured based on the age-appropriate grade enrolment in South Africa. Therefore, school delay was treated as an 'objective' construct; a proxy measure to assess achievement due to the absence of attainment data (see Section 2 in Chapter 9 for more information). Nevertheless, school

delay in South Africa (as in many other LMICs) can be a product of many other factors besides learner's academic underachievement (UNESCO, 2006). As already explained in Chapter 1, a child in South Africa can sometimes be promoted to the next school grade or be retained in the same school grade based on non-achievement factors (e.g. South African policy guidelines on education, late school enrolment, temporary dropout due to the common movement of children between extended households and schools across geographical spaces, etc.). Thus, further research employing other sources of data to measure adolescents' achievement is needed to complement this investigation.

Validated scales

This doctoral study did not use previously validated scales to either measure socioeconomic disadvantage, violence, parenting or teacher support among adolescents in South Africa. This is because no validated scales were available by the time this study was initiated. However, all the scales and constructs employed in this study were scales previously used in similar samples with socioeconomically disadvantaged children in South Africa and for which good reliability had been established in other research studies. In many cases, scales needed to be adapted in long workshop discussions and pilot sessions to ensure they would perform well in the Sinovuyo Teen Study sample. More information on the piloting and adaptation of these measures can be found in Section 2.2 in Chapter 5. As far as the candidate knows, only the ICAST scale is currently being validated in South Africa as a measure of child maltreatment in intervention studies (Meinck et al., 2018).

Translations

Several procedures were put in place to reduce translation errors and interviewer bias associated with clarifications of the translated version of the questionnaires. Translations to the local language (Xhosa) were done from English, carefully paying attention to the

Chapter 5 METHODOLOGY

Xhosa culture and the use of Xhosa language in rural areas in the Eastern Cape Province (ISPCAN, 2016). Thus, translations and back-translations were done in pairs by the local research assistants who were fluent both in Xhosa and English (Brislin, 1970). Translated versions of the questionnaires were further piloted: first amongst research assistants, and then with adolescents aged 10 to 18 from the local communities. Also, during training sessions on data collection and interview techniques, research assistants were given examples and further explanations to use when adolescents did not understand questions. Finally, research assistants were trained to conduct the interviews in both languages as adolescents could choose to be interviewed in either English or Xhosa.

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

PART III RESULTS

Part III consists of three chapters (Chapters 6, 7, and 8) corresponding with the three stand-alone papers answering the three research questions (Studies 1, 2 and 3).

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

Citation:

Herrero Romero, R., Hall, J. E., Cluver, L., Meinck, F., & Hinde, E. (2018). How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa? *Journal of Interpersonal Violence*, in press. <http://doi.org/10.1111/bjep.12212>

Authors:

Rocio Herrero Romero¹, James Hall², Lucie Cluver^{1,3}, Franziska Meinck^{1,4}, Eleanor Hinde

¹ Centre for Evidence-Based Intervention, Department of Social Policy & Intervention, University of Oxford Barnett House, 32 Wellington Square, Oxford, OX1 2ER, UK. ² Southampton Education School, University of Southampton, University Road Southampton SO17 1BJ UK. ³ Department of Psychiatry and Mental Health, University of Cape Town, J-Block, Groote Schuur Hospital, Observatory, Cape Town 7925, South Africa. ⁴ OPTENTIA, School of Behavioural Sciences, North-West University, Vanderbijlpark, South Africa

Author statement:

RHR conducted the majority of the work for this paper. RHR led the quantitative study design, data analysis and writing. JH and LC contributed to conceptualizing the quantitative study, analyses and writing. FM and EH contributed to writing. RHR and EH led the data collection and cleaning. All authors have read and approved the final text. All co-authors have reviewed and approved this author statement.

1. Abstract

To date, little is known about the effects of violence on the educational outcomes of adolescents in disadvantaged communities in South Africa. In response, self-report data was collected from a socioeconomically disadvantaged sample of 503 adolescents aged 10 to 18 participating in a child abuse prevention trial in the Eastern Cape. Adolescents were purposively selected in the trial. This study applies Latent Profile Analysis (LPA) to examine relationships between past-month exposure to violence, school delay and academic motivation. 93.8% of adolescents in the sample experienced “*poly-violence*” – exposure to at least two forms of violence in the past month. Results identified two distinct profiles in the socioeconomically disadvantaged sample: Profile 1, adolescents exposed to more frequent “*poly-violence*”, and Profile 2, adolescents exposed to less frequent “*poly-violence*”. Being exposed to more frequent “*poly-violence*” was associated with greater risk of school delay – based on age-appropriate grade in South Africa. However, being exposed to more frequent “*poly-violence*” was not associated with lower academic motivation – adolescents showed high rates of wanting to achieve. Our findings suggest that exposure to more frequent “*poly-violence*” increases risk of school delay among adolescents from disadvantaged communities, while not affecting their academic motivation. Thus, whilst adolescents maintained aspirations and goals to

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

do well at school, exposure to high frequency of violence impacted their capacity to fulfill these aims.

Keywords

Violence, academic motivation, school delay, adolescence, disadvantaged communities, South Africa, LPA

2. Introduction

Adolescents' educational outcomes in disadvantaged communities in South Africa

School delay and low completion rates are common among disadvantaged youths in South Africa (Lam et al., 2011). Nationally representative, South African evidence has shown that adolescents from socioeconomically disadvantaged families and communities attending disadvantaged schools in disadvantaged areas are less likely to perform well and adequately progress in school (Branson et al., 2014; Spaull, 2013b). For instance, by grade 9 –age 15-, the average student from a poorly-resourced school is likely to perform at a level commensurate with an average student at least three years their junior but attending a more “functional” school – usually one charging fees- (Spaull, 2013b). Despite this, past studies have suggested that disadvantaged students in South Africa have high hopes and aspirations in terms of education (Bray et al., 2010; Mzolo, 2013; Watson et al., 2010) as well as high motivation to keep trying in school (Strassburg et al., 2010; Ward et al., 2007). Despite their socioeconomic circumstances, disadvantaged adolescents in South Africa persevere in order to remain in school and complete basic education (Grade 9). This results in a large number of over-aged students due to low performance and consequent grade repetition. Among them, only a very small proportion complete non-compulsory education (Grade 12; Spaull, 2015).

South African adolescents' exposure to violence

In South Africa, high rates of exposure to violence were reported in the first nationally representative survey on childhood victimization. Amongst adolescents aged 15 to 17, 34.4% reported having experienced physical abuse by caregivers, 21.3% experienced neglect, 16% experienced emotional abuse, and 23.1% witnessed domestic violence – physical, emotional or sexual violence between other household members such as caregivers and siblings- in their lifetime (Ward et al., 2015).

In addition to exposure to violence at home, adolescents in South Africa can also be exposed to high levels of violence perpetrated by peers and adults outside the home. For example, harsh discipline in school by teachers, bullying practices by peers, or assaults in the community are common (Ward et al., 2015, 2007). At the school level, 19.7% of all South African adolescents report persistent bullying (Ward et al., 2007), while 66.9% of all high school students in the Eastern Cape have experienced corporal punishment (Burton & Leoschut, 2013) and 50% reported having witnessed a physical fight in their community in their own lives (Ward et al., 2015). Overall, 64% of all adolescents aged 15 to 17 in South Africa experienced “Lifetime Poly-victimization” - numerous victimizations across different contexts throughout their lives (Leoschut & Kafaar, 2017). “Lifetime Poly-victimization” is more frequent amongst socioeconomically disadvantaged adolescents due to chronic poverty, unemployment, parental stress, and household overcrowding (Burton & Leoschut, 2013; Leoschut & Kafaar, 2017; Meinck, Cluver, & Boyes, 2015b; Meinck, Cluver, Boyes, et al., 2015; Seedat, Niekerk, Suffla, & Ratele, 2009; Ward et al., 2015).

Exposure to violence and poor educational outcomes

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

There is strong global and South African evidence demonstrating the impacts of exposure to violence on children's mental and physical health (Barbarin et al., 2001; Meinck, Cluver, Orkin, et al., 2016; WHO, 2014). However fewer studies have focused on the relationships between children's exposure to violence and educational outcomes.

While evidence on the relationship between violence and adolescents' educational outcomes in Sub-Saharan Africa is scarce, more research can be found in other regions. For instance, a recent review found 16 cross-sectional retrospective studies from the US, Canada, Israel and the UK, showing that childhood maltreatment within the family was associated with later poor academic performance (Romano et al., 2015). This review found that physical abuse, sexual abuse and neglect were independently associated with enrolment in lower grades, higher grade repetition, and academic underachievement. Furthermore, the negative impact of maltreatment within the family on academic outcomes was more pronounced for children with multiple maltreatment experiences, as well as children exposed to specific types of maltreatment such as neglect (Romano et al., 2015). Similarly, a cross-sectional study with adolescent students from an urban, ethnically diverse school in the US showed that youth with multiple victimizations outside the home (bullying, conventional crime and sexual victimization) experienced more psychological distress and earned lower grades than their peers (Holt et al., 2007). Likewise, a cross-sectional study with young adolescents from urban areas in Jamaica found that school-based peer violence, physical punishment at school, and community violence were independently associated with poor school achievement. In addition, children experiencing higher levels of violence had the poorest academic achievement compared to other children, suggesting a dose-response effect (Baker-henningham et al., 2009).

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

In South Africa, one longitudinal and two cross-sectional studies exist investigating the impact of harsh parenting, plus exposure to domestic and community violence on the educational outcomes of children and adolescents (Barbarin et al., 2001; Pieterse, 2015; Sherr et al., 2016). In a cross-sectional study of 4,747 youths aged 14–22 in Cape Town, being physically hit hard on a regular basis was associated with an increased probability of school dropout and a reduction in numeracy test scores (Pieterse, 2015). Similar results were obtained in a study of 626 six-year-old children in South Africa. Here, family violence was inversely associated with academic motivation, and community violence was not found to affect academic functioning (Barbarin et al., 2001). Also, results from a one-year longitudinal study of children aged 4-13 showed that children exposed to emotional abuse by their parents at baseline were ten times less likely to still be enrolled in school for the one year follow-up (Sherr et al., 2016). In the same study, harsh parenting was also associated with poor grade progression.

The three studies described above all used ‘variable-based analyses’ (Petrenko et al., 2013) to investigate single relationships between specific forms of violence and negative educational outcomes among young children (Barbarin et al., 2001; Sherr et al., 2016) and adolescents (Pieterse, 2015; Sherr et al., 2016) in South Africa. However none of these studies analyzed the impact of exposure to multiple forms of violence on educational outcomes among adolescents. Additionally, contrary to research in other regions none of these South African studies found significant associations between exposure to community violence and educational outcomes.

Measuring exposure to multiple forms of violence

Exposure to multiple forms of violence has been operationalized using two different approaches: variable-centered (i.e. cumulative risk indices) versus person-centered

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

approaches (i.e. Latent Class and Latent Profile Analysis). By creating a continuous measure - an index summing dichotomized items (at risk-thresholds) from several subscales-, researchers have considered endorsement to any dichotomized item in the index as a presence of violence victimization (Charak et al., 2016; Finkelhor et al., 2007). Using this construct of violence victimization, researchers have classified adults and children into different groups or classes. These classes range from “none”, “least victimized–exposed” or “one type of violence victimization” to “highly poly-victimized–exposed” and/or, “more than three violence victimizations” (Charak et al., 2016; Finkelhor et al., 2007). Thus, for these researchers, “poly-victimization” indicates that a person has experienced at least four different types of violence victimizations in the past year (Charak et al., 2016; Finkelhor et al., 2007). This approach to “poly-victimization” has two limitations: first, these models are not able to consider repeated victimization or the frequency of episodes of violence; second, they give the same importance to all different types of experiences of violence.

A second method is to use a person-centered alternative that considers multiple violence experiences based on various violence scale scores, such as Latent Class Analysis (LCA) or Latent Profile Analysis (LPA; Holt et al., 2007). This approach allows comparisons between different levels of exposure to violence by asking participants how often they have experienced different types of victimization in the past month. For instance, by using Latent Profile Analysis (LPA), participants can be classified in groups based on their victimization profiles (for example, high neglect/low physical and emotional abuse profile versus high neglect, physical and emotional abuse profile versus high sexual and emotional abuse profile). These profiles can then be compared to each other based on their mean scores (Holt et al., 2007). Compared to variable-centered techniques, LPA

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

avoids the use of arbitrary cut-off points on underlying dimensions and makes it possible to retain the continuous nature of frequency ratings of exposure to violence (Pears et al., 2008). Thus, the strength of this method, which has been used in other studies on child maltreatment, is its ability to identify various sub-groups of children with similar victimization profiles, based on the frequency and type of violence exposure (Pears et al., 2008).

Current Study

This study examines the relationship between South African adolescents' exposure to multiple types of violence with subsequent academic motivation and school delay. Exposure to violence is investigated across multiple settings -home, school and community-, and by different perpetrators –caregivers, peers and other adults. The term “*poly-violence*” is used to indicate exposure to more than one of the following six forms of violence: domestic violence between household members, physical abuse by caregivers, emotional abuse by caregivers, school violence, community violence (victimization) and community violence (witnessing). Six total scores based on standardized sub-scales made the six ‘forms’ of violence. Thus, the current study takes into consideration not only the number of forms of violence that adolescents experience but also the frequency of exposure to each form of violence –based on the mean scores- (Holt et al., 2007). A prospective approach -5 to 9 months- is applied to a sample of adolescents from socioeconomically disadvantaged communities. The current study answers the following research question: Is exposure to violence related to school delay and academic motivation in adolescents from socioeconomically disadvantaged communities in South Africa?

3. Methods

Study setting

Baseline and post-test survey data were collected from participants of the Sinovuyo Teen Study (STS); a pragmatic cluster randomized-controlled trial (Cluver et al., 2018). This study evaluated the effectiveness of the Sinovuyo Teen program, a parenting intervention primarily aimed at reducing harsh and abusive parenting. The trial took place in 32 rural and 8 peri-urban disadvantaged communities in the Eastern Cape, South Africa. Communities had high rates of unemployment, HIV prevalence and poor infrastructure. Baseline data collection took place from May until September 2015, while the post-test intervention surveys (hereafter, ‘follow-up’) were conducted from January to July 2016. Additional information regarding the purposive sampling procedure and overall study design can be found in the publication of the trial protocol (Cluver, Meinck, Shenderovich, et al., 2016).

Screening and recruitment procedures

Participants were Xhosa adolescents aged 10 to 18 years and their primary caregivers living in 32 rural and 8 peri-urban disadvantaged communities in the Eastern Cape Province of South Africa. Due to large numbers of orphans in South Africa and the common geographical mobility of children across extended family households (Yaw et al., 2007), there were no requirements for a biological relationship between caregiver and adolescent. Very low-income communities in the Eastern Cape were selected and local schools, traditional chieftains, and social services in contact with vulnerable families were approached. Participants were recruited through local social workers, school teachers and community guides who identified families experiencing arguments in the household and adolescents with social and emotional problems. Some of the families also

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

self-referred. Families who reported having experienced arguments within the previous month were then given the opportunity to participate.

Adolescents aged 10 to 18 and sleeping in the same dwelling as their caregiver for at least four nights a week were eligible to participate in the overall study (n=552). Of those, four adolescents did not complete baseline interviews, and thus they were not included in this analysis. Finally, only adolescents who did not subsequently drop out from the trial (n=22), and had no missing data on educational outcomes in the follow-up survey (n=23) were included in the current analysis (total included n=503). Adolescents who had missing data on educational outcomes in the post-test survey reported being out-of-school when the post-test interviews took place. Due to the skip patterns designed into the Computer-Assisted Self-Interview Software (CASI) applied in the study, as well as regular data quality and validation checks, missing data was 0% on all the variables used in this study except for one. Perceived school violence had <1% of missing data, corresponding to five adolescents who were out of school at baseline. There were no baseline differences between adolescents lost and retained at follow-up in the overall study (see Supplement Table 1 in Cluver et al., 2018).

Data collection

Tablet-based questionnaires translated into Xhosa were used within a Computer-Assisted Personal Interviewing (CAPI) process. Local, trained research assistants interviewed participants at their homes or in other settings, such as schools. School level characteristics were also collected from 69 schools which accounted for 94% of the sample's adolescents. Administrative data for those schools where data was not collected directly (n=24) was retrieved from the online master lists of South African schools (Department of Basic Education, 2016b; Van Wyk, 2015).

Ethics

Ethical approval was obtained from Research Ethics Committees at the University of Oxford, the University of Cape Town, as well as from the South African Departments of Social Development, and of Basic Education. Both adolescents and caregivers needed to give informed consent to participate. Confidentiality was maintained, except if participants were at risk of significant harm or requested assistance. A total of 33 adolescents and their families were referred to social and health services due to family issues, sexual abuse and suicide risk. A small ‘thank you pack’ of stationery was given to all adolescents for each completed interview as well as refreshments and certificates of participation. Adolescents were given the choice to answer abuse questions using ACASI. School principals gave informed consent for the school to participate in the study.

Measures

Composite variables for educational outcomes (measured at follow-up) and for violence exposure (measured at baseline) are summarized in Table 14.

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

Table 14 Sinovuyo Teen Study measures recording exposure to violence, academic motivation and school delay

Measures		Sum Scale (# Items)	Items	Items Response Codes
Exposure to violence	Domestic Violence between household members	ICASTDVT ICAST (2 items)	In the past month, how many days were there arguments with adults shouting in your home? In the past month, how many days were there arguments with adults hitting each other in your home?	0= Never 1, 2 3, 4, 5, 6, 7 times 8= 8 or more times
	Adolescent physical abuse by caregivers	PHYABCPT ICAST-TRIAL + APQ (7 items)	In the past month, how often did an adult in your house ...Push, grab, or kick you? ...Shake you? ...Hit, beat, or spank you with a hand? ...Hit, beat, or spank you with a belt, paddle, a stick or other object? Your caregiver spansks you with their hand when you have done something wrong Your caregiver slaps you when you have done something wrong. Your caregiver hits you with a belt, switch, or other object when you have done something wrong.	0= Never 1, 2 3, 4, 5, 6, 7 times 8= 8 or more times Original response values were multiplied by 2. New response codes: 0= Never; 2= Almost never; 4= Sometimes; 6= Often; 8= Always
	Adolescent emotional abuse by caregivers	ICASTEMT ICAST-TRIAL (8 items)	In the past month how often did an adult ...scream at you very loudly and aggressively? ...Call you names, say mean things or swear at you? ...Make you feel ashamed/embarrassed in front of other people in a way that made you feel bad? ...Say that they wished you were dead or had never been born? ...Threaten to leave you forever or abandon you? ...Lock you out of the home for a long time? ...Threaten to call evil spirits against you or hurt or kill you? ...Refuse to speak to you because they were angry with you	0= Never 1, 2 3, 4, 5, 6, 7 times 8= 8 or more times
	Perceived school violence	SCHUNST UNICEF (5 items)	I feel safe at school (reversed) I feel safe walking both to and from school (reversed) I sometimes don't use the toilets at school because they are not safe This school is being ruined by bullies This school is badly affected by crime and violence in the community	0= Definitely not true 1= Mostly not true 2= Mostly true 3= Definitely true
	Witnessing community violence	WCOMVIOT SAHA (5 items)	Someone else being threatened Someone else being mugged and his/ her your stuff stolen People fighting Someone else being hit or harmed People being drunk or on drugs and being argumentative	0= Never 1= Once or twice 2= 3-5 times 3= More than 5 times
	Community violence victimization	VCOMVIOT SAHA (5 items)	Threatened by someone else Mugged and have your stuff stolen Caught up in a fight Hit or harmed. With friends that were drunk or on drugs and argumentative	0= Never 1= Once or twice 2= 3-5 times 3= More than 5 times
Educational Outcomes	(Low) Academic Motivation	LAMST3 SAHA (4 items)	It is important for me to do well in school this year (reversed) It is important to me to be considered clever by my fellow learners and my teachers (reversed) I try hard in school (reversed) I can't wait to leave school	<i>How strongly do you agree with the statements?</i> Continuous response options from 0 to 9. Sum scale ranges from 0 to 36
	School Delay	SDECONT3 School Delay (1 item)		-3= Three grades higher -2= Two grades higher -1= One grade higher 0= Age appropriate grade 1= One grade lower 2= Two grades lower 3= Three grades lower

Academic Motivation and School Delay (measured at follow-up)

School delay was assessed using a continuous scale based on grade appropriateness by age in South Africa. The South African Schools Act of 1996 specifies that the age of admission to Grade 1 is the year in which a child turns 7 (Republic of South Africa, 1996). However, a decision made by the Constitutional Court in 2004, resulted in the school-going age for Grade 1 being changed to age 5 if a child turns 6 on or before 30 June in the Grade 1 year (Department of Basic Education, 2010). Furthermore, many parents decide that their child should start school earlier. Subject to the availability of places, a learner may be admitted to Grade 1 at a younger age if it is in the child's best interests (UNESCO International Bureau of Education, 2006). Thus, school delay calculations used a conservative definition of age norm per grade in the current investigation (e.g. grade 1 + 6 = age 7; grade 9 + 6 = age 15; grade 12 + 6 = age 18). Adolescents who were enrolled in the age-appropriate grade scored 0 in the School Delay scale. A positive score indicated that the adolescent had dropped behind the South African age-appropriate grade, while a negative score indicated a higher number of grades ahead.

(Low) Academic motivation was measured using four adapted items from the standardized 'Academic Motivation Scale' of the SAHA study (Ruchkin et al., 2004); the original scale was validated in the US ($\alpha = .66$) and the adapted items were used in previous research with adolescents from socioeconomically disadvantaged communities in Cape Town (Ward et al., 2007). In the current investigation, these items were answered using a scale from 0 to 9 with lower scores indicating higher levels of academic motivation. The items were adapted to fit the South African school context. For instance, we used, "It is important to me to do well in school this year" instead of "It is important to me to get at least a B average this year".

Measures recording exposure to violence (measured at baseline)

Domestic violence between household members, adolescent physical abuse by caregivers and adolescent emotional abuse by caregivers were measured using a culturally adapted version of the ISPCAN Child Abuse Screening Tool (ICAST); Children's Version ICAST-C (Runyan et al., 2009), the ICAST-TRIAL. The ICAST-TRIAL measured the prevalence of exposure to violence in the past month. Response codes range from '0' (Never) to '8' (8 times or more; Meinck et al., 2018). Higher scale scores indicated a greater frequency of violence experiences. Three additional items from the Alabama Parenting Questionnaire (APQ) Corporal Punishment sub-scale (Frick, 1991), also adapted to measure the past month, were added to the ICAST-TRIAL to composite the teen physical abuse by caregivers measure. APQ items' response options range on a 5-point Likert scale from 'Never' to 'Always'. APQ response values were multiplied by two in order to match the eight response options of the ICAST-C child physical abuse scale before summing. In the current analysis, neglect was not considered a form of violence as such, but as the parents' failure to care for a child even if able to do so (Ward et al., 2015). Furthermore, in the context of high levels of deprivation, neglect is difficult to distinguish from poverty (Ward et al., 2015). Thus, neglect was not included in the analysis. Internal consistency (Cronbach's alpha) of the violence subscales were .67 (*Domestic violence between household members*, 2 items), .81 (*Adolescent emotional abuse by caregivers*, 4 items) and .88 (*Adolescent physical abuse by caregivers*, 4 items). Further information on the psychometric properties of the ISPCAN Child Abuse Screening Tool for use in Trials among South African Adolescents can be found in Meinck et al. (2018).

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

Perceived school violence was measured using five items from the Student Survey Physical and Emotional Safety sub-scale used in the UNICEF Safe and Caring Child-Friendly Schools Study (UNICEF, 2009). This sub-scale measures how physically and emotionally safe students felt in school in the past term and includes items asking about bullying, and crime in both the school grounds and surroundings. The response code ranged on a 4-point Likert scale from ‘Definitely not true’ to ‘Definitely true’ with higher scores showing higher levels of unsafety. The psychometric properties of the original student-reported measure can be found in a cross-national study using data from 68 schools across the Philippines, Nicaragua and South Africa – including schools in in extremely difficult socioeconomic conditions in the Eastern Cape province (Godfrey et al., 2012). In the global evaluation, internal consistency of the original Physical and Emotional Safety sub-scale across all countries was .74. Internal consistency of the *perceived school violence* scale in the current investigation was .94.

Witnessing community violence and *community violence victimization* were measured using risks identified in the child version of the standardized Exposure to Violence Scale from the Social and Health Assessment (SAHA) study (Ruchkin et al., 2004; Ward et al., 2007). This sub-scale was also validated in the US and has since been used in research with adolescents from socioeconomically disadvantaged communities in Cape Town (Ward, Martin, Theron, & Distiller, 2007; Ruchkin et al., 2004). The scale consisted of two five-item sub-scales assessing incidents of children witnessing and experiencing community violence in the past month. The response code ranged from “Never” to “More than 5 times”. In the current investigation, internal consistency (Cronbach’s alpha) of the SAHA Exposure to Violence subscales were .78 (*Witnessing community violence*) and .63 (*Community violence victimization*).

Probabilistic predictors of violence (measured at baseline)

Adolescents' age (years) and *gender (male/female)* were measured via self-report. *Household poverty* was measured using a continuous measure (8 items) indicating access to the top eight socially-perceived necessities for children, as identified in the SA Social Attitudes Survey (Pillay et al., 2006; G. Wright, 2008). These include items such as, “enough clothes to keep you warm and dry” and “a visit to the doctor when someone was ill”. At follow-up, adolescents' exposure to violence and adolescents' educational outcomes may have been influenced by their participation in the Sinovuyo Teen Study (intervention versus control). In order to control for this participation, *trial arm* was introduced as a covariate.

Data Analysis

All analyses were conducted using the Mplus v7.0 software (Muthén & Muthén, 2010). The effect of families being nested within communities (though not schools) was statistically controlled for via the specification of clustered standard errors. This decision to control for the effect of nesting within one of the two higher levels (cross-classified multilevel data) was made on the basis of two sets of descriptive statistics: Design effects and Intra Class Correlations (ICCs; see Table 15).

Table 15 Design effects and Intra Class Correlations (ICCs) of cross-classified levels of nesting in Sinovuyo Teen Study (n=503)

	School Delay			Low Academic Motivation		
	Design effect	Variance Estimate (p-value)	ICC	Design effect	Variance Estimate (p-value)	ICC
Community	1+ (12.575-1)*0.152 = 2.759	0.152 (0.03)	8.4%	1+ (12.575-1)*0.254 = 3.94	0.254 (0.201)	2.3%
School	1+ (5.41-1)*0.129 = 1.56	0.129 (0.072)	7.2%	1+ (5.41-1)*0.294 = 2.3	0.294 (0.212)	2.8%

School Average cluster size= 5.41

Community Average cluster size = 12.575

Note: significant p-values are bolded.

Putting the statistics within Table 15 into context, within studies considering educational outcomes, a threshold ICC value of 10-15% is considered *medium to high effect* (Hox, 2010). Thus, the ICCs shown in Table 15 indicated that a small proportion of variance in School Delay was due to differences between communities (variance estimate=0.15, $p<0.05$, ICC=8.4%). However, no significant results were found due to differences between schools on either School Delay or Academic Motivation. This might be explained by the very similar type of schools that the adolescents attended (see schooling characteristics, Table 16). Clustered standard errors were calculated using the TYPE=COMPLEX feature in Mplus ('aggregated multilevel modelling'; Muthén & Muthén, 2010). Latent Profile Analysis (LPA) was then used to explore distinct patterns of exposure to violence in the sample. LPA is a person-centered type of analysis; a mixture model which identifies unobserved homogeneous groups or subpopulations from a heterogeneous population; these homogeneous groups are based on mean-level response patterns across multiple continuous risk indicators (Masyn, 2013). In contrast to variable-centered models, person-centered models allow researchers to identify

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

differences in the exposure to multiple and co-occurring risks and outcomes of interest between sub-groups of children (Masten, 2014). Furthermore, Latent Class and Latent Profile Analysis are increasingly used to measure the interplay of different risk factors and multiple forms of exposure to violence (Charak et al., 2016; Clarke et al., 2016; Lanza et al., 2013; Petrenko et al., 2013).

In the current investigation, incidences of domestic violence between household members, adolescent physical abuse by caregivers, and adolescent emotional abuse by caregivers were measured using count data (number of times a violent episode occurred in the past month). On the other hand, perceived school violence, witnessing community violence and community violence victimization were measured using the Likert response format (ordinal data to indicate frequency of exposure to violence). In the current study, all item scores within each violence sub-scale were added. LPA was therefore applied, treating ordinal data as ordinal approximations to continuous variables. Thus, the total number of categories for perceived school violence, witnessing community violence and community violence victimization were twenty, twenty-five and twenty-five respectively. This is a common practice used by researchers within surveys, as ordinal variables with five or more categories can often be treated as continuous variables without detriment to the analysis (D. R. Johnson & Creech, 1998; Norman, 2010; Zumbo & Zimmerman, 1993).

The following six violence risk indicators were included in the LPA: domestic violence between household members, adolescent physical abuse by caregivers, adolescent emotional abuse by caregivers, perceived school violence, community violence (victimization) and community violence (witnessing). Maximum-likelihood estimation was used to estimate missing data on the latent profile risk indicators. In order to compare

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

educational outcomes across profiles, a one-step ‘distal-as-indicator’ model was applied (Lanza et al., 2013) with six exposure-to-violence risk indicators measured at baseline and the two educational outcomes measured at follow-up. With a view to identifying factors associated with individual profile membership, probabilistic predictors (age, gender, poverty and trial arm) were included in the model via the post-hoc AUXILIARY option in Mplus (Muthén & Muthén, 2010). This option applies multinomial logistic regressions with the latent profiles as dependent variables using posterior probabilities (L. Muthén & Muthén, 2012).

After conducting a two-profile LPA, successive LPAs estimating three through five profiles were then estimated in order to fully test for the possibility of multiple homogenous groups/ latent profiles (Nylund & Muthén, 2007). Three types of indices of relative model fit were computed to inform the number of latent profiles that were deemed to exist (Masyn, 2013; Nylund & Muthén, 2007). First, the Lo-Mendell-Rubin Likelihood Ratio Test (LMR-LRT) of goodness of fit, pointing at the ‘best’ model with the smallest number of classes that is not significantly improved by the addition of another class (Masyn, 2013) Second, information criteria Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) were examined, where lower values indicate a better model, although sometimes minimum values are not reached (Masyn, 2013; Nylund & Muthén, 2007). Finally, classification quality was assessed using relative entropy, with higher values being superior (Masyn, 2013).

4. Results

Sample characteristics

Table 16 displays the characteristics of the sample at baseline, showing high levels of socioeconomic disadvantage. Three quarters of adolescents lived in households where at least three basic necessities were not covered (75.9%), more than 60% of the adolescents’

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

households had no tap water and approximately 70% lived with no employed adults at home.

Table 16 Sample Characteristics at Baseline (n=503)

	Mean (SD)/ n (%)
<i>Demographics</i>	
Adolescent Age (years)	13.71 (2.34)
Female adolescent	208 (41.4%)
Adolescent living in a rural community	405 (80.5%)
Adolescent was an orphan	160 (31.8%)
Xhosa as the main language spoken at home	502 (99.8%)
<i>Household socioeconomic characteristics</i>	
More than 2 basic necessities missing in the past month	382 (75.9%)
At least 2 days in the past week with not enough food at home	222 (44.1%)
Living in a household where no one is working	350 (69.6%)
Living in a household with no tap water	318 (63.2%)
<i>Schooling characteristics</i>	
Enrolled in school	503 (100%)
Enrolled in at least one year below the appropriate grade in relation to age	128 (37.6%)
Enrolled in at least two grades higher than the appropriate grade in relation to age	61 (13.1%)
Academic Motivation	28.35 (4.34)
Attending secondary schools	214 (48.6%)
Attending state schools	503 (100%)
Attending schools in rural communities	335 (66.6%)
Attending poorly-resourced schools ¹	430 (85.5%)
Receiving free meals at school	484 (96.2%)
<i>Past-month exposure to violence²</i>	
Witnessed domestic violence between household members	257 (51.1%)
Experienced physical abuse by caregivers	318 (63.2%)
Experienced emotional abuse by caregivers	383 (76.1%)
Felt unsafe in school	444 (88.3%)
Experienced community violence (victimization)	163 (32.4%)
Witnessed community violence	361 (71.8%)
Not exposed to any form of violence	4 (0.8%)
Exposed to “poly-violence”	472 (93.8%)
Exposed to all six forms of violence	57 (11.3%)

¹ Quintile 1-3 State Schools

² % of adolescents who replied different than *never* to at least one of the violence item questions or % of adolescents who replied *mostly true* or *definitely true* to at least one of the *Perceived School Violence* scale question

All adolescents attended state schools and the vast majority received free meals at school (96.2%). Adolescents mainly attended poorly-resourced schools in low income areas (85.5%). While around 80% of adolescents lived in rural areas, only 66.6% attended

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

schools in rural areas and the rest of the sample (33.4%) attended schools in urban areas, meaning that 14.4% travelled to urban areas in order to attend school. 37.6% of adolescents were in grades lower than those considered appropriate for their age. Overall, adolescents showed a high level of academic motivation and the mean academic motivation score was 28.35 (scale ranged from 0 to 36). Interestingly, 13% of adolescents in the sample were enrolled two years above the age-appropriate grade. This is consistent with South African statistics of early first-time enrolment in poorer areas, compared to more affluent provinces (Department of Basic Education, 2010, 2013). For instance, in 2009, the poorer provinces of Limpopo and the Eastern Cape showed particularly high proportions of 5-year-olds attending educational institutions, compared to more affluent provinces such as the Western Cape and Gauteng (Department of Basic Education, 2010). The issue of early school enrolment in disadvantaged areas in South Africa has been associated with the national roll-out of public early childhood education (Early Childhood Development and Foundation Phase), as well as the school feeding program (National School Nutrition Programme; UNESCO International Bureau of Education, 2006; Department of Education, 2010). Thus, due to early entrance to school in South Africa, it is possible to find children enrolled in a grade one or two years higher than what is age appropriate, especially in primary school if children did not repeat grades.

Overall, adolescents in the sample experienced high rates of violence in the month prior to the baseline survey: 51.1% witnessed some form of domestic violence, 63.2% experienced some form of physical violence by their caregivers, 76.1% experienced some form of emotional violence by their caregiver, 88.3% felt unsafe in school, and 71.8% had witnessed some form of violence in the community. Exposure to community violence (victimization) was considerably lower in the study sample (32.4%), compared to other

forms of violence. Only four adolescents reported never experiencing any form of violence in the past month, while 93.84% of adolescents were exposed to “*poly-violence*”.

LPA Model

The results of the LPAs with 2-5 latent profiles are displayed in Table 17. In terms of information and classification criteria, models with a greater number of profiles had the smaller values of AIC and BIC, and higher values of entropy. An inspection of the interpretability of the models showed that model 3 identified a non-poly-violence profile with 6.96% of adolescents, plausibly corresponding to the combined proportions of adolescents exposed to one type of violence (6.2%) and adolescents not exposed to any type of violence (0.8%). However, LMR-LRT was not significant for models 3, 4 and 5, indicating that none of these significantly improved upon the initial two-profile model (Masyn, 2013). By contrast, LMR-LRT was significant for the 2 latent profile solution, indicating that a model with two latent profiles significantly improved a model with one latent profile. Overall, these results indicated that the two-profile solution was the best-fitting model - for this sample - and the classification of adolescents in the two-profile solution was meaningful and had demonstrated greatest parsimony (Lanza & Rhoades, 2014).

Table 17 Statistical Criteria and profile sizes for latent profile analyses estimating 2-5 latent profiles

Number of profiles	N=503 (100%)					
	Log-L	AIC	BIC	Entropy	LMR test	LMR, p value
2	-10126.363	20302.725	20408.240	0.934	432.8	0.016
3	-9941.713	19951.425	20094.925	0.945	362.819	0.18
4	-9833.472	19752.944	19934.429	0.971	212.683	0.1
5	-9765.403	19634.807	19854.278	0.965	133.747	1
	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	
2	60 (11.9%)	443 (88.1%)				
3	59 (11.73%)	35 (6.96%)	409 (81.31%)			
4	32 (6.36%)	372 (73.96%)	28 (5.57%)	71 (14.12%)		
5	353 (70.18%)	33 (6.56%)	71 (14.12%)	28 (5.57%)	18 (3.58%)	

Profiles of exposure to violence. The LPA procedure suggested that there were two heterogeneous profiles of adolescents - differentiated according to the frequency of “*poly-violence*” that they were exposed to. Figure 21 compares patterns of exposure to each type of violence for the two profiles identified. Table 18 shows the differences in the estimated means of exposure to violence between the two profiles. Adolescents in Profile 1, adolescents exposed to *more frequent “poly-violence”* (n=60, 11.9%), were characterized by higher mean scores of domestic violence ($p<0.001$), physical ($p<0.001$) and emotional ($p<0.001$) abuse at home as well as higher scores of witnessing community violence ($p=0.001$), compared to adolescents in Profile 2. By contrast, adolescents in Profile 2, adolescents exposed to *less frequent “poly-violence”* (n=443, 88.1%), were characterized by lower mean scores of violence at home and witnessing community violence, compared to adolescents in Profile 1. The two profiles showed very similar scores of perceived school violence ($p=0.500$) and community violence victimization ($p=0.060$).

Within the family was identified as the ecological context in which the most salient differences in exposure to violence between the two profiles were found. Given this, Table 1 in Appendix 10 provides a further inspection into adolescents’ endorsement of

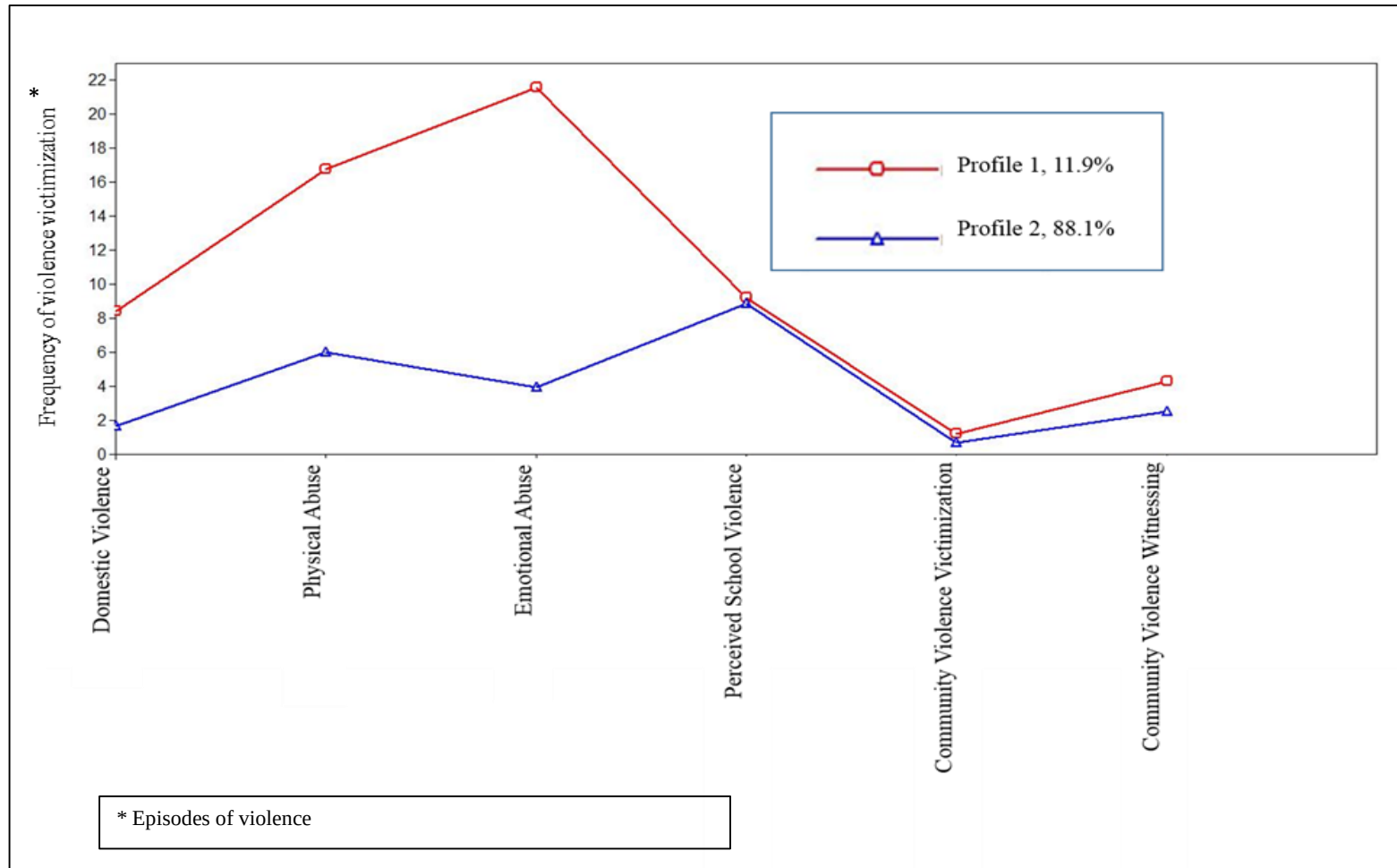
Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

individual items at the family level (by LPA profiles). These results show that adolescents in Profile 1 were characterized by higher mean scores for all items measuring *domestic violence* ($p < 0.001$), *adolescent physical abuse by caregivers* ($p = 0.001$) and *adolescent emotional abuse by caregivers* ($p < 0.001$), compared to adolescents in Profile 2. Within Profiles, the mean scores of physical abuse items indicate that overall, adolescents in Profile 1 experienced more frequent exposure to severe physical violence than they did to physical discipline (i.e. corporal punishment; Table 1, Appendix 10). On the contrary, adolescents in Profile 2 were more frequently exposed to physical discipline than they were to severe physical violence (Table 1, Appendix 10).

Table 18 Mean Exposure To Violence Scores By Profile Membership

Exposure to Violence – Risk Indicators	Total sample: mean (SE)	LPA: profile comparison: mean (SE)		
		Profile		p-value (Wald Test)
		1 More frequent 'poly-violence' n=60	2 Less frequent 'poly-violence' n=443	
Domestic violence between household members	2.44 (0.16)	8.4 (1.13)	1.63 (0.21)	<0.001
Adolescent physical abuse by caregivers	7.18 (0.86)	16.77 (2.65)	6.01 (0.35)	<0.001
Adolescent emotional abuse by caregivers	6.03 (0.36)	21.58 (2.35)	3.93 (0.39)	<0.001
Perceived school violence	8.9 (0.15)	9.2 (0.5)	8.86 (0.13)	0.542
Community violence – Victimization	0.72 (0.06)	1.19 (0.3)	0.66 (0.06)	0.063
Community violence – Witnessing	2.73 (0.12)	4.31 (0.56)	2.52 (0.14)	0.001

Figure 21 Patterns of exposure to violence among adolescents from socioeconomically disadvantaged communities in South Africa



Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

Table 19 compares the number of adolescents exposed to each form of violence in the past month for the two profiles identified. 100% of adolescents in Profile 1 and 92.9% of adolescents in Profile 2 experienced “*poly-violence*” in the past month, while 28.3% adolescents in Profile 1 and 9% adolescents in Profile 2 were exposed to all forms of violence in the past month.

Table 19 Characteristics of Adolescents Exposed to More Frequent ‘Poly-Violence’ and Adolescents Exposed To Less Frequent ‘Poly-Violence’

	Total Sample n=503	Profile 1 More frequent ‘poly-violence’ n=60	Profile 2 Less frequent ‘poly-violence’ n=443
<i>Demographics</i>			
Female (%)	208 (41.4%)	27 (45%)	181 (45%)
Age (mean, years) ¹	13.71 (2.34)	14.5 (2.38)	13.55 (2.88)
Family Poverty (mean, # of basic necessities missing)	3.28 (0.1)	3.63 (2.07)	3.23 (2.17)
Intervention Trial Arm (%)	252 (50.1%)	30 (50%)	221 (49.9%)
<i>Exposure to violence</i>			
Domestic violence between household members (%)	257 (51.1%)	54 (90%)	203 (45.8%)
Adolescent physical abuse by caregivers (%)	318 (63.2%)	49 (81.7%)	269 (60.7%)
Adolescent emotional abuse by caregivers (%)	383 (76.1%)	60 (100%)	323 (72.9%)
Perceived school violence (%)	444 (88.3%)	55 (91.7%)	389 (87.8%)
Community violence – Victimization (%)	163 (32.4%)	26 (43.3%)	137 (30.9%)
Community violence – Witnessing (%)	361 (71.8%)	52 (86.7%)	309 (69.8%)
Not exposed to any form of violence (%)	4 (0.8%)	0	4 (0.9%)
Exposed to “poly-violence” (%)	472 (93.8%)	60 (100%)	412 (92.9%)
Exposed to all six forms of violence (%) ²	57 (11.3%)	17 (28.3%)	40 (9%)
<i>Educational outcomes</i>			
(Low) Academic Motivation (mean)	7.65 (0.19)	8.55 (0.74)	7.53 (0.23)
School Delay (mean) ¹	0.03 (0.06)	0.52 (0.19)	-0.04 (0.1)

¹Wald Test is statistically significant ($p < 0.01$)

²Chi-square Test is statistically significant ($p < 0.001$)

Educational outcomes and their association with poly-violence. Adolescents in Profile 1 at baseline were less likely to be in the appropriate grade for their age at follow-up (thus experiencing school delay), compared to adolescents in Profile 2 (see Table 19). Hence, more frequent exposure to “poly-violence” was associated with school delay in these adolescents. School delay outcome was measured using a continuous variable (with

negative numbers indicating number of grades ahead). Results therefore also show that children in grades higher than those age-appropriate were more likely to be in profile 2, and thus, these children were less-frequently exposed to poly-violence. Academic motivation was not significantly different across profiles.

Predictors of violence. Multinomial results showed a significant relationship between the adolescents' age and membership of each of the exposure-to-violence profiles (see Table 20). Thus, older adolescents were more likely to be in Profile 1 and to have experienced higher frequency of *poly-violence*, compared to younger adolescents ($p = 0.020$). Neither adolescent gender, family poverty, nor trial arm were significantly associated with profile membership.

Table 20 Predictors of Violence Among Adolescents From Socioeconomically Disadvantaged Communities In South Africa

Factors associated with exposure to violence – Predictors or violence	Multinomial Logistic Regression: comparison of Profile 1 vs Profile 2 ¹		
	Standardized Estimate (Beta)	SE	p-value
Female (coded high)	0.22	0.31	0.470
Age (years, older coded higher)	0.16	0.07	0.020
Family Poverty	0.08	0.07	0.230
Membership of Trial Arm (intervention)	0.06	0.3	0.840

¹Profile 2 is the reference category

Furthermore, a more detailed analysis taking into account adolescents' type of caregiver (i.e. biological mother, grandparent or other) and adolescents' exposure to violence by profile was conducted (see Table 2 in Appendix 10)¹⁴. Results showed that the type of caregiver was not associated with profile membership. When looking at patterns of association between different forms of violence and the type of caregiver overall, results

¹⁴ Post-publication analyses

showed that the type of caregiver did not predict higher or lower frequency of exposure to any form of violence. There was one exception to this: living with a biological grandparent was associated with lower exposure to community violence victimization ($p < 0.05$), compared to living with a biological mother or other types of caregivers (see Table 3, Appendix 10).

5. Discussion

This paper contributes to our knowledge on the lives of South African adolescents living in poverty by considering the relationship that exists between their exposure to “*poly-violence*” and subsequent measures of academic motivation and school delay. To our knowledge, this is the first study that has examined the impact of exposure to multiple forms of violence in the home, school and community on the educational outcomes of these adolescents (including younger and older adolescents). Furthermore, this is the first study to do so from a prospective approach, and the first that has applied a person-centered approach to measure any group of adolescents’ exposure to violence in South Africa (the identification of heterogeneous groups).

Exposure to Violence

Overall rates of exposure to any form of violence in the home and in the community were high in the study sample, compared to national estimates of exposure to violence (Akmatov, 2011; Ward et al., 2015). This was to be expected, given the purposive and socioeconomically disadvantaged status of the sample. Perceived school violence was particularly high in our sample, compared to national estimates (Department of Basic Education, 2013). In total, more than 80% of adolescents in the sample felt unsafe in school. Adolescents in the sample attended mainly socioeconomically disadvantaged schools in rural areas and townships. Previous research has demonstrated that endemic

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

crime in socioeconomically disadvantaged communities and a lack of appropriate supervision during school breaks –often due to a lack of resources- are important factors contributing to the poor safety in public schools (Burton & Leoschut, 2013; Masitsa, 2011).

Despite overall high rates of exposure to “*poly-violence*”, our results strongly confirmed heterogeneity within our sample. All sampled adolescents lived in socioeconomically disadvantaged communities characterized by a lack of infrastructure, and high rates of crime and unemployment. Yet results suggest that not all adolescents were equally exposed to violence and abuse. Two distinct groups of adolescents can be observed in relation to exposure to violence occurring mainly at home in socioeconomically disadvantaged communities in South Africa: 1) adolescents that are exposed to more frequent “*poly-violence*” in the home, and 2) adolescents that are exposed to less frequent “*poly-violence*”, compared to adolescents in group 1. Addressing exposure to “*poly-violence*” in socioeconomically disadvantaged communities in South Africa is particularly important. Research from other countries has shown that adolescents exposed to multiple forms of violence are more likely to experience more psychological distress and lower academic performance than those with minimal victimization or those exposed to only one specific form of violence (Holt et al., 2007).

Furthermore, profile characteristics in the study sample indicated that different frequencies of exposure to “*poly-violence*”, both direct and indirect, were present in adolescents in socioeconomically disadvantaged communities in South Africa. LPA analyses did not yield profiles characterized by distinct forms of exposure to violence (i.e. exposed to physical versus emotional abuse, exposed to school versus community violence etc.). However, two clear profiles characterized by different frequency of

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

exposure to “poly-violence” were identified. This finding is in line with previous research on children’s exposure to violence in South Africa and other Sub-Saharan countries, pointing at high rates of children’s multiple victimization (Clarke et al., 2016; Meinck, Cluver, Boyes, et al., 2016; Ward et al., 2015, 2007). Thus, results suggested that two groups of adolescents exposed to multiple types of violence can be found in socioeconomically disadvantaged communities in South Africa: first, those that are frequently exposed to direct (physical and emotional abuse) and indirect violence at home (domestic violence), as well as indirect violence in the community; second, those adolescents that are similarly exposed to family and community violence but in a less frequent manner. Particularly targeting adolescents exposed to more frequent exposure to “poly-violence” in socioeconomically disadvantaged communities in South Africa is important: previous research from different countries has shown that chronic abuse - recurrent incidents of abuse over time- increases the risk of cumulative negative effects (Ethier, Lemelin, & Lacharrit, 2004; Jaffe & Kohn Maikovich-Fong, 2011).

Our LPA results also confirm that the focus of interventions and policies should be on the most proximal ecological level (i.e. the family). Thus, reducing exposure to violence at home is paramount, especially amongst those most at risk of more-frequent ‘*poly-violence*’, who are particularly vulnerable to more severe types of abuse in their homes. In this regard, results also showed that the type of ‘parent’ who the adolescent lives with is not significantly associated with more or less exposure to violence at home, implying that it is living with a supportive and caring relative that is important. Interestingly, this finding confirms previous evidence on the effects of family structure on the educational outcomes of adolescents in South Africa (Branson et al., 2014).

Disadvantage, “poly-violence” and educational outcomes

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

Adolescents exposed to more frequent “*poly-violence*” were less likely to be in the appropriate grade for their age. This finding adds to the limited evidence on the negative effects of exposure to violence on school progression and academic performance among adolescents in South Africa (Pieterse, 2015; Sherr et al., 2016). However, most adolescents in the sample were high-risk adolescents due to multiple economic disadvantages in the home, as well as further disadvantages at school and in the community. For instance, most adolescents in the sample experienced multiple stressors such as coming from impoverished families, living in low-income communities and attending poorly-resourced schools. All these factors measuring socioeconomic disadvantage have been associated with school delay and grade repetition in South Africa (Branson et al., 2014; Lam et al., 2011; Spaul, 2015). Furthermore, the relationship between poverty and lower levels of education during childhood has also been identified as a strong predictor of violence perpetration and victimization in youth and adult life (WHO, 2002).

Our results showed that family poverty was not associated with exposure to violence. However, the poverty measure in the current analysis needs to be interpreted as an indicator of greater disadvantage in an already disadvantaged setting (all adolescents were highly at risk as they came from socioeconomically disadvantaged communities). Further studies which compare the exposure to violence of economically disadvantaged and economically non-disadvantaged adolescents are needed in South Africa. These studies may shed further light on whether incidences of exposure to multiple types of violence and its effects on educational outcomes differ, depending on the socioeconomic status. Finally, our results suggest that the disadvantaged communities in which participants lived may plausibly have contributed to the high rates of both exposure to

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

violence and school delay in the overall sample. However, a comparison group of adolescents not exposed to violence was not included in the analysis.

Previous research on older adolescents has shown high perseverance, expectations and motivation of disadvantaged South African youth to stay in school, regardless of their socioeconomic circumstances (Bray et al., 2010; Strassburg et al., 2010; Ward et al., 2007). This motivation to stay in school seems not to be associated with school completion and academic achievement (Bray et al., 2010; Strassburg et al., 2010). Similarly, our disadvantaged sample was also characterized by both high levels of academic motivation and school delay. Whilst previous research on young children suggested that family violence negatively affected young children's academic motivation (Barbarin et al., 2001), here adolescents exposed to more frequent "*poly-violence*" do not seem to have lower academic motivation in disadvantaged contexts.

Several South African authors attempt to explain the high aspirations of disadvantaged adolescents despite the lack of opportunities. Some think that youth's aspirations can be considered "unrealistic" within a context characterized by socioeconomic disadvantage due to an inadequate grasping of practical constraints on such aspirations (Watson et al., 2010). Watson et al. (2010) explain this further: 'It is possible that children who live in disadvantaged circumstances do not receive adequate exposure to the practical implications of their occupational aspirations. As a result, they may not realistically understand the potential barriers to actualizing these aspirations'. Certainly, these "unrealistic aspirations" would not be so unrealistic if the majority of adolescents in South Africa were given the same opportunities; such as having access to the same high-quality education that 25% of South African adolescents receive (Spaull, 2015; Spaull & Kotze, 2015). This 25% are from higher socioeconomic backgrounds who are not

exposed to these structural barriers (Spaull, 2015). Others explain the disassociation of dreams and opportunities within the current historical context of South Africa's young democracy, due to either a greater perception of social mobility or as a weapon against misery (Bray et al., 2010; Mzolo, 2013).

The relationship between adolescent age and their exposure to violence

Our results showed that age is associated with more frequent exposure to "*poly-violence*" in adolescents from disadvantaged communities in South Africa. This finding seems in line with evidence from high income countries where older children are more likely to be high poly-victims, compared to low poly-victims (Finkelhor et al., 2007). However, our study focuses on past-month exposure to violence compared to life time or past-year exposure to violence as used in other studies (Finkelhor et al., 2007). Thus our finding suggests that adolescents' risk to higher levels of exposure to "*poly-violence*" is not only due to their longer lifespan, compared with younger children. This risk of experiencing more frequent "*poly-violence*" in the past month might be explained by a wider range of movement and more contact with peers; adolescents tend to be less well monitored by caregivers due to increasing levels of autonomy among older adolescents compared to younger ones.

Implications and Limitations

The study has several limitations. First, a purposive sampling approach was applied. Adolescents were recruited from schools, community guides and social workers based on knowledge of relational issues at home. Furthermore, families were selected using a screening tool which asked about past arguments in the home. However, our recruitment and selection procedures allowed for the inclusion of very vulnerable adolescents and their families. Second, baseline characteristics showed that adolescents in the sample

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

were simultaneously disadvantaged in other ways (attending poorly-resourced schools, experiencing family poverty etc.) Hence, it is likely that findings on the educational delay of adolescents may not be explained by exposure to violence alone. Third, the six measures of exposure to violence used adolescents' self-reports. Self-report has often been criticized for being subject to recall bias. Compared to other studies using past year or lifetime exposure to violence, this study used past month report. The risk of recall bias was thus plausibly low, allowing us to identify very vulnerable adolescents. Furthermore, the use of ACASI in the violence sections of the questionnaire allowed us to reduce adolescents' social desirability bias.

Fourth, period of reference for all the measures recording exposure to violence was adapted to "in the past month" due to the RCT design and the intention to reduce participants' recall bias. Although it is plausible that exposure to violence changes from one month the next month, it is likely that certain practices leading to violence exposure in the home, such as harsh parenting occurred as a consistent behaviour over the years (Meinck, Cluver, Orkin, et al., 2016). Similarly, adolescents came from contexts characterized by deep-rooted community violence. Thus, past-month exposure to school and community violence may be indicative of long-term exposure to violence. Fifth, the time period of the present study (5 to 9 months) is not long enough to understand the medium and long-term effects of adolescents' exposure to violence on education. Although all follow-up interviews were conducted during the next academic year, compared to baseline interviews, we only measured a snapshot of adolescents' experiences. It is of course plausible that school delay had occurred over the years prior to our study; baseline descriptive results showed that more than a third of all adolescents in the sample were already enrolled in at least one grade lower than the one corresponding

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

to their age. As previously mentioned, it is also plausible that exposure to violence is likely to have happened more than a month before our baseline data collection, which might have affected adolescents' educational outcomes before the beginning of the study. However, this study does not claim any causal relationship between violence and school delay. In contrast, this investigation draws conclusions about what may be possible based on a cross-sectional analysis. This is a first step to better understanding the associations between violence, socioeconomic disadvantage and school delay.

A small proportion (n=31) of the sample did not report exposure to multiple types of violence including four adolescents who reported no violence exposure at all. However, the analysis used in the present study yielded two distinct profiles, grouping all adolescents in the sample based on the frequency of exposure to '*poly-violence*'. This is something that has occurred in other studies. For instance, in Flannery, Wester, & Singer (2004), Gorman-smith et al. (2004) and Yorohan (2011), children not exposed at all, or exposed to one form of violence, have constantly been grouped with other children exposed to multiple types of violence in a low frequent manner. These children have been considered as children exposed to 'low' levels of violence (Flannery et al., 2004; Gorman-smith et al., 2004; Yorohan, 2011). However, our own study differs on the methodology used, compared to these other studies. The main strength of using LPA is that it avoids using intuitive cut-off points to identify subgroups of adolescents similarly exposed to violence and school delay.

There are at least three plausible reasons for our model not identifying a third group of adolescents who had been exposed to neither '*poly-violence*' nor violence. Firstly, this may be due to having a very small representation of adolescents not exposed to '*poly-violence*' nor violence. Secondly, in this socioeconomically disadvantaged context,

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

adolescents exposed to neither '*poly-violence*' nor violence may experience similar school delay experiences, compared to those adolescents exposed to less-frequent '*poly-violence*'. Thirdly, the four adolescents who report no exposure to any type of violence were only doing so in the areas asked about in the past month. These adolescents were living in the same communities as the vast majority of the sample who reported the experience of '*poly-violence*'. This raises a number of possibilities that future research might investigate: 1. It may be that there is a small proportion (<1%) of adolescents in these communities who experience none of the violence that this paper investigates (even the indirect violence); 2. It may be that some adolescents in these communities do not want to report their experiences of violence to researchers; 3. It may be that some adolescents don't remember or don't notice the violence in their communities; 4. It may be that adolescents were exposed to violence or '*poly-violence*', but not in the past month. The extent to which any of these are true would make for an interesting follow-up investigation. Further research studies that include more adolescents not necessarily exposed to '*poly-violence*' (less at-risk adolescents) may shed further light on the different impacts of exposure to violence on the educational outcomes of adolescents from socioeconomically disadvantaged communities in South Africa.

Our findings suggest that adolescents from socioeconomically disadvantaged communities are exposed to multiple stressors at home, in the school and in the community. Poverty and exposure to violence affect adolescents' lives and their education opportunities. There is a need for a greater collaboration between different departments and stakeholders to reduce domestic violence, abuse, school violence and crime in the community. Promoting positive parenting practices while reducing financial stress at home may help reduce domestic violence; addressing not only parent-adolescent

Chapter 6 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

relations but also socioeconomic structural risk factors associated with abuse (Meinck, Cluver, Boyes, et al., 2015). Furthermore, more efforts are needed to ensure that adolescents in South Africa feel safe within the school grounds. For instance, low cost initiatives such as the Good School Toolkit study in Uganda can reduce violence against children from school staff (Devries et al., 2015). Increased communication among families, school teachers, police, community workers and social workers in the communities is needed. Improving or developing networks for early referral systems between all organizations working with children in order to prevent “*poly-violence*” is essential. More research into resilience to family and community violence is much needed as well as further studies looking at protective factors for educational outcomes in adolescents exposed to violence. These may inform policy further and help tailor specific interventions for “*poly-victimized*”, disadvantaged adolescents in South Africa.

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Citation:

Herrero Romero, R., Hall, J. E., Cluver, L., & Meinck, F. (2017). Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa? *Child Abuse & Neglect*, in press. <http://doi.org/10.1016/j.chiabu.2017.09.025>

Authors:

Rocio Herrero Romero¹, James Hall², Lucie Cluver^{1,3}, Franziska Meinck^{1,4}

¹ Centre for Evidence-Based Intervention, Department of Social Policy & Intervention, University of Oxford Barnett House, 32 Wellington Square, Oxford, OX1 2ER, UK. ² Southampton Education School, University of Southampton, University Road Southampton SO17 1BJ UK. ³ Department of Psychiatry and Mental Health, University of Cape Town, J-Block, Groote Schuur Hospital, Observatory, Cape Town 7925, South Africa. ⁴ OPTENTIA, School of Behavioural Sciences, North-West University, Vanderbeijlpark, South Africa

Author statement:

RHR conducted the majority of the work for this paper. RHR led the quantitative study design, data analysis and writing. JH and LC contributed to conceptualizing the quantitative study, analyses and writing. FM contributed to writing. RHR led the data collection and cleaning. All authors have read and approved the final text. All co-authors have reviewed and approved this author statement.

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

1. Abstract

Exposure to multiple forms of violence is common amongst adolescents from socioeconomically disadvantaged communities in South Africa. Adolescents' exposure to violence at home, in school and in their communities can lead to detrimental outcomes in education. In particular, adolescents who are more frequently exposed to multiple forms of violence are at risk of school delay. This paper investigates the potential for supportive parenting to protect against adolescents' school delay in this context. With this aim, this paper applies structural equation modelling to a sample of 503 adolescents exposed to multiple forms of violence from 40 socioeconomically disadvantaged communities. Adolescents' self-report data on child abuse in the family, school and community, and adolescents' perceptions of positive parenting, consistent discipline, good monitoring, parental involvement and social support were analyzed. Results showed that perceptions of more positive parenting and consistent discipline moderated the relationship between more frequent exposure to multiple forms of violence and school delay. Our findings suggest that supportive parenting has the potential to protect against school delay for poly-victimized adolescents in South Africa.

Keywords: school delay, supportive parenting, violence, adolescents, socioeconomic disadvantage, South Africa

2. Introduction

Socioeconomic disadvantage and adolescents' school delay in South Africa

School delay (enrolment below the age-appropriate grade) is a major policy concern for education in South Africa. School delay is closely related to the country's high levels of inequality, which affects the quality of education and thus adolescents' school outcomes

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

and their educational opportunities (Department of Basic Education, 2016a; Spaull, 2015). Hence, adolescents' academic achievement and progression are profoundly affected by the socioeconomic characteristics of their families, schools and communities (Lam et al., 2011). For instance, more than 30% of the variation in grade 6 reading and mathematics achievement in South Africa can be explained by socioeconomic characteristics (Spaull, 2013b). This is because adolescents from socioeconomically disadvantaged families and communities mostly attend poorly-resourced schools in rural areas, which are characterized by a lack of safety, inappropriate resources, low quality of teaching and poor learning outcomes (Lam et al., 2011; van der Berg, 2008).

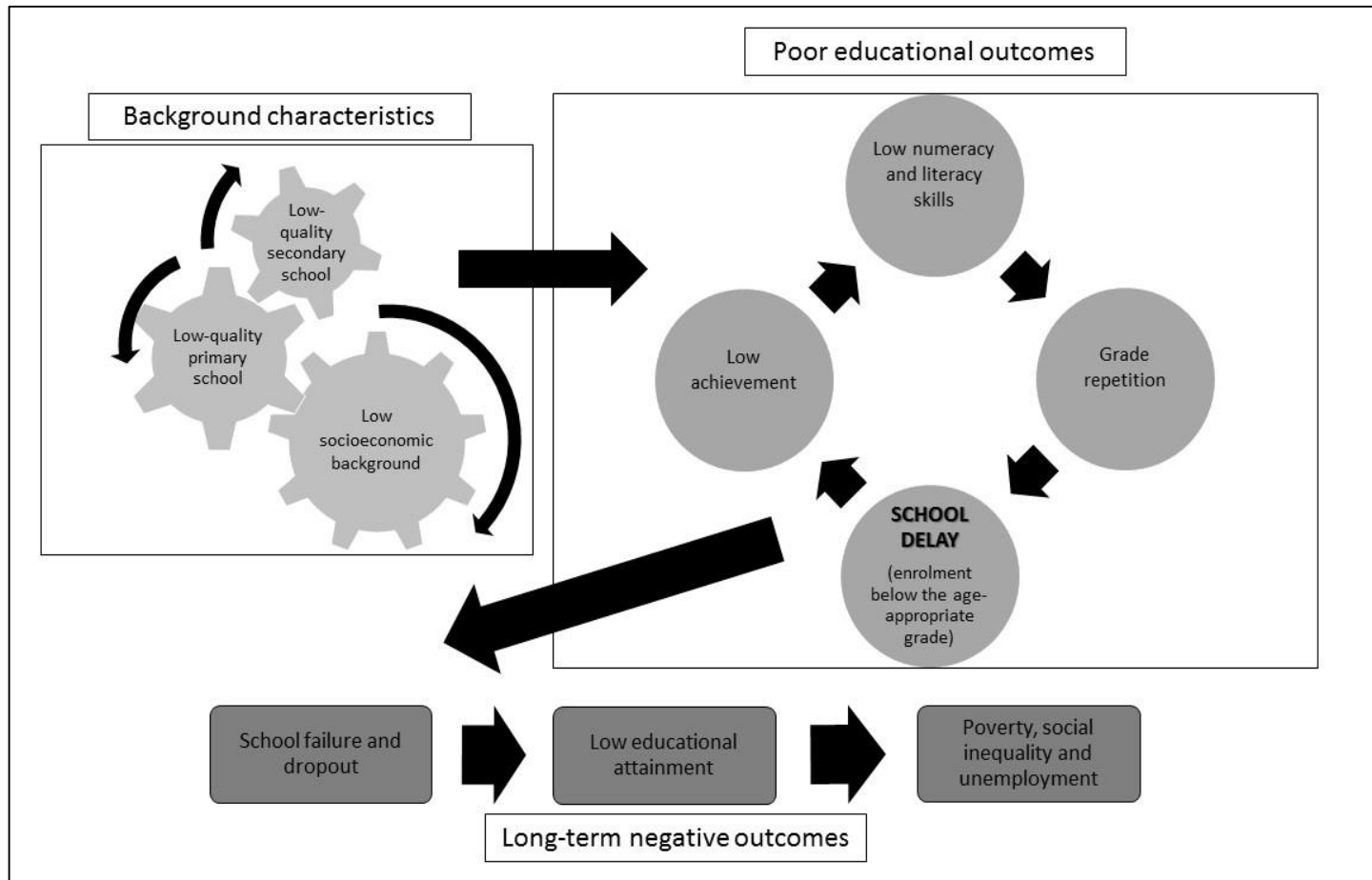
Poorly-resourced schools in disadvantaged areas of South Africa are the least able to overcome the burden of home socioeconomic disadvantage on students' performance (van der Berg, 2008). Thus, by grade 9, adolescents' mathematical knowledge in 60% of the poorest schools in South Africa is already five years behind the knowledge of wealthier adolescents attending more-functional and wealthier schools (Spaull, 2015; Spaull & Kotze, 2015). Therefore, despite high enrolment ratios amongst disadvantaged adolescents, *basic completion* -grade 9 completion- is low (Department of Basic Education, 2016a). Accordingly, grade repetition rates are high in South Africa, especially amongst socioeconomically disadvantaged students (Department of Basic Education, 2016a). While 30% of the poorest grade 11 students in South Africa have repeated a grade at least once, only 8% of the wealthiest grade 11 students have ever repeated a grade (Branson et al., 2014; Department of Basic Education, 2016a).

Thus, school delay is an important negative educational outcome affecting many adolescents in South Africa due to the low socioeconomic characteristics of their families

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

and the poorly-resourced low-quality schools which adolescents attend (Spaull, 2013b, 2015). Local research indicates that adolescents' school delay is associated with low numeracy and literacy skills and grade repetition, which in turn predicts school dropout and low educational attainment in the long term (Lam et al., 2011; Spaull & Kotze, 2015). Furthermore, studies on the South African education system, labor market and social mobility have identified low educational attainment as a significant determinant of an intergenerational cycle of social inequality characterized by unemployment and poverty (Branson et al., 2014; Spaull, 2015). Figure 22 summarizes the links between school delay, background characteristics, other poor educational outcomes and long-term negative outcomes in South Africa.

Figure 22 Background Characteristics, Poor Educational Outcomes And Long-Term Negative Outcomes: School Delay Theoretical Framework.



Based on Spaul, 2013, 2015; Spaul & Kotze, 2015

Adolescents' exposure to violence and school delay in South Africa

Similar to other Sub-Saharan African countries, there is a high prevalence rate of violence against children and adolescents in South Africa (Leoschut & Kafaar, 2017; Meinck, Cluver, Boyes, et al., 2016; Sherr et al., 2016). A 2015, nationally representative survey conducted among adolescents aged 15 to 18 found that within the home, 34% of adolescents had experienced physical abuse, 21% neglect, 16% emotional abuse, and 23% had witnessed domestic violence in their lifetime (Leoschut & Kafaar, 2017; Ward et al., 2015). Furthermore, 20% of adolescents reported persistent bullying at school, while 50% had witnessed violence take place in the community (Ward et al., 2015).

Repeated victimization and exposure to multiple forms of violence among adolescents are also becoming more common in South Africa (Burton & Leoschut, 2013; Leoschut & Kafaar, 2017; Ward et al., 2015). For instance, 64% of all adolescents aged 15 to 18 in South Africa experienced “*Lifetime Poly-victimization*” - numerous victimizations across different contexts ever in their lives (Leoschut & Kafaar, 2017). Furthermore, exposure to multiple forms of violence is more prevalent amongst adolescents from socioeconomically disadvantaged families and communities in South Africa due to related risk factors such as chronic poverty, unemployment, parental stress, and household overcrowding (Burton & Leoschut, 2013; Leoschut & Kafaar, 2017; Meinck, Cluver, & Boyes, 2015b; Meinck, Cluver, Boyes, et al., 2015; Seedat et al., 2009; Ward et al., 2015). For instance, a recent cross-sectional study in socioeconomic disadvantaged communities in the Eastern Cape showed that 94% of adolescents were repeatedly exposed to two or more forms of violence in the past month (Herrero Romero, Hall, Cluver, Meinck, & Hinde, 2018).

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Most of the global and South African evidence on the negative impact of violence against children has focused on its detrimental consequences to children's mental and physical health (Barbarin et al., 2001; Bruwer et al., 2014; Meinck, Cluver, Orkin, et al., 2016; WHO, 2014). However, only four studies in South Africa have focused on the relationship between violence and negative educational outcomes amongst adolescents (Barbarin et al., 2001; Bruwer et al., 2014; Herrero Romero, Hall, Cluver, et al., 2018; Meinck, Cluver, Orkin, et al., 2016). Three of these focused on the negative effects of single forms of violence (domestic violence, harsh parenting, and witnessing community violence) on overall adolescents' school progression, academic achievement and school dropout (Barbarin et al., 2001; Pieterse, 2015; Sherr et al., 2016). The results of these studies showed that harsh discipline and domestic violence were associated with adolescents' slow grade progression (Sherr et al., 2016), while recurrent exposure to physical abuse at home was associated with an increased probability of a reduction in numeracy skills test scores and a greater risk for dropout (Pieterse, 2015). Furthermore, experiences of family violence in the past 6 months was inversely associated with young children's academic motivation (Barbarin et al., 2001). The fourth study looked at the negative impact of adolescents' exposure to multiple types of violence on their school delay and academic motivation, in a socioeconomically disadvantaged context (Herrero Romero, Hall, Cluver, et al., 2018). Results showed that adolescents' more frequent exposure to more than one form of violence was significantly associated with worse school delay but not with lower academic motivation.

The protective role of supportive parenting on adolescents' schooling outcomes

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Parents have an important role in their children's education. Strong global evidence shows that beyond cultural and socioeconomic characteristics, less controlling and more supportive parenting practices and parenting styles can have a positive impact on adolescents' educational outcomes (Areepattamannil, 2010; Grolnick et al., 2007; N. E. Hill & Taylor, 2004; Jeynes, 2007; Selin, 2013). For instance, studies in countries such as the USA, Canada, the UK, Taiwan, Mexico, Ghana and Kenya have found that at-home parental involvement is associated with positive educational outcomes (Areepattamannil, 2010; Castro, Expósito-casas, López-martín, & Lizasoain, 2015; Chowa et al., 2013; Kan & Tsai, 2005; Mudibo, 2014; Wilder, 2014). More specifically, the following types of parental involvement exert a positive impact on both an adolescent's academic motivation and academic achievement: providing support with learning opportunities (Desforges & Abouchaar, 2003; Mudibo, 2014; Shukla, Tombari, Toland, & Danner, 2015; Simon, 2001; Wilder, 2014), good supervision (Castro et al., 2015; Chowa et al., 2013; N. E. Hill & Tyson, 2009) and parents' high academic expectations (Jeynes, 2007; Kan & Tsai, 2005; Mo & Singh, 2008; Simon, 2001; Wilder, 2014). Furthermore, parenting styles such as close and positive parenting (Jeynes, 2007; Kristin et al., 2009; Zellman et al., 2017) as well as positive, authoritative discipline (Shute et al., 2011) have been found to be associated with higher academic achievement.

In South Africa, we are aware of one study that has investigated the relationship between supportive parenting practices and adolescents' educational outcomes (Sherr et al., 2017). This study applied a cross-sectional analysis investigating the relationship between supportive parenting and several children's outcomes in Malawi and South Africa. The

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

study's results showed that more supportive parenting was associated with fewer educational risks amongst children aged 7 to 13 (Sherr et al., 2017).

The potential protective effect of supportive parenting on the relationship between exposure to violence and adolescents' schooling outcomes

Although a large number of studies have looked at violence-prevention programs, few studies have examined parenting processes which work to lessen the negative effect of exposure to violence on adolescents' educational outcomes (Rothon et al., 2011; Tajima et al., 2011). For instance, a longitudinal study in the UK showed that for adolescents with moderate levels of social support from parents, bullying was not associated with lower odds of achieving the academic benchmark, compared to adolescents with very low or very high levels of social support (Rothon et al., 2011). These results showed that moderate (but not high) support from family protected bullied adolescents against poor academic achievement. Another longitudinal study in the US analyzed the potential moderating effects of having accepting and close parents (rather than controlling parents) on the relationship between exposure to Intimate Partner Violence (IPV) and several adolescent outcomes (Tajima et al., 2011). In this study, having accepting parents moderated (lessened) the effect of exposure to IPV on running away from home and adolescent pregnancy, but did not moderate (lessen) the effect of IPV on school dropout.

Current Study

To date, little is known on the role of supportive parenting practices in protecting South African adolescents' educational outcomes against the negative effects of violence and socioeconomic disadvantage. Thus, following a socioecological resilience approach, this study investigates one source of potential resilience in education (Theron & Engelbrecht,

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

2012; Ungar, 2012b). In particular, the current study investigates the potential protective role of supportive parenting against adolescents' school delay within a context of violence and socioeconomic disadvantage in 40 communities in the Eastern Cape, South Africa. With this aim, two distinct types of resilience processes were investigated (see Figure 23): first, the potential "compensatory" protective effect (Fergus & Zimmerman, 2005; Masten, 2001, 2014; Sacker & Schoon, 2007) of supportive parenting factors against overall exposure to violence and socioeconomic disadvantage is analyzed. This is done by looking at the independent and direct relationships between supportive parenting factors and adolescents' school delay. Second, the potential "moderating" protective effect (Garmezy & Masten, 1986; Hall, 2009; Masten, 2001, 2014) of supportive parenting factors against the negative impact of "*poly-violence*" (Herrero Romero, Hall, Cluver, et al., 2018) on school delay is investigated. This is operationalized by looking at the moderating effects of parenting on the relationship between exposure to *more-frequent 'poly-violence'* and school delay.

3. Methods

Sample and data

Sampled adolescents were participants in the Sinovuyo Teen Study (STS), a cluster randomized controlled trial evaluating a violence-prevention parenting program in disadvantaged communities in the Eastern Cape, South Africa (Cluver et al., 2018). 32 rural and 8 peri-urban communities were purposively selected for the trial. All communities were low-income with high rates of unemployment and poor public infrastructures. Vulnerable adolescents aged 10 to 18 -and their primary caregivers- were recruited via schools, social workers and community guides. Some families were also

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

self-referred. Biological relationships were not required for the caregiver-adolescent dyads to participate in the study. Primary caregivers were identified by asking adolescents, “*who is the person responsible for caring for you most in your household?*” In order to be included in the study, primary caregivers and adolescents had to be cohabitating at least four nights per week. A brief screening questionnaire inquiring into domestic arguments was used. However, no exclusion criteria were applied. More information regarding the parenting program and the sampling procedure can be found in the publication of the trial protocol (Cluver, Meinck, Shenderovich, et al., 2016).

Out of the 552 adolescents included in the trial, 22 dropped out before the intervention took place, while 27 were not attending school and so did not have complete data on educational outcomes in the follow-up survey. Thus, the current analysis only includes 503 adolescents. These 503 adolescents had no missing data on any measures.

Data collection happened twice before and twice after the parenting intervention. Baseline surveys took place from May until September 2015 while follow-up surveys were conducted from February to August 2016. Adolescents were interviewed face-to-face in Xhosa by local research assistants who were trained on sensitive topics. Local research assistants were bilingual in English and Xhosa and trained in the use of tablets, research ethical procedures, interview techniques, observational data collection, questionnaires and measures. In total, they received at least five 2-day refresher training sessions on the questionnaires throughout the trial. Standardized, validated measurement tools were applied. Tablet-questionnaires were used with Audio Computer-Assisted Self-Interview Software (ACASI) options available for the more-sensitive questions. Data was encrypted to ensure confidentiality of the participants.

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Ethics approval was granted from research ethics committees at the University of Oxford, the University of Cape Town, and the South African Departments of Social Development, and of Basic Education. Community consent to participate in the study was sought from local governments and traditional chiefs. Individual, informed consent was also sought from all adult and adolescent participants in the study. Participation was voluntary and participants could withdraw their consent to participate at any moment during the trial. No monetary compensation was given. Refreshments, participation certificates and small stationary ‘thank you’ packs were given to each adolescent.

Measures

School Delay (at follow-up)

School delay was measured using a continuous scale based on the age-grade appropriateness in South Africa. Adolescents who were enrolled in the age-appropriate grade scored 0 in the school delay scale. Positive scores indicated number of grades behind, hence a positive score of 1 indicated that a given adolescent was 1 grade behind their age-appropriate grade. The negative scores indicated the number of years ahead. School delay scores in the study sample ranged from “-3” (three years ahead age-appropriate grade) to “+3” (three years below of age-appropriate grade).

“Poly-violence” (at baseline)

Table 21 displays six scores measuring the frequency of adolescents’ past-month exposure to six types of violence: *Domestic violence between household members*, *Adolescent physical abuse by caregivers*, *Adolescent emotional abuse by caregivers*, *Perceived school violence*, *Witnessing community violence* and *Community violence*

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

victimization. Each score was a standardized sub-scale that measured the frequency to past-month violence exposure. The six sub-scales had been previously used in other studies with similar samples in South Africa and other Sub-Saharan countries (The African Child Policy Forum, 2014; UNICEF, 2009; Ward et al., 2007). In the current study, the six sub-scales were adapted to match both cultural and trial characteristics. More information on the adaptation process of these measures can be found in (Cluver, Meinck, Shenderovich, et al., 2016). Response codes for each sub-scale can be found in Table 21.

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Table 21 Sinovuyo Teen Study Measures Recording Exposure to Violence

Measures	Sum Scale (# Items)	Items	Items Response Codes	Scale Score Range
Domestic violence between household members	ICASTDVT ICAST (2 items)	In the past month, how many days were there arguments with adults shouting in your home? In the past month, how many days were there arguments with adults hitting each other in your home?	0= Never 1, 2 3, 4, 5, 6, 7 times 8= 8 or more times	0-16
Adolescent physical abuse by caregivers	PHYABCPT ICAST-TRIAL+ APQ (7 items)	In the past month, how often did an adult in your house ...Push, grab, or kick you? ...Shake you? ...Hit, beat, or spank you with a hand? ...Hit, beat, or spank you with a belt, paddle, a stick or other object? Your caregiver spanks you with their hand when you have done something wrong Your caregiver slaps you when you have done something wrong. Your caregiver hits you with a belt, switch, or other object when you have done something wrong.	0= Never 1, 2 3, 4, 5, 6, 7 times 8= 8 or more times Original response values were multiplied by 2. New response codes: 0= Never; 2= Almost never; 4= Sometimes; 6= Often; 8= Always	0-56
Adolescent emotional abuse by caregivers	ICASTEMT ICAST-TRIAL (8 items)	In the past month how often did an adult ...scream at you very loudly and aggressively? ...Call you names, say mean things or swear at you? ...Make you feel ashamed/embarrassed in front of other people in a way that made you feel bad? ...Say that they wished you were dead or had never been born? ...Threaten to leave you forever or abandon you? ...Lock you out of the home for a long time? ...Threaten to call evil spirits against you or hurt or kill you? ...Refuse to speak to you because they were angry with you	0= Never 1, 2 3, 4, 5, 6, 7 times 8= 8 or more times	0-64
Perceived school violence	SCHUNST UNICEF (5 items)	I feel safe at school (reversed) I feel safe walking both to and from school (reversed) I sometimes don't use the toilets at school because they are not safe This school is being ruined by bullies This school is badly affected by crime and violence in the community	0= Definitely not true 1= Mostly not true 2= Mostly true 3= Definitely true	0-15
Witnessing community violence	WCOMVIOT SAHA (5 items)	Someone else being threatened Someone else being mugged and his/ her your stuff stolen People fighting Someone else being hit or harmed People being drunk or on drugs and being argumentative	0= Never 1= Once or twice 2= 3-5 times 3= More than 5 times	0-15
Community violence victimization	VCOMVIOT SAHA (5 items)	Threatened by someone else Mugged and have your stuff stolen Caught up in a fight Hit or harmed. With friends that were drunk or on drugs and argumentative	0= Never 1= Once or twice 2= 3-5 times 3= More than 5 times	0-15

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

ICASTDVT= ISPCAN Child Abuse Screening Tool Domestic Violence subscale; PHYABCPT= Physical Abuse and Corporal Punishment; ICAST-TRIAL= ISPCAN Child Abuse Screening Tool trial version; APQCP= Alabama Parenting Questionnaire Corporal Punishment subscale; ICASTEMT= ISPCAN Child Abuse Screening Tool Emotional Abuse subscale; SCHUNST UNICEF= School Unsafety subscale UNICEF Safe and Caring Child-Friendly School Study; WCOMVIOT SAHA= Community violence witnessing subscale Social and Health Assessment; VCOMVIOT SAHA= Community violence victimization subscale Social and Health Assessment.

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Domestic violence between household members, *Adolescent emotional abuse by caregivers* and *Adolescent physical abuse by caregivers* were measured using a culturally-adapted version of the ISPCAN Child Abuse Screening Tool (ICAST-C; (Meinck et al., 2018; Zolotor et al., 2009) and the Corporal Punishment sub-scale of the Alabama Parenting Questionnaire (Frick, 1991). Internal consistency (Cronbach's alpha) of the ICAST-C subscales were 0.67 (*Domestic violence between household members*), 0.81 (*Adolescent emotional abuse by caregivers*) and 0.88 (*Adolescent physical abuse by caregivers*). *Perceived school violence* was measured using five adapted items from the UNICEF Safe and Caring Child-Friendly School Study (UNICEF, 2009). *Witnessing community violence* and *Community violence victimization* were measured using the Exposure to Violence Scale from the Social and Health Assessment (SAHA) study (Ruchkin et al., 2004; Ward et al., 2007). Internal consistency (Cronbach's alpha) of the SAHA subscales were 0.78 (*Witnessing community violence*) and 0.63 (*Community violence victimization*).

"*Poly-violence*" was determined by having been exposed to more than one of the six forms of violence. Descriptive analyses showed that the majority of adolescents in the sample were exposed to "*poly-violence*" (93.8%). The two "*poly-violence*" categories - *more-frequent* versus *less-frequent exposure*- were identified by applying Latent Profile Analysis (LPA). Table 22 shows the two groups' mean scores for each violence indicators. Adolescents in Profile 1 (n=60) experienced more-frequent domestic violence (M=8.394, SD=1.126, $p<0.001$), physical abuse (M=16.772, SD=2.654, $p<0.001$), emotional abuse (M=21.583, SD=2.347, $p<0.001$), community violence victimization (M=1.186, SD= 0.297, $p=0.060$), and witnessing community violence (M=4.305, SD=

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

0.557, $p=0.001$), compared to adolescents in Profile 2 ($n=443$). Both groups of adolescents showed similar levels of perceived school violence ($p=0.500$). More information on the LPA applied to measure “poly-violence” can be found in (Herrero Romero, Hall, Cluver, et al., 2018).

Table 22 Exposure To Violence Among Adolescents From Socioeconomically Disadvantaged Communities In South Africa

Measures compared across the two profiles	LPA: profile comparison: mean (SE)		Wald	Profile comparison: n (%)	
	Profile 1	Profile 2		Profile 1	Profile 2
	More-frequent “poly-violence” n=60	Less-frequent “poly-violence” n=443		More-frequent “poly-violence” n=60	Less-frequent “poly-violence” n=443
Exposure to Violence – Risk Indicators					
Domestic violence between household members	8.394 (1.126)	1.634 (0.212)	<0.001	54 (90%)	203 (45.8%)
Adolescent physical abuse by caregivers	16.772 (2.654)	6.013 (0.350)	<0.001	49 (81.7%)	269 (60.7%)
Adolescent emotional abuse by caregivers	21.582 (2.347)	3.934 (0.393)	<0.001	60 (100%)	323 (72.9%)
Perceived school violence	9.198 (0.504)	8.863 (0.130)	0.542	55 (91.7%)	389 (87.8%)
Community violence – Victimization	1.186 (0.297)	0.661 (0.055)	0.063	26 (43.3%)	137 (30.9%)
Community violence – Witnessing	4.305 (0.557)	2.517 (0.145)	0.001	52 (86.7%)	309 (69.8%)
“Poly-violence”	Na	Na	Na	60 (100%)	412 (92.9%)

Supportive parenting factors (at baseline)

Table 23 displays the five measures recording supportive parenting factors. *Positive parenting*, *Consistent discipline*, *Good monitoring* and *Parental involvement* were measured using adapted versions of the four standardized sub-scales from the Alabama Parenting Questionnaire (APQ, Frick, 1991). The APQ has been used in previous studies with vulnerable adolescents and orphans in South Africa (Lachman et al., 2014). In the

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

current study, internal consistency (Cronbach's alpha) of the APQ subscales were: 0.88 (*Positive parenting*), 0.67 (*Consistent discipline*), 0.75 (*Good monitoring*) and 0.86 (*Parental involvement*). A 5-point Likert scale was used with response options ranging from 'never' to 'always'. Adolescents' recall period was adapted to past-month. The term "main caregiver" was used instead of "mom" and "dad".

Perceived social support from caregivers was measured using an adapted version of the Medical Outcome Study (MOS) Social Support Survey (Sherbourne & Stewart, 1991). The MOS scale, which has been used in previous studies with vulnerable adolescents in South Africa (Cluver & Gardner, 2007), includes questions about emotional/informational, tangible, affectionate, and positive social interactions. In the current study, adolescents were asked how often in the past month they received different types of support from their caregivers. Response options ranged on a 3-point Likert scale from "never" to "sometimes" to "always". Internal consistency (Cronbach's alpha) for *Perceived social support from caregivers* was 0.99.

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Table 23 Sinovuyo Teen Study Measures Recording Supportive Parenting Factors

Measures	Sum Scale (# Items)	Items	Items Response Codes	Scale Score Range
<i>Positive Parenting</i>	APQ (6 items)	Your caregiver tells you that you are doing a good job Your caregiver rewards you or gives you something extra to you for behaving well. Your caregiver compliments you when you have done something well. Your caregiver praises you for behaving well Your caregiver hugs or kisses you when you have done something well. Your caregiver tells you that he/she likes it when you help around the house	0= Never 1= Almost never 2= Sometimes 3=Often 4= Always	0-24
<i>Consistent Discipline</i>	APQ (6 items; all reversed)	Your caregiver threatens to punish you and then does not do it You talk your caregiver out of punishing you after you have done something wrong. Your caregiver gives up trying to get you to obey them because it's too much trouble. Your caregiver lets you out of a punishment early (like lift restrictions earlier than they originally said) Your caregiver does not punish you when you have done something wrong The punishment your caregiver gives depends on their mood	0= Never 1= Almost never 2= Sometimes 3=Often 4= Always	0-24
<i>Good Monitoring</i>	APQ (10 items; all reversed)	You fail to leave a note or let your caregiver know where you are going You stay out in the evening past the time you are supposed to be home Your caregiver does not know the friends you are with You go out without a set time to be home You go out after dark without an adult with you. Your caregiver gets so busy that he/she forgets where you are and what you are doing You stay out later than you are supposed to and your caregiver doesn't know it. Your caregiver leaves the house and doesn't tell you where he/she is going. You come home from school more than an hour past the time your caregiver expects you to be home You are at home without an adult being with you	0= Never 1= Almost never 2= Sometimes 3=Often 4= Always	0-40
<i>Parental Involvement</i>	APQ (10 items)	In the past month...You have a friendly talk with your caregiver Your caregiver helps with some of your special activities (such as sports, church youth group) You play games or do other fun things with your caregiver Your caregiver asks you about your day in school Your caregiver helps you with your homework Your caregiver asks you what your plans are for the coming day. Your caregiver accompanies you to a special activity. Your caregiver talks to you about your friends You help plan family activities Your caregiver goes to a meeting at school or a caregiver/teacher conference	0= Never 1= Almost never 2= Sometimes 3=Often 4= Always	0-40
<i>Social Support</i>	MOSS (19 items)	How often can you count on {caregiver_name} to listen to you when you need to talk? How often does {caregiver_name} give you information and help you understand the situation? How often does {caregiver_name} give you good advice about a crisis? How often can you confide or talk about your problems with {caregiver_name}? How often does {caregiver_name} give you advice you really want? How often can you share your most private worries and fears with {caregiver_name} How often you do turn to {caregiver_name} to talk about how to deal with your personal problems Does {caregiver_name} understand your problems? When you are ill in bed, how often does {caregiver_name} help you? How often does {caregiver_name} take you to the doctor when you need to go? How often does {caregiver_name} prepare meals for you when you are unable to do it? How often does {caregiver_name} help you with your daily chores if you are sick? How often does {caregiver_name} show you love and affection? How often does {caregiver_name} make you feel loved and wanted? How often does {caregiver_name} hug you? Do you have a good time with {caregiver_name}?	0= Never 1= Sometimes 2= Always	0-38

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Do you and {caregiver_name} relax together?
Do you and {caregiver_name} do enjoyable things together?
Do you often do things with {caregiver_name} to help you get your mind off things

STS= Sinovuyo Teen Study

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Covariates (at baseline)

Adolescents were asked about their *age* and *gender*. Furthermore, *poverty* was measured using an 8-item scale recording adolescents' access to basic necessities (i.e. 'a visit to the doctor when someone was ill') in the past week. These items were developed by the Centre for South African Social Policy (G. Wright, 2008) and endorsed by 80% of the South African population in a nationally representative survey (Pillay, Roberts, & Rule, 2006). Adolescents' responses indicated whether or not they had enough money to cover each basic necessity by answering 'yes' or 'no'.

Data Analysis

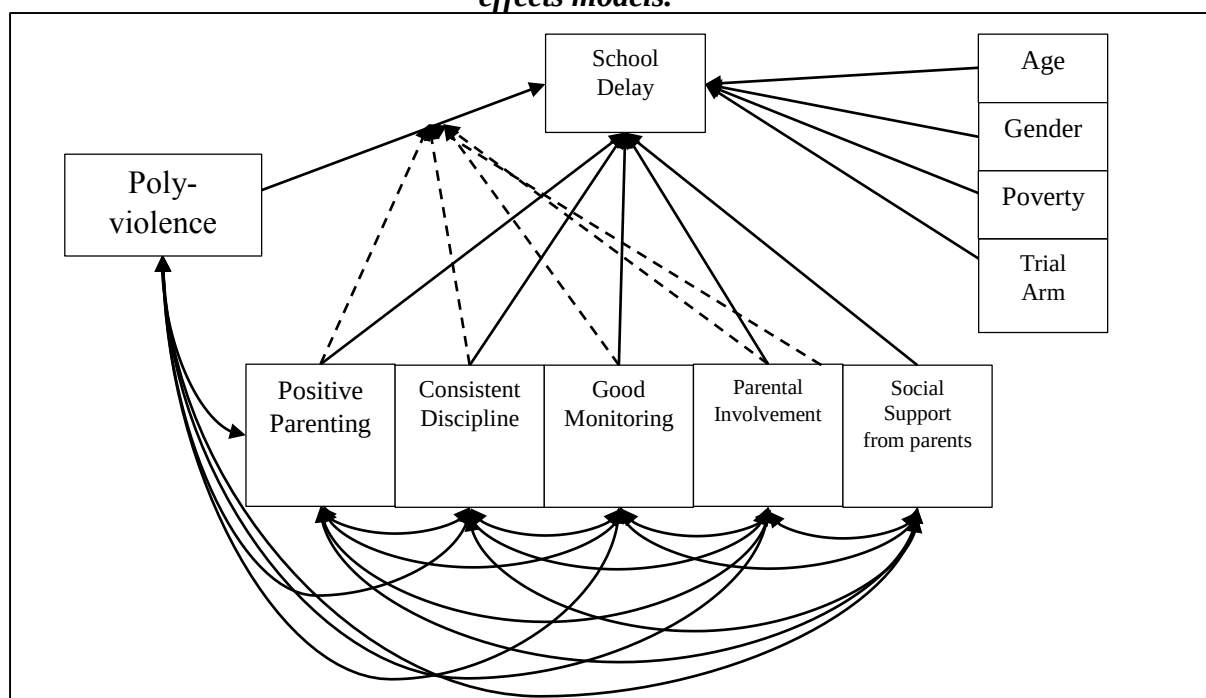
In order to investigate the main and moderating effects of parenting factors on school delay, multilevel aggregated Structural Equation Modelling (SEM) was applied using Mplus V7 (L. Muthén & Muthén, 2012). The multilevel aggregated version of SEM was used in order to correct for the non-independence of observations (adolescents nested in schools and communities). An initial inspection of the study Design Effects and Intra Class Correlation (ICC) indicated that no significant variation on school delay was explained due to differences between schools, while a small proportion of variance on school delay was due to differences between communities (variance estimate=0.15, $p<0.05$; see Herrero Romero, Hall, Cluver, et al., 2018).

The direct and interaction effects models are displayed in Figure 23. Analyses were conducted in two steps: first, a school delay main effects model was run with the five parenting factors and "*poly-violence*" as predictors; second, an interaction effects model was run including the five interaction terms of the "*poly-violence*" variable with each of the parenting factors. Both models controlled for the four covariates –age, gender,

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

poverty and trial arm-. “Poly-violence” was treated as an observed dichotomous predictor variable: 0= less-frequent exposure to poly-violence (n=443); 1= more-frequent exposure to poly-violence (n=60). All variables included in the interaction terms were standardized in SPSS using z-scores prior to running SEM analysis in Mplus (Kenny, 2014). Model fit was improved by correlating the error terms between predictor variables (David, Cole, Ciesla, & Steiger, 2007). For each of the models, acceptable overall model fit was indicated by root mean square error of approximation (RMSEA) values of less than 0.08 and comparative fit index (CFI) values of more than 0.9 (Kenny, 2014).

Figure 23 Hypothesized supportive parenting on school delay: main and interaction effects models.



Finally, in order to test and interpret each significant interaction effect, separate *Johnson-Neyman* graphs were obtained using the MODEL CONSTRAINT: LOOP PLOT command in Mplus (Clavel, 2015). The Johnson-Neyman technique (P. Johnson & Neyman, 1936) allows one to calculate the *regions of significance*, and is considered a

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

more advanced approach compared to the *simple slopes* technique (Clavel, 2015; Potthoff, 2006; Preacher et al., 2006). The traditional simple slopes technique is based on the dichotomization of a continuous moderator into two mutually-exclusive categories; arbitrarily splitting the moderator variable into “low” and “high” in order to compare their simple means. In opposition, the Johnson-Neyman technique allows for plotting of the interaction effects between a categorical variable and a continuous variable without splitting the data. The Johnson-Neyman technique allows one to test whether the difference in means for the two groups is statistically significant, for any value of the moderator (Miyazaki & Maier, 2011). Therefore, one can actually observe exactly how that $X \rightarrow Y$ relationship is constantly changing across continuous levels of the moderator variable. Thus, the Johnson-Neyman technique is based on the identification of the regions of significance, which are the precise regions of the continuum of the moderator values for which the regression slope of $X \rightarrow Y$ is estimated to be significantly different from zero (Clavel, 2015). Thus, this technique provides richer information compared to more traditional techniques. By applying the Johnson-Neyman technique one can test for “non-linear interactive effects” going beyond the two traditional moderator categories (“low” vs “high”).

4. Results

Sample characteristics

Table 24 displays sample demographics as well as the main socioeconomic-, school-, violence- and parenting-related characteristics. All adolescents but one spoke Xhosa as their main language at home and around 80% lived in a rural community. Over 60% of

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

adolescents lived in a household with no tapped/piped water inside the home, while around 70% lived in households where no one was employed.

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Table 24 Sample Characteristics at Baseline (n=503)

	Mean (SD)/ n (%)
<i>Demographics</i>	
Adolescent Age (years)	13.71 (2.34)
Female adolescent	208 (41.4%)
Adolescent living in a rural community	405 (80.5%)
Adolescent was an orphan	160 (31.8%)
Xhosa as the main language spoken at home	502 (99.8%)
<i>Household socioeconomic characteristics</i>	
More than 2 basic necessities missing in the past month	382 (75.9%)
At least 2 days in the past week with not enough food at home	222 (44.1%)
Living in a household where no one is working	350 (69.6%)
Living in a household with no tap water	318 (63.2%)
<i>Schooling characteristics</i>	
Enrolled in state school	503 (100%)
Enrolled in at least one year below the appropriate grade in relation to age	128 (37.6%)
Enrolled in at least two grades higher than the appropriate grade in relation to age	61 (13.1%)
Attending secondary schools	214 (48.6%)
Attending schools in rural communities	335 (66.6%)
Attending poorly-resourced schools ¹	430 (85.5%)
Receiving free meals at school	484 (96.2%)
<i>Past-month exposure to violence²</i>	
Witnessed domestic violence between household members	257 (51.1%)
Experienced physical abuse by caregivers	318 (63.2%)
Experienced emotional abuse by caregivers	383 (76.1%)
Felt unsafe in school	444 (88.3%)
Experienced community violence (victimization)	163 (32.4%)
Witnessed community violence	361 (71.8%)
Exposed to any form of violence	499 (99.2%)
Exposed to “poly-violence”	472 (93.8%)
Exposed to all six forms of violence	57 (11.3%)
<i>Supportive parenting</i>	
Positive parenting	14.49 (5.886)
Consistent discipline	16.62 (4.678)
Good monitoring	26.61 (7.385)
Involved parenting	18.61 (9.184)
Social support	22.32 (7.672)

¹ Quintile 1-3 State Schools

² % of adolescents who replied different than *never* to at least one of the violence item questions or % of adolescents who replied *mostly true* or *definitely true* to at least one of the *Perceived School Violence* scale question

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

All adolescents in the study attended state schools, of which 86% attended poorly-resourced schools (quintile 1 to 3 schools in the South African State Schools classification system). The majority of adolescents received daily free meals at school (96.2%). While 13% of the adolescents in the sample were enrolled in at least two grades above their appropriate grade in relation to age, 38% were enrolled in at least one year below the appropriate grade.

The vast majority of adolescents in the study sample were exposed to violence in the past month (99.2%) and 93.8% were exposed to “*poly-violence*” in the past month. Furthermore, 11% of the study sample reported being exposed to all six forms of violence in the past month. Overall, sample means for all perceived parenting factors were high. However, large standard deviations (SD) indicated high variability within the sample: positive parenting (M=14.49, SD=5.886), consistent discipline (M=16.62, SD=4.678), good monitoring (M=26.61, SD=7.385), involved parenting (M=18.61, SD=9.184), and social support (M=22.32, SD=7.672).

Main effects of *more-frequent exposure to “poly-violence”* and parenting factors on adolescents’ school delay

Step 1 in Table 25 exhibits the main effects of *more-frequent exposure to “poly-violence”* and parenting factors on adolescents’ school delay. Results in Table 25 showed that being exposed to *more-frequent “poly-violence”* was associated with higher school delay ($p=0.005$), while none of the five parenting factors included in the model were directly and significantly associated with school delay. Results also showed that being a male ($p<0.001$) and older ($p<0.001$) were significantly associated with school delay.

Table 25 The Relationship Between More-Frequent Exposure To Poly-Violence And Supportive Parenting Factors With School Delay, And Moderating Effects Of Supportive Parenting Factors

	Estimate	SE	p-value
Step 1			
More-frequent poly-violence (P)	0.186	0.067	0.005
Positive parenting	0.002	0.105	0.987
Consistent discipline	-0.009	0.071	0.904
Good monitoring	0.115	0.072	0.107
Involved parenting	-0.049	0.114	0.669
Caregiver's social support	0.031	0.059	0.604
Female Gender	-0.621	0.095	0.000
Older Age	0.198	0.024	0.000
Poverty	0.021	0.027	0.422
Intervention Trial Arm	0.224	0.158	0.156
Step 2			
P*positive parenting	-0.259	0.082	0.002
P*consistent discipline	-0.151	0.059	0.011
P*good monitoring	0.022	0.046	0.639
P*involved parenting	0.149	0.117	0.201
P*social support	0.088	0.050	0.077

Step 1: RMSEA = 0.073; CFI= 0.938

Step 2: RMSEA= 0.057; CFI= 0.951

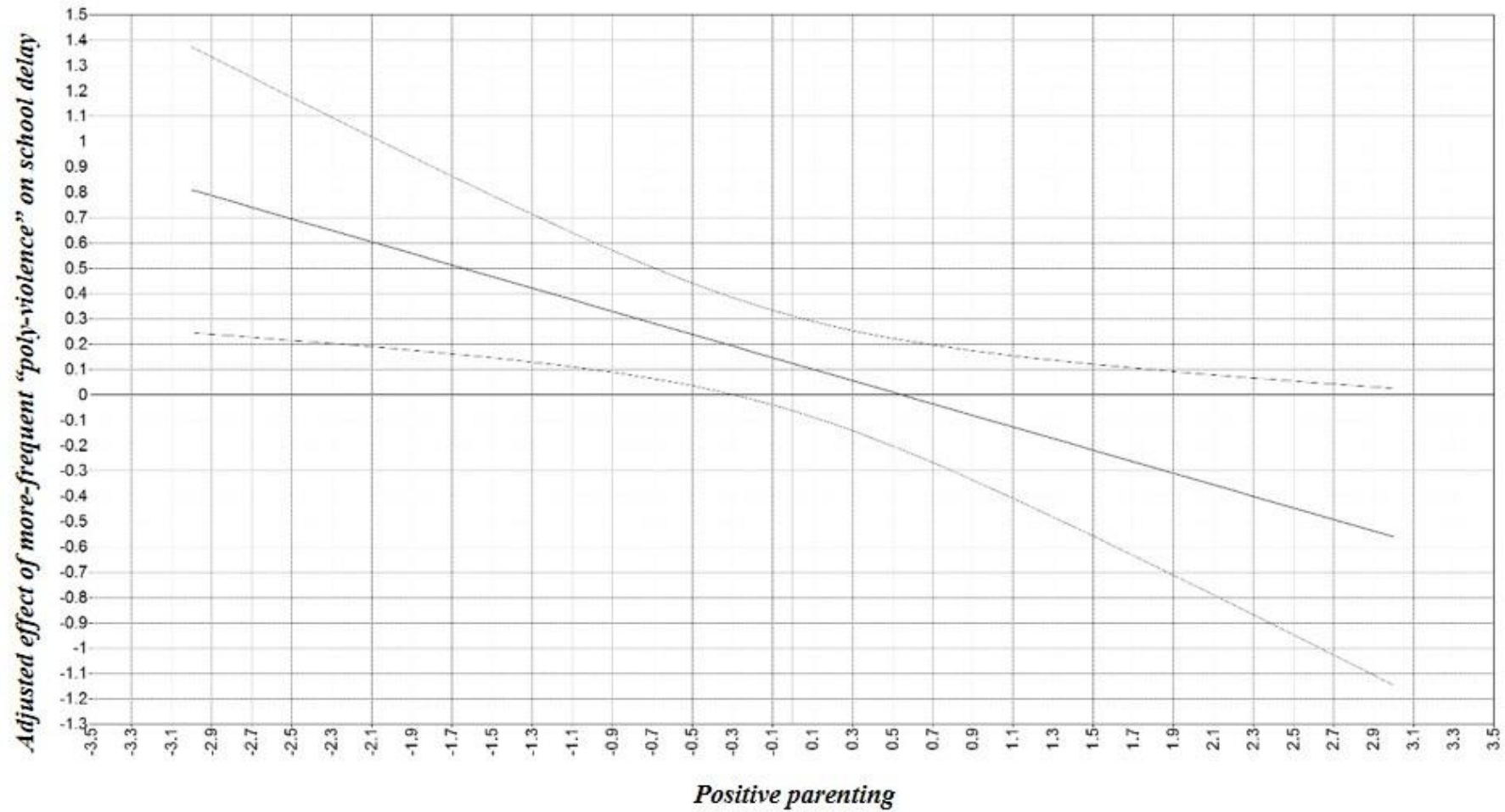
The moderating effects of parenting on the relationship between *more-frequent exposure to “poly-violence”* and adolescent's school delay

Step 2 in Table 25 displays the moderating effects of parenting on the relationship between *more-frequent exposure to “poly-violence”* and adolescents' school delay. Despite parenting factors not being directly associated with the school delay outcome (see Step 1), results in Step 2 showed that two interaction terms were significantly associated with school delay: *more-frequent exposure to poly-violence*positive parenting* ($p=0.002$) and *more-frequent exposure to poly-violence*consistent discipline* ($p=0.011$).

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

A visual inspection of the two significant interaction terms can be found in Figure 24 and Figure 25. Figure 24 shows the Johnson-Neyman plot for the interaction term *more-frequent exposure to poly-violence* by *positive parenting* on school delay. The X-axis in the Loop plot in Figure 24 depicts a continuous range of positive parenting, while the Y-axis represents a continuous range of values for the adjusted effect of *more-frequent “poly-violence”* on school delay (Clavel, 2015). The straight line represents values of the adjusted effect (“Violence_B”) that correspond to the full range of all continuous values of positive parenting (measured in standard deviation units –SD-). The curve lines above and below the straight plot line represent 95% confidence bands around the adjusted effect of “*poly-violence*” on school delay. Consequently, the plot in Figure 24 shows that the effect of being exposed to *more-frequent “poly-violence”* on school delay is significant and positive for adolescents experiencing low positive parenting (below -0.3 SD). In contrast, the effect of being exposed to *more-frequent “poly-violence”* on school delay is not significant for adolescents with higher positive parenting (between -0.3 SD and 3.3 SD approximately). Thus, this plot showed that the higher the adolescents’ perceived positive parenting, the less being exposed to *more-frequent “poly-violence”* is associated with school delay.

Figure 24 *The interaction between positive parenting and more frequent poly-violence on school delay amongst violence-exposed adolescents in South Africa.*

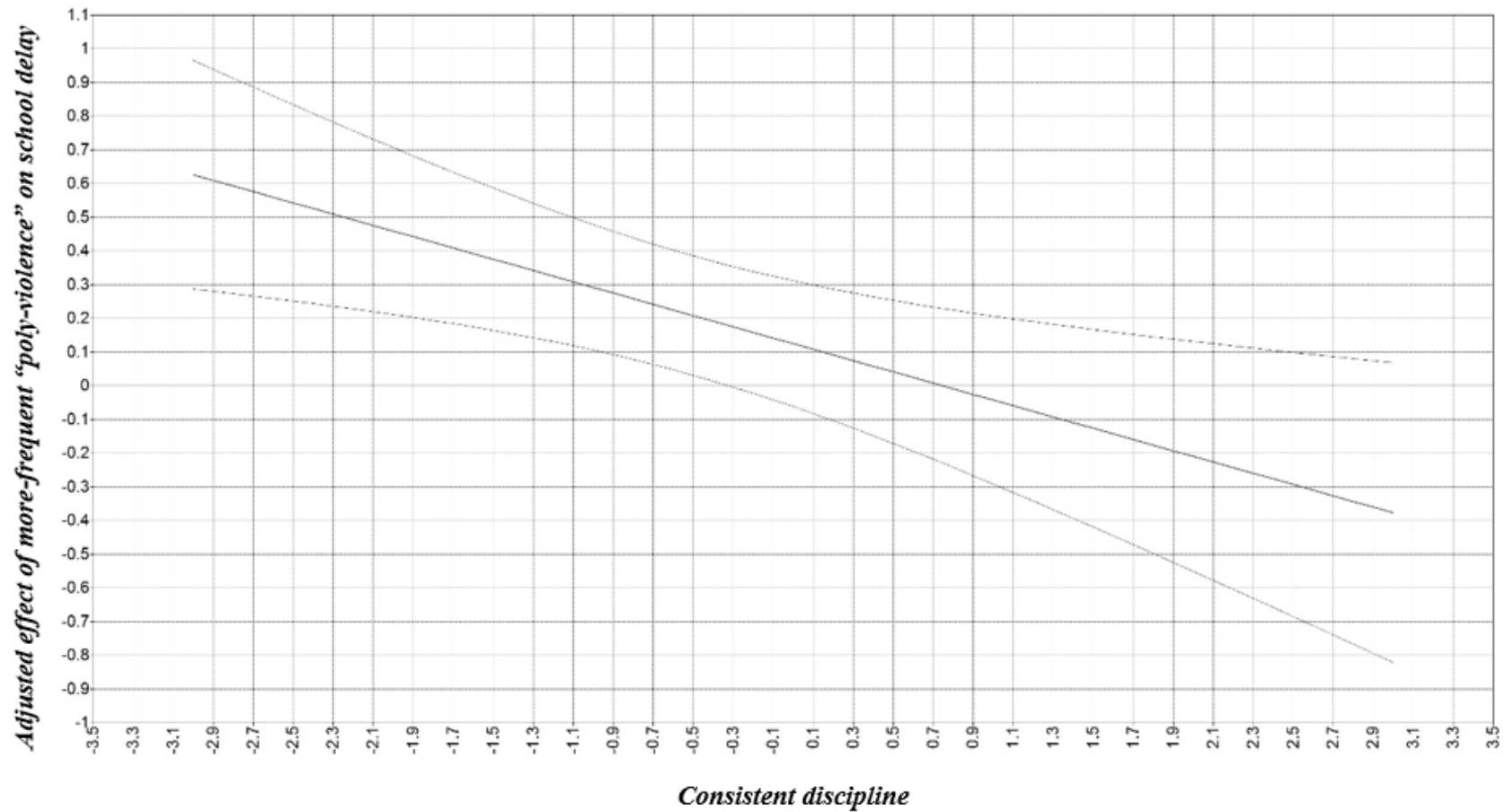


Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

The straight line represents the relationship between school delay and more frequent poly-violence varying as a function of positive parenting (in standard deviations): More positive parenting lessens the association between school delay and more frequent poly-violence. The curved lines above and below the straight plot line represent 95% confidence bands around this relationship.

Similarly, Figure 25 presents the Johnson-Neyman plot for the interaction term *more-frequent exposure to “poly-violence”* by *consistent discipline* on school delay. The plot shows that the effect of being exposed to *more-frequent “poly-violence”* on school delay is significant and positive for adolescents experiencing low consistent discipline (below -0.3 SD). The effect of being exposed to *more-frequent “poly-violence”* on school delay is not significant for adolescents with higher consistent discipline (between -0.3 SD and 4 SD approximately). Thus, this plot shows that the higher the adolescents’ perceived consistent discipline, the less being exposed to *more-frequent “poly-violence”* is associated with school delay.

Figure 25 The Interaction Between Consistent Discipline And More Frequent Poly-Violence On School Delay Amongst Violence-Exposed Adolescents In South Africa.



Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

The straight line represents the relationship between school delay and more frequent poly-violence varying as a function of consistent discipline (in standard deviations): More consistent discipline lessens the association between school delay and more frequent poly-violence. The curved lines above and below the straight plot line represent 95% confidence bands around this relationship.

5. Discussion

The current study investigates the protective role of supportive parenting against school delay in a sample of South African adolescents exposed to multiple types of violence and socioeconomic disadvantage. Two resilience models were investigated to inform potential interventions: first, the “compensatory” protective effect of parenting factors on school delay against overall exposure to violence and socioeconomic disadvantage; second, the “moderating” protective effect of parenting factors on school delay against *more-frequent exposure to ‘poly-violence’* (rather than less-frequent). To our knowledge, this is the first study that has examined the potential role of parents in contributing to the educational resilience of adolescents exposed to multiple types of violence and socioeconomic disadvantage in South Africa.

Prevalence of school delay, socioeconomic disadvantage and “poly-violence”

Thirty eight percent of adolescents in the study sample were enrolled in at least one year below the appropriate grade in relation to age. Thus, adolescents in the study sample showed high rates of school delay, when compared to national estimates (Branson et al., 2014). Furthermore, adolescents in the study sample experienced high rates of socioeconomic disadvantage and multiple exposures to violence at home, in school and in the community when compared to national prevalence rates (Ward et al., 2015). For instance, the vast majority of adolescents in the sample did not pay school fees, received daily free meals in school and were exposed to more than one form of violence in the past

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

month (*“poly-violence”*). However, results showed that not all adolescents in the study sample were exposed to the same levels of *“poly-violence”* (around 11% of them were exposed to *more-frequent “poly-violence”*). Furthermore, our results indicated that adolescents exposed to *more-frequent “poly-violence”* were less likely to be in the appropriate grade for their age, compared to adolescents exposed to *less-frequent* violence. This result indicated that the higher the frequency of violence that socioeconomically disadvantaged adolescents are exposed to, the worse their school delay.

The protective role of parents against exposure to violence and socioeconomic disadvantage

Overall, sample means for all perceived supportive parenting factors were high. This finding is in line with previous studies in South Africa using similarly disadvantaged samples. These studies have generally shown high levels of positive parenting despite poverty, sickness and violence (Cluver et al., 2013; Lachman et al., 2014; Meinck, Cluver, & Boyes, 2015a).

Our results indicated that supportive parenting practices and styles have important moderating impacts, but cannot completely compensate against the strong negative effects of exposure to violence and socioeconomic disadvantage on adolescents' school delay. While global evidence shows the overall positive impact of supportive parenting on adolescents' educational outcomes, most studies have focused on normative or diverse samples representing adolescents from different racial, cultural and socioeconomic backgrounds (Areepattamannil, 2010; Grolnick et al., 2007; N. E. Hill & Taylor, 2004; Jaynes, 2007; Selin, 2013). On the contrary, the current study focuses on a highly at-risk

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

sample in South Africa. Thus, our findings suggest that parents cannot completely compensate against the overall, strong negative impact on adolescents' educational outcomes that are linked to them being exposed to multiple types of violence, high socioeconomic disadvantage and poor-quality education.

However, our findings also suggest that supportive parenting can have buffering or moderating effects (may partially compensate) against the negative impact of adolescents being exposed to *more-frequent "poly-violence"*. Thus, our results showed that parents can have a protective role against school delay for adolescents exposed to high frequency of violence. In particular, our findings suggest that high levels of positive parenting and consistent discipline can protect against the negative effect of being exposed to *more-frequent "poly-violence"* (rather than less-frequent) on school delay. Adolescents exposed to *more-frequent "poly-violence"* and receiving positive parenting and consistent discipline from their parents are less likely to be behind their appropriate grade for their age. This is compared to those exposed to *more-frequent "poly-violence"* but having less-positive parenting and inconsistent discipline by parents.

While positive parenting and consistent discipline were found to weaken the relationship between exposure to *more frequent "poly-violence"* and school delay, other parenting factors such as good monitoring, parental involvement and social support were not found to contribute to adolescents' resilience. This finding adds to the limited global evidence on the operating protective mechanisms from parents against exposure to violence for adolescents' good educational outcomes (Rothon et al., 2011; Tajima et al., 2011). In Tajima et al. (2011), primary caregiver 'acceptance and responsiveness' moderated adolescents' outcomes, while 'controlling parenting' did not have a moderating effect on

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

any of the key outcomes. The ‘acceptance and responsiveness’ factor analyzed in Tajima et al. (2011) measured similar constructs compared to our measure of ‘positive parenting’. However, in Tajima et al. (2011), ‘controlling parenting’ included items on parental discipline which also reflected other parenting control behaviors and practices. Thus, we may infer that differences in the samples and measures used make comparisons regarding these findings limited. Furthermore, a plausible reason why neither of these three factors had moderating effects on school delay may take into account the adolescence developmental stage: it is well known that adolescents spend long unsupervised periods of time with peers and start building important relationships outside their families. Consequently, peers become important influences and in some cases primary sources of comfort and support. Perhaps peer involvement and social support may be more effective as a protective factor against exposure to violence, compared to certain parenting strategies. For instance, while high levels of peer support were found to protect against the negative impact of bullying in Rothson et al. (2011), parental overprotection and high levels of support from parents negatively impacted the academic achievement of bullied adolescents. In conclusion, similar analyses to the ones applied in Tajima et al. (2011) and Rothson et al. (2011) that include potential peer moderators may yield more information on the relative importance of parenting versus peer protective mechanisms against exposure to violence in South Africa.

Limitations and implications for policy, programming and future research

Our study has several limitations. First, the study sample was purposively recruited for a violence-prevention parenting program in socioeconomically disadvantaged communities. Hence, our findings cannot be extrapolated to all adolescents in South

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Africa. However, this study has the strength of having included vulnerable adolescents from very vulnerable families. Thus, our results complement findings from other studies which in most cases fail to represent the most vulnerable and the most in-need of interventions. Second, this study analyzed exposure to multiple forms of violence and supportive parenting over a short period of time (past month), while baseline descriptive statistics showed that 38% adolescents in the sample were already enrolled in at least one year below the appropriate grade in relation to their age. It is of course plausible that school delay had occurred over the years prior to our study. Similarly, parenting practices may have been consistent behavior for a long time (Meinck, Cluver, Orkin, et al., 2016). Exposure to violence is also highly likely to have happened for longer than a few years before our baseline data collection, which might have affected adolescents' educational outcomes before the beginning of the study. Thus, this study is unable to determine whether school delay happened before or after adolescents' experiences of violence and parenting. However, this study does not claim any causal relationship between violence or parenting and school delay. On the contrary, this study draws conclusions about what may be possible based on a cross-sectional analysis. This is a first step to better understand the associations between violence, parenting, socioeconomic disadvantage and school delay. Finally, this study applies self-report measures which are subject to recall and social desirability bias. Nonetheless, several factors helped us reduce bias: first, we only asked about exposure to violence in the past month, which is a reasonably recent and limited period of time for adolescents to recall (Willoughby et al., 2012); and second, we reduced interaction with research assistants by offering adolescents ACASI options for abuse-related and other sensitive questions.

Chapter 7 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

This is the first study looking at the potential contribution of parenting to the educational resilience of adolescents exposed to multiple types of violence and socioeconomic disadvantage in South Africa. Overall, our results suggest that in order to improve the educational outcomes of at-risk adolescents in South Africa, interventions aiming at reducing exposure to violence are urgently needed. Furthermore, school-based interventions providing safe and social environments can have an important role not only at a primary violence-prevention level, but also identifying high risk students exposed to multiple forms of violence (Barbarin et al., 2001; Leoschut & Kafaar, 2017). On the other hand, our results also showed the potential benefit of targeted interventions that promote positive and consistent parenting amongst the most vulnerable families of adolescents exposed to more-frequent “*poly-violence*”. Finally, further studies focusing on other ongoing protective mechanisms from supportive peers and teachers are needed (Tajima et al., 2011; Theron & Theron, 2014). These studies would complement our study findings and better inform evidence-based, resilience approaches amongst adolescents exposed to socioeconomic disadvantage and violence in South Africa.

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

Citation:

Herrero Romero, R., Hall, J., & Cluver, L. (2018). Exposure to violence, teacher support and school delay amongst adolescents in South Africa. *British Journal of Educational Psychology*, in press. <https://doi.org/10.1111/bjep.12212>

Authors:

Rocio Herrero Romero¹, James Hall², Lucie Cluver^{1,3}

¹ Centre for Evidence-Based Intervention, Department of Social Policy & Intervention, University of Oxford Barnett House, 32 Wellington Square, Oxford, OX1 2ER, UK. ² Southampton Education School, University of Southampton, University Road Southampton SO17 1BJ UK. ³ Department of Psychiatry and Mental Health, University of Cape Town, J-Block, Groote Schuur Hospital, Observatory, Cape Town 7925, South Africa.

Author statement:

RHR conducted the majority of the work for this paper. RHR led the quantitative study design, data analysis and writing. JH and LC contributed to conceptualizing the quantitative study, analyses and writing. RHR led the data collection and cleaning. All authors have read and approved the final text. All co-authors have reviewed and approved this author statement.

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

1. Abstract

Background: many adolescents in South Africa are exposed to multiple types of violence, socioeconomic disadvantage and low quality education: all risks factors for educational outcomes including school delay (grade enrolment below that which is age-appropriate). Supportive teacher-student relationships are known to be associated with improved academic outcomes in high income contexts.

Aims: to investigate whether the academic and emotional support provided by teachers can protect against school delay for adolescents exposed to multiple types of violence and socioeconomic disadvantage in South Africa.

Sample: High-risk sample of 503 adolescents aged 10 to 18 exposed to multiple types of violence and socioeconomic disadvantage at home, in school and in their communities.

Methods: Multilevel aggregated Structural Equation Modelling was applied to pre-post RCT data. This investigated whether associations between adolescent exposure to violence and school delay could be lessened by having teachers who were academically and/or emotionally supportive.

Results: more frequent exposure to ‘poly-violence’ and receiving more emotional support from teachers were independently associated with greater school delay. On the contrary, higher academic support from teachers was associated with lower school delay. Neither academic nor emotional teacher support was found to moderate the relationship between more frequent exposure to ‘poly-violence’ and an increased risk of adolescent school delay.

Conclusion: adolescents’ academic support from teachers is low in poorly-resourced school contexts in South Africa. School-based secondary prevention programs assisting teachers with more training and academic support in deprived contexts has potential to

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

reduce the impact of violence and socioeconomic disadvantage on adolescents' school delay.

Keywords: teacher support, school delay, violence, socioeconomic disadvantage, adolescence South Africa

2. Introduction

Having a supportive relationship with at least one adult other than the child primary caregiver is well established as important for children whose development or educational progress is at risk (Luthar et al., 2000; Lynch & Cicchetti, 1992). Of the various adults considered for this role, teachers are able to provide an important source of protection against school failure and it is well known that they can contribute to the resilience of highly at-risk children (Hall et al., 2013; Luthar, 2006; Rutter, 1987; Sammons et al., 2013). For instance, teachers can be considered by young children as an alternative attachment figure when primary caregivers do not provide an adequate secure and loving environment at home (Garcia Sierra, 2012; Lynch & Cicchetti, 1992). Furthermore, having a supportive relationship with a school teacher can compensate against maltreatment and conflictual relationships at home during adolescence (Crosnoe & Elder, 2004; Lynch & Cicchetti, 1997).

Types of teacher support

Teachers can provide different types of support to students with studies often focusing upon academic support and/or emotional support (Ahmed et al., 2010; Ansong et al., 2017; Brewster & Bowen, 2004; Rudasill et al., 2010; Zee et al., 2013; Zhang, Haddad, Torres, & Chen, 2011). Academic support refers to a variety of resources – interpersonal, emotional, cognitive, behavioral and instrumental- contributing to student academic

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

achievement and school success (Chen, 2005). It is primarily aimed at helping students improve their academic learning process by using various instructional methods, educational services, or school resources (Abbot, 2014). Emotional support is a subtype of social support and refers to the provision of care, empathy, love and trust (Langford, Bowsher, Maloney, & Lillis, 1997). Seminal research identifies that this can make a person feel cared for, loved and valued, and that they belong to a network of mutual obligation (Cobb, 1976). Emotional support has been identified as an important protective factor for children's mental health and emotional well-being (Luthar et al., 2000) as well as having positive effects on several educational outcomes (Osterman, 2002; Protheroe, 2007). For instance, supportive relationships and the experience of belonging are associated with academic motivation, engagement and performance (Osterman, 2002). In particular, feeling known and valued by one adult in school is an important factor for learning, especially amongst children with difficulties in their personal and academic lives (Lynch & Cicchetti, 1992; Protheroe, 2007).

Teacher support and educational outcomes

Long-term supportive teacher-student relationships are well known to be directly associated with improved academic outcomes from the pre-school (Hall et al., 2013; Siraj-Blatchford, Taggart, Sammons, Melhuish, & Sylva, 2013) through high school periods (Hamre & Pianta, 2001; Roorda & Koomen, 2011; Sylva, Melhuish, Sammons, Siraj, & Taggart, 2014; Wu, Hughes, & Kwok, 2010). Despite the fact that children's perceptions of positive teacher-student relationships decrease as children get older (Goodenow, 1993; Lynch & Cicchetti, 1997), a positive relationship with teachers is a strong predictor of school adjustment, engagement and motivation during adolescence

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

(Lynch & Cicchetti, 1997; Nugent, 2009; Perry & Liu, 2010; Sakiz, Pape, & Woolfolk, 2012). In a meta-analysis of 99 studies investigating the association between teacher–student relationships and students’ school engagement and achievement from pre-school to high school, medium to large associations were found between positive relationships and engagement (Roorda & Koomen, 2011). Furthermore, small to medium associations were found between positive relationships and academic achievement (Roorda & Koomen, 2011).

Further studies have investigated whether teacher support can lessen the relationship between exposure to risk factors and negative developmental outcomes. For instance, teacher emotional support and positive teacher-student relationships have been identified as buffering the negative effects of bullying on bully-victims’ academic achievement (Konishi, Hymel, Zumbo, & Li, 2010) and quality of life (Elledge, Elledge, Newgent, & Cavell, 2016; Flaspohler, Elfstrom, Vanderzee, Sink, & Birchmeier, 2009).

Despite the strong evidence of the existence of both direct and risk-mitigating effects from teacher support on student outcomes using normative samples in high-income countries (HIC), there is much less evidence investigating both disadvantaged students in HIC or students in low- and middle-income countries (LMIC; Ansong et al., 2017; Brewster & Bowen, 2004; Dass-Brailsford, 2005; Theron & Theron, 2014). Literature from Sub-Saharan Africa suggest that in the face of multiple challenges such as poverty, violence and HIV/AIDS, schools and teachers can play an important role contributing to the resilience of disadvantaged children and adolescents (Dass-Brailsford, 2005; Theron & Theron, 2014). Caring and nurturing teachers often go beyond their academic duty and voluntarily provide welfare, support, and mentorship to children in great need. For

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

instance, in the South African context, resilience researchers have identified caring teachers as important “agents of resilience” for neglected children with limited access to formal health and social services (Theron & Engelbrecht, 2012; Theron, Liebenberg, & Malindi, 2013).

However, limited and mixed findings can be found on the specific effects of teacher support on adolescents’ educational outcomes in disadvantaged contexts in Sub-Saharan Africa. Only two retrospective qualitative studies in South Africa investigated factors associated with the academic success of resilient students from socioeconomic disadvantaged contexts (Dass-Brailsford, 2005; Theron & Theron, 2014). The first study analyzed whether education services were associated with the academic success of 16 resilient, black university students from impoverished families (Theron & Theron, 2014). Results from this study showed that it was common for the university students to associate their academic resilience with a level of engagement and support from school teachers and principals that went beyond their ordinary tasks. The second study explored the factors that supported a resilient trajectory for disadvantaged black adolescents attending deprived township schools (Dass-Brailsford, 2005). The adolescents viewed their teachers as role models and sources of encouragement. In contrast, the results from a cross-sectional study with 135 students between 12 and 23 years in Ghana showed that teacher support was neither a mediator nor a direct predictor of student engagement (Ansong et al., 2017). Based on these limited and mixed findings, it remains unclear what the effects of teacher support on students’ educational outcomes are in the sub-Saharan African context (Ansong et al., 2017). As a result, further studies investigating the

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

relationship between teacher support and educational outcomes in Sub-Saharan African countries are needed in order to shed light on this question.

Socioeconomic disadvantage, exposure to violence and school delay amongst adolescents in South Africa

South Africa is a highly unequal country (The World Bank, 2017). Overall, 60% of all South African children live below the poverty line (Delany, Proudlock, & Lake, 2016). As a result, many children and adolescents facing poverty are frequently exposed to learning deprivation and school delay. Learning deprivation is especially high in many provinces. For example, in the Eastern Cape 29.3% of all adolescents in the intermediate phase and 35.8% in the senior phase are considered to be ‘deprived learners’ based on the *Learning Environment Deprivation Index* (Statistics South Africa, 2013). This Index contains school measures that were associated with adolescents’ educational outcomes, such as access to water and electricity (Statistics South Africa, 2013). Moreover, school delay – or being enrolled in a school grade below that which is age-appropriate - is common amongst adolescents in South Africa, especially in socioeconomically disadvantaged communities (Spaull, 2015). In the Eastern Cape province in particular, 69% of learners in 2013 were older than the expected age given the grade and only 77.3% of 15-year-old adolescents had completed primary education (Statistics South Africa, 2013). Low quality education, cumulative learning deficits and grade repetition are associated with school delay, which in turn predicts school dropout, unemployment, limited social mobility and poverty in South Africa (Spaull, 2015).

Within South Africa, socioeconomic disadvantage and educational exclusion are associated with high rates of violence against children and adolescents at home, in the

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

school and in the community (Burton & Leoschut, 2013; Ward et al., 2015). For instance, 64% of all adolescents aged 15 to 18 in South Africa currently experience two or more forms of violence in their lifetime, while 35.4% experience five or more forms of violence (Leoschut & Kafaar, 2017). Further, socioeconomic disadvantage, educational exclusion and exposure to violence all pose a risk to educational progress (Herrero Romero, Hall, Cluver, et al., 2018; Pieterse, 2015; Sherr et al., 2016). For instance, results from a recent cross-sectional analysis of 4,747 youths aged 14–22 showed that repeated exposure to physical abuse at home was associated with school dropout and lower maths academic achievement (Pieterse, 2015). To date however, only one study has investigated the relationship between exposure to multiple types of violence and educational outcomes. In a cross-sectional study of an at-risk sample of adolescents aged 10 to 18 in the Eastern Cape, more frequent exposure to ‘poly-violence’ was associated with worse school delay but not with worse academic motivation (Herrero Romero, Hall, Cluver, et al., 2018).

The current study

To the best of our knowledge, no quantitative study yet exists to examine the relationship between teacher support and the educational outcomes of at-risk adolescents in South Africa. This is a profound gap in the literature and one that this investigation aims to address. We aimed to determine the potential protective impact of teacher academic and emotional support against adolescents’ school delay in a context of violence and socioeconomic disadvantage. Thus, this study examined two hypotheses. First, it was hypothesized that both teacher academic and teacher emotional support were likely to be directly associated with less school delay. Second, it was also hypothesized that teacher

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

academic and emotional support would moderate the relationship between more frequent exposure to multiple types of violence (termed, ‘poly-violence’) and school delay.

3. Methods

Participants and study design

The current investigation was part of the Sinovuyo Teen Study: a Randomized Control Trial (RCT) evaluating the effectiveness of a parenting program in reducing child abuse and harsh parenting in severely disadvantaged communities in the Eastern Cape, South Africa (Cluver et al., 2018). Study participants were adolescents aged 10 to 18 who were recruited alongside their main caregivers to take part in a parenting program trial. Recruitment took place from April to May 2015. Overall, three recruitment strategies were used: first, school principals, social workers and community leaders were asked to identify families in their communities who might benefit from the program; second, community guides were recruited to help the research team reach more families; and third, some families self-referred when they found out about the program. Inclusion criteria were: adolescents had to be 10 to 18 years old, they had to sleep at least four nights a week in the same household as their main caregiver, and they identified regular arguments at home in a brief screening questionnaire.

Trained, local research assistants conducted face-to-face interviews with adolescents before (baseline) and after (post-test) the parenting program. For the more sensitive questions, tablets with Audio Computer-Assisted Self-Interview Software (ACASI) options were available. Further information about the Sinovuyo Teen Study trial recruitment, design and methods can be found in the trial protocol (Cluver, Meinck, Shenderovich, et al., 2016).

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

The findings reported in this paper come from an investigation of the adolescents who were recruited and interviewed at baseline (May-September 2015). Out of the total 552 recruited adolescents, 22 dropped out before the completion of the Sinovuyo Teen Study program and thus did not complete post-test interviews conducted from February to August 2016. Furthermore, 27 adolescents reported not attending school in the post-test interviews. Thus, only 503 adolescents were included in the present investigation.

Ethics approvals for this study were obtained from the University of Oxford, University of Cape Town, and the national and provincial Departments of Basic Education and Social Development, while community consent was gained from traditional chiefs and local governments. Individual consent to participate was then obtained from caregivers and adolescents. Adolescents received small participation ‘thank you’ packages with stationery and toiletries, as well as certificates. Economic compensation was not given to participants. Adolescents and their caregivers were informed about their right to withdraw their consent to participate at any time during the trial. Confidentiality was ensured anonymizing participants’ personal data as well as using encryption techniques. For the current investigation, additional authorization from the Department of Basic Education was obtained for the research team to visit schools, and further consent was gained from school principals and teachers participating in the study.

Study measures

School delay (at post-test)

A continuous scale was used to measure adolescents’ School Delay. Scores ranged from -3 (three years ahead age-appropriate grade) to +3 (three years below of age-appropriate grade). Adolescents who were enrolled in the age-appropriate grade scored 0.

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

'Poly-violence' (at baseline)

Given the high rates of multiple types of violence adolescents were exposed to in the home, at school, and in their communities, '*poly-violence*' was defined as being exposed to at least two forms of violence in the past month. Six measures were used to record the frequency of violence that adolescents were exposed to. *Domestic violence between household members*, *Adolescent physical abuse by caregivers*, and *Adolescent emotional abuse by caregivers* were measured using a culturally-adapted version of the ISPCAN Child Abuse Screening Tool (ICAST-C; Meinck et al., 2018; Zolotor 2009) and the Corporal Punishment sub-scale of the Alabama Parenting Questionnaire (Frick, 1991). *Perceived school violence* was measured using items based on UNICEF Safe and Caring Child-Friendly School Study (UNICEF, 2009). *Witnessing community violence* and *Community violence victimization* were measured using the Exposure to Violence Scale from the Social and Health Assessment (SAHA) study (Ruchkin et al., 2004; Ward et al., 2007).

Sampled adolescents were classified into two profiles based on the frequency of their exposure to six forms of violence in the past month: Profile 1 – adolescents exposed to more frequent '*poly-violence*' (n=60) and Profile 2 – adolescents exposed to less frequent '*poly-violence*' (n=443). The two profiles were identified via a Latent Profile Analysis (LPA). LPA is a person-centered type of analysis which identifies unobserved subpopulations from a heterogeneous population based on mean-level response patterns across multiple continuous risk indicators (Masyn, 2013). Latent Profile Analysis is increasingly used to measure the cumulative exposure to multiple forms of violence (Charak et al., 2016; Clarke et al., 2016; Lanza, Tan, & Bray, 2013; Petrenko et al., 2013).

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

In contrast to variable-centered models, person-centered models allow researchers to identify patterns of exposure to co-occurring risks and outcomes between sub-groups of children (Masten, 2014). In this study, the LPA suggested that there were two heterogeneous profiles of adolescents - differentiated according to the frequency of violence that they were exposed to. The LPA detailed results are reported elsewhere (see (Herrero Romero, Hall, Cluver, et al., 2018)). Table 26 displays a summary of the mean scores for each of the six risk indicators for 'poly-violence', as well as frequencies of exposure to each indicator. Compared to adolescents in Profile 2 ($n=443$), adolescents in Profile 1 ($n=60$) were likely to experience more regular domestic violence ($p<0.001$), physical abuse ($p<0.001$), emotional abuse ($p<0.001$), community violence victimization ($p=0.060$), and to witness community violence ($p=0.001$). However, the perception of school violence was equal across the two profiles ($p=0.500$). In this investigation an adolescent's membership of one of two profiles was treated as a measure of the frequency with which they experience 'poly-violence'. A dichotomous measure was created based on the two profile coded such that 0 indicated less frequent exposure to 'poly-violence' ($n=443$) whereas 1 indicated more frequent exposure to 'poly-violence' ($n=60$).

Table 26 Exposure To Violence Among Adolescents From Socioeconomically Disadvantaged Communities In The Eastern Cape, South Africa

The six measures underlying the two 'poly-violence' profiles	Profile comparison: mean (Standard Error)			Profile comparison: n (%)	
	Profile 1: More-frequent 'poly-violence' n=60	Profile 2: Less-frequent 'poly-violence' n=443	p-value from Wald Test	Profile 1: More-frequent 'poly-violence' n=60	Profile 2: Less-frequent 'poly-violence' n=443
Exposure to Violence – Risk Indicators					
1. Domestic violence between household members	8.39 (1.13)	1.63 (0.21)	<0.001	54 (90%)	203 (45.8%)
2. Adolescent physical abuse by caregivers	16.77 (2.65)	6.01 (0.35)	<0.001	49 (81.7%)	269 (60.7%)
3. Adolescent emotional abuse by caregivers	21.58 (2.35)	3.93 (0.39)	<0.001	60 (100%)	323 (72.9%)
4. Perceived school violence	9.20 (0.50)	8.86 (0.13)	0.542	55 (91.7%)	389 (87.8%)
5. Community violence – Victimization	1.19 (0.30)	0.66 (0.06)	0.063	26 (43.3%)	137 (30.9%)
6. Community violence – Witnessing	4.31 (0.56)	2.52 (0.14)	0.001	52 (86.7%)	309 (69.8%)

Teacher support (at baseline)

A diversity of measures and terms can be found in the literature investigating the effects of support from teachers on students' outcomes. Most studies analyze the positive relationship between 'teacher support' and educational outcomes using a very broad concept of 'support' which includes academic support, as well as social subtypes of support, such as emotional, informational, instrumental and motivational support (Ahmed et al., 2010; Ansong et al., 2017; Brewster & Bowen, 2004; Zee et al., 2013). Nonetheless, other studies have focused on the direct and unique positive effects of teacher emotional support (Rudasill et al., 2010; Ruzek et al., 2016) or teacher academic support (Chen, 2005) on the academic achievement of middle and high school students. In the current

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

study the following measures were used to investigate teacher support: academic support and emotional support.

*Academic support from teachers*¹⁵ was measured via student self-report using three items adapted from the Emotionally Supportive Climate scale used in the UNICEF Safe and Caring Child-Friendly Schools Study (UNICEF, 2009). This scale measured the extent to which students felt listened to and helped by teachers as well as other adults at school. The response code was adapted to a scale from 0 to 8 (see Table 27).

*Emotional support from teachers*¹⁶ was measured via student report using three items from the emotional/information subscale of the Medical Outcome Study (MOS) Social Support Survey (Sherbourne & Stewart, 1991). Responses correspond to a three-point Likert scale ranging from “Never” to “Always” (see Table 27).

Table 27 Sinovuyo Teen Study measures recording teacher support of students

Measures	Authors	Items ¹	Items Response Codes	Scale Score Range
Academic Support	UNICEF (2009; 3 items)	1. Teachers notice if I am having difficulty with my lessons 2. I can talk to teachers at school if I am having problems in class 3. My teachers give me feedback on my assignments that help me to improve my work	0= Never 1, 2 3, 4, 5, 6, 7 = that many times 8= 8 or more times	0-24
Emotional Support	Sherbourne and Stewart (1991; 3 items)	1. Is your teacher someone you can count on to listen to you when you need to talk 2. Is your teacher someone to confide in or talk to about yourself or your problems 3. Is your teacher someone who understands your problems	0= Never 1= Sometimes 2= Always	0-6

¹ Although items were worded differently (i.e. “teachers” in the Academic Support Scale vs. “your teacher” in the Emotional Support Scale), adolescents were asked by the

¹⁵ See more information on the validity and reliability of the Teacher Academic Support scale (Measures Section in Chapter 5).

¹⁶ See more information on the validity and reliability of the Teacher Emotional Support scale (Measures Section in Chapter 5).

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

research assistants to think about their overall perception of their mathematics and first language teachers when replying to these questions.

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

Background measures

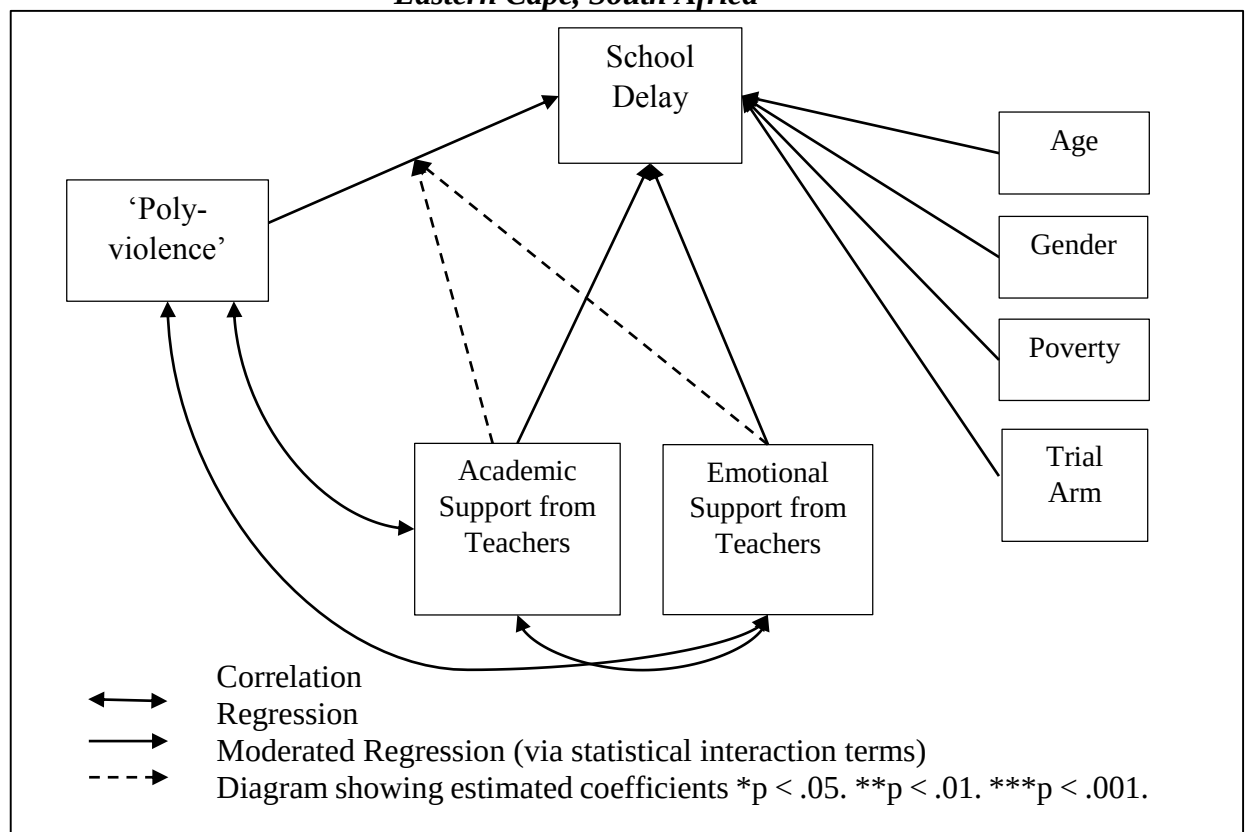
The analyses of this investigation statistically controlled for differences in adolescents' school delay that were linked to their age, gender, socioeconomic disadvantage and which of the two Sinovuyo Teen Study trial arms they took part in. This was carried out to achieve results that were more accurate to conditions on the ground (Meinck, Cluver, Orkin, et al., 2016; Operario, Cluver, Rees, Macphail, & Pettifor, 2008). Adolescents' age (recorded in years) and gender (coded 0=male and 1=female) were measured via self-completion questionnaires. Socioeconomic disadvantage was indicated according to whether or not adolescents had two or more basic necessities not met in the past week (coded 0 and 1 respectively). Basic necessities were assessed using the *Top Eight Socially-perceived Necessities Index* in South Africa' (Pillay et al., 2006). A dichotomous measure recorded whether adolescents were participants in the intervention or the control trial arm in the main Sinovuyo Teen Study trial coded 0=control group (n=252) and 1=intervention group (n=251).

Data analysis

Figure 266 shows a stylized representation of the multilevel aggregated Structural Equation Model (SEM) that was specified to test the research objectives of this investigation. The dichotomous variable of 'poly-violence' was entered into the SEM model. The model was implemented in two stages. First, the direct effects of more frequent exposure to 'poly-violence', plus teachers' academic and emotional support on school delay were established. Second, two interaction effects between a binary and a continuous variable ('poly-violence' x teacher academic support; 'poly-violence' x teacher emotional support) were evaluated to investigate potential moderating effects of

teacher support on the relationship between students' exposure to 'poly-violence' and school delay.

Figure 26 Stylized Representation Of The Aggregated Multilevel Structural Equation Model Estimating The Effects Of More Frequent Exposure To 'Poly-Violence' And The Effects Of Teacher Support On The Likelihood Of Adolescent School Delay In Eastern Cape, South Africa



Adolescents were nested in schools and communities. Thus, in order to correct for the non-independence of observations an investigation of the study Design Effects and Intra Class Correlation (ICC) was conducted. Intra-Class Correlations revealed that a small proportion of variation in school delay was attributable to differences between communities (ICC=0.15; $p < 0.05$), while no significant variation on school delay was explained due to differences between schools (Herrero Romero, Hall, Cluver, et al.,

2018). This necessitated the use of multilevel SEM which was achieved via use of standard errors corrected to take account of the effect of students being sampled from communities. Further, in order to avoid multicollinearity and increase the interpretability of the statistical interactions (Aiken, West, & Reno, 1991), all measures predicting school delay were grand mean-centered in SPSS before conducting the main structural equation models in Mplus v7 (Field, 2013; L. Muthén & Muthén, 2012). Acceptable model fit was identified for the two phases of the SEM as indicated by root mean square error of approximation (RMSEA) values of less than 0.05 and comparative fit index (CFI) values of more than 0.9 (Kenny, 2014).

4. Results

Descriptive statistics

Table 28 shows the main demographic and socioeconomic characteristics of the study sample as well as displaying baseline characteristics related to school, exposure to violence, and teacher support. The vast majority of adolescents were Xhosa speakers (99.8%) who lived in rural communities (80.5%). Overall, adolescents in the study sample were exposed to high levels of socioeconomic disadvantage at home, in school, and in their communities. For instance, more than half of the study sample lived in households where no one was working (69.6%) and had no piped water at home (63.2%), while three quarters of the study sample reported having two basic necessities missing in the past month. 96.2% received daily free meals at school and 85.5% attended poorly-resourced state schools (quintile 1 to 3 schools in the South African State Schools classification system). Around 40% of the study sample was enrolled in at least one year below the appropriate grade in relation to their age. Overall, adolescents in the study

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

sample perceived very low academic support from their teachers ($M=6.897$, $SD=2.143$) with a maximum achieved score of 9 out of 24. Overall, 99.2% of the sample adolescents reported having been exposed to at least one form of violence in the past month, 93.8% said they were exposed to ‘poly-violence’ (at least two forms of violence), and 11.3% were exposed to all six forms of violence.

Table 28 Sample Descriptive Statistics at Baseline (n=503)

	Mean $\pm$ SD/ n (%)
<i>Demographics</i>	
Adolescent Age (years)	13.71 $\pm$ 2.34
Female adolescent	208 (41.4%)
Adolescent living in a rural community	405 (80.5%)
Adolescent was an orphan	160 (31.8%)
Xhosa as the main language spoken at home	502 (99.8%)
<i>Household socioeconomic characteristics</i>	
More than 2 basic necessities missing in the past month	382 (75.9%)
At least 2 days in the past week with not enough food at home	222 (44.1%)
Living in a household where no one is working	350 (69.6%)
Living in a household with no tap water	318 (63.2%)
<i>Schooling characteristics</i>	
Enrolled in state school	503 (100%)
Enrolled in at least one year below the appropriate grade in relation to age	128 (37.6%)
Enrolled in at least two grades higher than the appropriate grade in relation to age	61 (13.1%)
Attending secondary schools	214 (48.6%)
Attending schools in rural communities	335 (66.6%)
Attending poorly-resourced schools ¹	430 (85.5%)
Receiving free meals at school	484 (96.2%)
<i>Past-month exposure to violence²</i>	
Witnessed domestic violence between household members	257 (51.1%)
Experienced physical abuse by caregivers	318 (63.2%)
Experienced emotional abuse by caregivers	383 (76.1%)
Felt unsafe in school	444 (88.3%)
Experienced community violence (victimization)	163 (32.4%)
Witnessed community violence	361 (71.8%)
Exposed to any form of violence	499 (99.2%)
Exposed to ‘poly-violence’	472 (93.8%)
Exposed to all six forms of violence	57 (11.3%)
<i>Teacher Support</i>	
Academic support (Scale score range: 0-24) ³	6.90 $\pm$ 2.14

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

¹ Emotional support (Scale score range: 0-6)⁴ 3.30±1.96

Quintile 1-3 State Schools.

² % of adolescents who replied different than *never* to at least one of the violence item questions or % of adolescents who replied *mostly true* or *definitely true* to at least one of the *Perceived School Violence* scale questions.

³ Academic support scores in the study sample ranged from 0 to 9.

⁴ Emotional support scores in the study sample ranged from 0 to 6.

Correlations among variables are shown in Table 29. School delay outcome was significantly and positively related to more frequent ‘poly-violence’, emotional support from teachers, and older age, while being significantly and negatively related to academic support from teachers and female gender. However, these correlations were generally weak (<|0.32|). Neither family poverty, nor trial arm were significantly associated with either school delay or violence profile membership (more frequent versus less frequent ‘poly-violence’). Further correlation analyses can be found in Appendix 10 which look into the relationship between types of teacher support and each form of violence (Table 6, Appendix 10)¹⁷. Correlation results in Appendix 10 show that neither *teacher academic* nor *teacher emotional support* were significantly correlated to any form of violence at post-test (Table 6, Appendix 10).

Table 29 Intercorrelations Among Variables

	School delay	More-frequent ‘poly-violence’ (P)	Emotional support from teachers	Academic support from teachers	Female gender	Older age	Poverty	Intervention trial arm
School delay	1.000	0.105**	0.094*	-0.099*	-0.221***	0.322***	0.024	0.079
More-frequent ‘poly-violence’ (P)	0.105*	1.000	0.113	-0.027	0.027	0.133	0.060	0.001
Emotional support from teachers	0.094*	0.113	1.000	0.323** *	0.139***	-0.040	-0.041	-0.003

¹⁷ Post-publication analyses

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

Academic support from teachers	-0.099*	-0.027	0.323***	1.000	0.105*	-0.015	-0.108*	0.023
Female gender	-	0.027	0.139***	0.105*	1.000	-0.010	-0.007	0.042
Older age	0.221***	0.322***	0.133	-0.040	-0.015	-0.010	1.000	0.028
Poverty	0.024	0.060	-0.041	-0.108*	-0.007	0.028	1.000	-0.117*
Intervention trial arm	0.079	0.001	-0.003	0.023	0.042	0.012	-0.117*	1.000

*** $p < .05$. ** $p < .01$. *** $p < .001$.**

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

Academic and emotional support from teachers: independent effects

Table 30 shows the size and statistical significance of the independent effects and the interaction effects upon school delay from the estimated SEM while

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

Figure 277 displays a stylized representation of the results of multilevel aggregated Structural Equation Model (SEM). Results from Stage 1 of the modelling reveal the independent effects on school delay linked to more frequent exposure to ‘poly-violence’, teacher academic support and teacher emotional support. Results from Stage 1 showed that being exposed to more frequent ‘poly-violence’ and receiving more emotional support from teachers were both independently associated with greater school delay ($p < 0.05$). On the contrary, higher academic support from teachers was associated with lower school delay ($p < 0.01$). Furthermore, males and older students were more likely to exhibit school delay ($p < 0.001$).

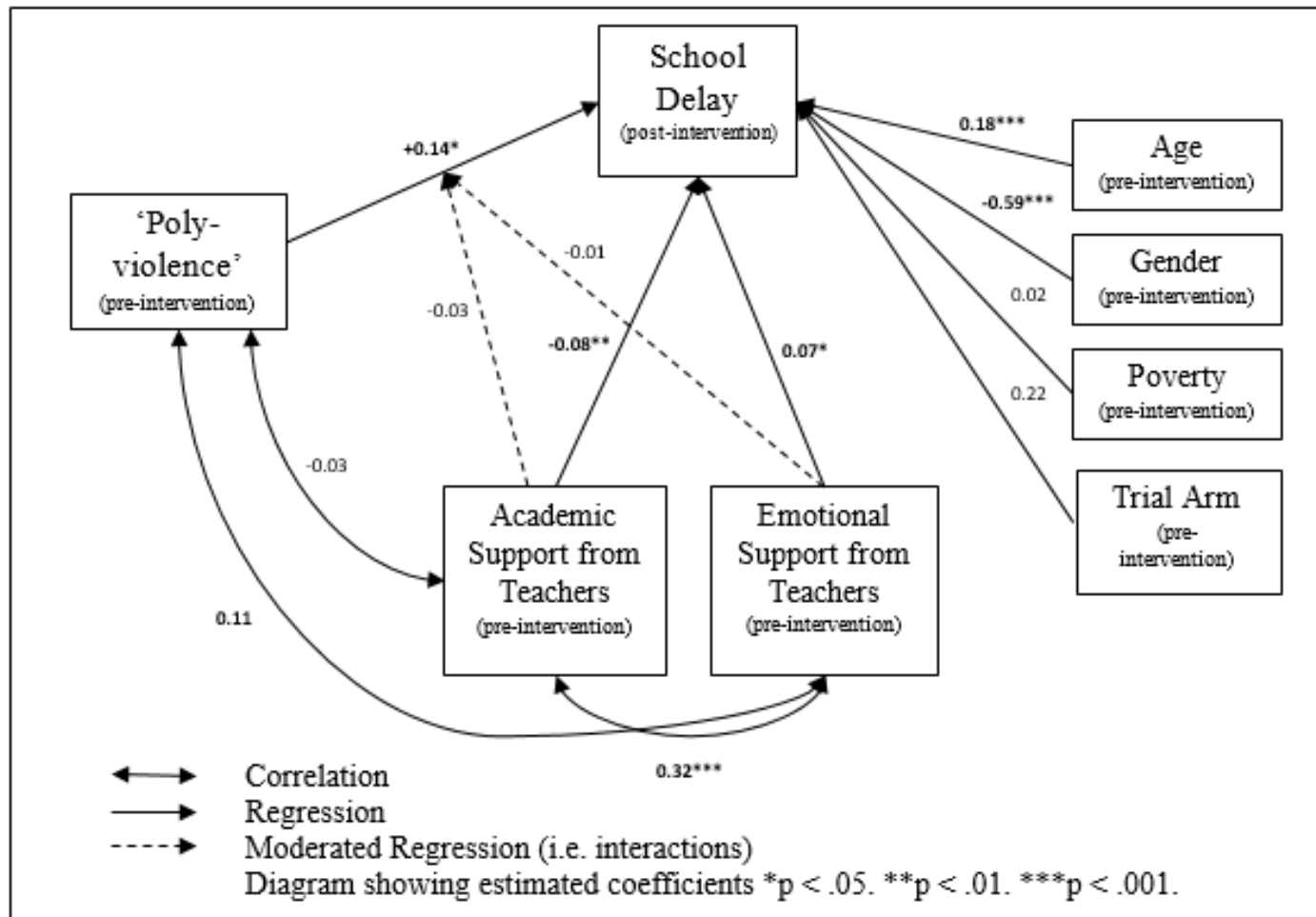
Table 30 Teacher Academic and Emotional Support: Independent And Interaction Effects (With 'Poly-Violence') On School Delay

	Unstandardized Estimate	Standardized Estimate	SE	p-value
<i>Step 1: Independent effects</i>				
More-frequent 'poly-violence' (P)	0.14	0.11	0.06	0.011
Emotional support from teachers	0.07	0.10	0.03	0.024
Academic support from teachers	-0.08	-0.09	0.03	0.008
Female gender	-0.59	-0.25	0.11	<0.001
Older age	0.18	0.31	0.02	<0.001
Poverty	0.02	0.02	0.03	0.561
Intervention trial arm	0.21	0.08	0.15	0.164
<i>Step 2: Additional interaction effects</i>				
More-frequent 'poly-violence' (P)	0.14	0.11	0.06	0.019
Emotional support from teachers	0.07	0.10	0.03	0.021
Academic support from teachers	-0.08	-0.09	0.03	0.008
Female gender	-0.59	-0.25	0.11	<0.001
Older age	0.18	0.31	0.02	<0.001
Poverty	0.02	0.02	0.03	0.570
Intervention trial arm	0.22	0.08	0.15	0.154
P*Emotional support from teachers	-0.01	-0.02	0.03	0.846
P*Academic support from teachers	-0.03	-0.18	0.04	0.466

Model fit for Model 1: RMSEA=0.047, TLI=0.911

Model fit for Model 2: RMSEA=0.033, TLI=0.940

Figure 27 Stylized Representation Of The Results Of The Aggregated Multilevel Structural Equation Model Estimating The Effects Of More Frequent Exposure To ‘Poly-Violence’ And The Effects Of Teacher Support On The Likelihood Of Adolescent School Delay In Eastern Cape, South Africa (Standardized Estimates)



Academic and emotional support from teachers: interaction effects

Stage 2 of the SEM tested for potential interaction effects between exposure to more frequent 'poly-violence' and one or both of the teacher support measures. The results shown in Table 30 reveal that no significant effects were found for either the interaction of more frequent 'poly-violence' with academic support ($p=0.466$) or more frequent 'poly-violence' with emotional support ($p=0.846$). Furthermore, the independent effects on school delay from more frequent 'poly-violence', teacher academic support, teacher emotional support, student gender and student age continued being significant once the interaction terms were added into the model. These results indicated that teacher support did not moderate the relationship between more frequent exposure to 'poly-violence' and adolescents' school delay in the context of socioeconomically disadvantaged areas in South Africa.

1. Discussion

The current study analyzed the effects of teacher support and exposure to 'poly-violence' on school delay amongst adolescents in South Africa. Adolescents in the sample were between 10 and 18 and exposed to high levels of violence and socioeconomic disadvantage in their homes, schools, and communities. It was hypothesized that teacher academic and emotional support would act as protective factors against school delay. Moreover, it was hypothesized that this protection would be particularly important for adolescents exposed to more frequent 'poly-violence', compared to those exposed to less frequent 'poly-violence'.

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

The protective effect of teacher support on school delay

Our results suggest four sets of findings. First, descriptive statistics showed that adolescents in socioeconomically disadvantaged communities perceive the academic support provided by teachers to be low. This is coherent with the socioeconomic characteristics of poorly resourced state schools in rural Eastern Cape, where high learner-teacher ratios and poor academic learning environments are common (John, 2015; Spaull, 2013b). In such contexts, providing consistent and effective academic support to all students can be difficult due to limited resources, high proportions of adolescents with special educational needs, institutionalized poor education of many teachers under the apartheid regime, and overall low turnout and high sickness amongst school staff (Spaull, 2015; Spaull & Kotze, 2015). In contrast, these same adolescents perceived the emotional support provided by teachers to be high. This is also in line with findings from other studies of at-risk youth in South Africa identifying teachers as sources of encouragement and care (Dass-Brailsford, 2005; Theron & Engelbrecht, 2012; Ward et al., 2007).

Second, the academic support provided by teachers can help to mitigate the likelihood of school delay for all adolescents living in disadvantaged communities in South Africa (just not an extra ‘boost’ for those who experience more frequent ‘poly-violence’; see below). This finding extends previous work with adolescents in HIC such as the US, the Netherlands, New Zealand, and Hong Kong (Chen, 2005; Nugent, 2009; Perry & Liu, 2010; Zee et al., 2013).

Third, contrary to what was hypothesized, emotional support from teachers is associated with an *increased* likelihood of school delay amongst adolescents who are exposed to multiple forms of violence and socioeconomic disadvantage. This finding seems to

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

contradict previous studies that point at the positive effect of affective or emotional support from teachers on educational outcomes (Rudasill et al., 2010; Ruzek et al., 2016). However, given the South African school context, one plausible explanation is that those adolescents who were in greater need of affectionate support were the most at-risk for academic failure. For instance, previous studies have shown how severe distress often hinders adolescents' academic progress in South Africa (Cluver, Operario, Lane, & Kganakga, 2011; Operario et al., 2008). Thus, it was plausible to think that teachers may have been prioritizing their most vulnerable students' wellbeing and mental health above academic matters. However, the following results from correlation analyses in Table 6 in Appendix 10 do not seem to support this hypothesis: first, older adolescents already experiencing school delay at baseline were overall not necessarily receiving higher emotional support from teachers; second, adolescents experiencing higher levels of individual types of violence were overall not necessarily receiving higher emotional support from their teachers; third, despite overall low levels of perceived academic support from teachers, the higher the perceived emotional support from teachers, the higher the perceived academic support from teachers was, and vice versa at post-test. Furthermore, given the cross-sectional nature of this data and recognizing that many adolescents were already delayed at baseline, it is not plausible to conclude whether greater emotional support from teachers was a risk factor for worse school delay, or instead, greater emotional support from teachers was in fact a response to school delay.

Fourth, neither the academic nor emotional support provided by teachers proved protective against the increased school delay associated with being more frequently exposed to 'poly-violence'. Therefore, teachers can play an important role in protecting

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

against exposure to violence and socioeconomic disadvantage for the adolescent populations in South Africa. Nevertheless, this finding suggests that teacher support has little buffering effect against the negative impact of being more frequently exposed to ‘poly-violence’ on adolescents’ school delay. Furthermore, the fact that our results showed no moderating effects of teacher support (emotional or academic) on the relationship between violence exposure and school delay implies that children that are highly at risk (i.e., exposed to more frequent ‘poly-violence’) do not receive the special attention they need at school. Other studies have shown that teachers can protect against the negative effects of exposure to maltreatment at home or bullying on several child outcomes in the US and Canada (Elledge et al., 2016; Flaspohler et al., 2009; Konishi et al., 2010; Lynch & Cicchetti, 1992). However, in the specific context of multiple exposure to violence and socioeconomic disadvantage in South Africa, further research needs to examine other potential factors mediating the relationship between exposure to violence and school delay, such as parental support, peer support and peer relationships. For instance, results from a very recent analysis in South Africa shows that supportive parenting characteristics such as positive parenting and consistent discipline have the potential to protect against school delay for poly-victimized adolescents (Herrero Romero, Hall, Cluver, & Meinck, 2017).

Strengths, limitations and implications for policy

The current study has three main strengths. First, this is the first study to investigate the effects of teacher support on adolescents’ academic outcomes in South Africa through the gathering and analyses of numeric data. This facilitates a breadth in our understanding that was previously lacking. Second, this is one of the very few studies

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

focusing on a highly at-risk sample in a Sub-Saharan context and the potential role of teacher support contributing to adolescents' resilience in educational outcomes. Third, data was collected in two waves (pre-intervention or baseline and post-intervention).

However, our results need to be interpreted with caution due to several limitations. First, this study is unable to determine whether school delay happened before or after adolescents' experiences of violence and teacher support. Thus, causality cannot be inferred. That said, our findings do set up a basis for further longitudinal analyses. These analyses would need to apply both longer time frames and various time points to be able to confirm whether teacher support predicts later academic outcomes. Second, self-report measures were used to assess exposure to violence and teacher support. Although standardized and validated tools were used asking adolescents to only recall incidents in the past month, triangulation methods could be valuable in order to improve the reliability of results and reduce potential biases. Third, exposure to 'poly-violence' was measured using a dichotomous variable in the SEM model. It is well known that dichotomizing quantitative measures can result in the loss of reliable information and the misclassification of individuals within groups (MacCallum, Zhang, Preacher, & Rucker, 2002). However, we used LPA to inform the number and types of poly-victimized groups of adolescents in order to avoid categorizing all individuals under a unique group (poly-victimized adolescents). As opposed to methods splitting samples using the median to form high and low groups, in resilience research LPA has been identified as an appropriate approach to distinguish portions of the sample experiencing relatively few risk factors, or sub-samples similarly exposed to certain types of risks (Kumpfer, 1999; Luthar, 1993). While an alternative variable-centered approach could have been applied

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

(i.e. creating a continuous measure –an index of dichotomized items from several subscales-; Charak et al., 2016; Finkelhor et al., 2007), this approach to poly-victimization has further limitations: first, these models are not able to consider the frequency of episodes of violence and second, they give the same importance to all different types of experiences of violence. Fourth, self-report measurements with more informative categories than the broad ones used for emotional support from teachers (“never”, “sometimes” and “always”) could be applied in future research in order to gain more detailed results and improve their interpretability. Fifth, the study sample ranged from 10 to 18 years of age. It is well known that factors and pathways to school success play differently across ages (Crosnoe & Elder, 2004; Lynch & Cicchetti, 1997). Thus, investigations using larger samples and conducting sub-group analyses by age might help in establishing differences between younger and older students and the effects of teacher support on their academic outcomes. Sixth, although academic success can be considered an indicator for academic resilience, this is only a small sphere in a student’s life. Further studies looking at protective factors for other academic and non-academic outcomes of highly at-risk adolescents are needed in order to inform future interventions that improve the resilience of adolescents exposed to multiple types of violence. Seventh, the study sample participated in a research prevention program to reduce harsh parenting and child abuse. While adolescents’ exposure to violence at baseline was collected previous to the intervention, adolescents’ educational outcomes were collected post-intervention. Thus, it is plausible to think that school delay might have been influenced by the type of participation in the trial (intervention versus control). However, when trial arm was introduced in the SEM model as a covariate (in order to control for study participation), results showed that trial arm was not associated with school delay. Finally, although

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

violence and poverty are two important factors related to school delay, one needs to be aware of the potential confounding effects of some important missing variables. On the one hand, important systemic problems for the analysis and comprehension of school delay in South Africa were not investigated in the present study. For instance, school-level factors, such as limited school resources and poor teaching quality as well as community characteristics such as lack of transport and limited access to health and social services were not measured (Burton & Leoschut, 2013; Hoadley, 2007; Theron & Engelbrecht, 2012; Visser & Juan, 2015). On the other hand, significant individual and family factors can also hinder adolescents' school progression in South Africa such as orphanhood, psychological distress (i.e. depression, anxiety or PTSD), or family HIV/AIDS (Cluver et al., 2011; Kuo, Operario, & Cluver, 2012; Orkin et al., 2014).

Our findings suggest that more academically supportive teachers can make an important difference to the academic outcomes of highly at-risk adolescents in deprived contexts in South Africa. Thus, increased investment in disadvantaged schools is needed to allow for conditions where teachers can provide better academic support to all students. For instance, school-based interventions assisting teachers with more training and academic support in disadvantaged contexts could potentially contribute to the academic resilience of highly at-risk adolescents.

Undeniably, there is an urgent need to ensure that all children and adolescents in South Africa learn and master the 3Rs (reading, writing and arithmetic), especially in socioeconomically disadvantaged communities where quality of education is poor (Spaull, 2013b, 2015; Spaull & Kotze, 2015). However, beyond addressing limitations in teaching capacity and the overall curriculum, results also showed that social problems

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

such as poverty and exposure to multiple types of violence hinder adolescents' actual opportunities to learn. Thus, in order to improve adolescents' educational outcomes, then more effort and resources need to focus on the intergenerational cycle of both poverty and violence in South Africa. In line with global evidence, South African evidence shows that adolescents' exposure to family violence is associated with adolescent violence outside the home (e.g. adolescent dating violence), which in turn is a risk factor for future perpetration and victimization of IPV and domestic violence during adulthood (Mathews et al., 2016; Richter et al., 2018). Programs such as 'the Fourth R', which focuses on educating adolescents in healthy relationships, may also have a long-term impact on exposure to violence, which in turn can lead to better educational outcomes (Wolfe et al., 2009). Thus, further research is needed to understand if these types of school-based programs can have an effect in limited-resource school settings in socioeconomically disadvantaged communities.

Conclusion

While teacher emotional support cannot eliminate the negative impact of exposure to violence and socioeconomic disadvantage on adolescents' school delay- and indeed teachers in very constrained settings may be able to provide emotional support only to the highest-risk adolescents - , academic support from teachers can protect against the effects of these risk factors. Nevertheless, adolescents' academic support from teachers is low in poorly-resourced school contexts in South Africa. School-based secondary intervention programs assisting teachers with more academic support in deprived contexts could reduce the impact of violence and socioeconomic disadvantage on adolescents' school delay.

Chapter 8 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

PART IV DISCUSSION AND CONCLUSIONS

Part IV of this thesis discusses the findings from the three studies in Chapters 6, 7 and 8. To this aim, Chapter 9 first presents an overview of the thesis results and findings. Second, the main strengths and limitations of the study are discussed. Third, Chapter 9 also discusses the broader implications of the study findings for research, policy, practice and programing. Finally, it offers a succinct conclusion derived from the overall DPhil thesis.

Chapter 9 DISCUSSION AND CONCLUSIONS

*“All scientific work is incomplete - whether it be observational or experimental...
That does not confer upon us a freedom to ignore the knowledge we already have,
or to postpone the action that it appears to demand at a given time.”*

(A. B. Hill, 1965, p. 300)

1. Overview of thesis results and findings

1.1 Gaps in Research Evidence

*The Negative Effects of Socioeconomic Disadvantage and Exposure to Violence on
Adolescents' Educational Outcomes in South Africa*

Many South African adolescents are repeatedly exposed to violence at home, in school and in the community, and ‘poly-violence’ – exposure to more than one form of violence - is common, especially in socioeconomically disadvantaged areas (Burton & Leoschut, 2013; Leoschut & Kafaar, 2017; Meinck, Cluver, Boyes, et al., 2016; Sherr et al., 2016; Ward et al., 2015). For instance, a 2015 nationally representative survey conducted among adolescents aged 15 to 18 found that 64% of adolescents experienced two or more forms of violence in their lifetime, while 35.4% experienced five or more forms of violence (Leoschut & Kafaar, 2017).

While evidence on the relationship between violence and adolescents' educational outcomes in Sub-Saharan Africa is scarce, research from other regions has shown that different types of abuse within the family (Romano et al., 2015), at school (Baker-henningham et al., 2009), and in the community (Holt et al., 2007) are associated with poor academic outcomes. In South Africa, only three quantitative studies have been conducted focusing on the relationship between violence and negative educational outcomes amongst children (Barbarin et al., 2001; Pieterse, 2015; Sherr et al., 2016). These three studies focused on the negative effects of single forms of violence (domestic violence, harsh parenting, and witnessing community violence) on overall adolescents' school progression, academic achievement and school dropout (Barbarin et al., 2001; Pieterse, 2015; Sherr et al., 2016). None of these studies analyzed the impact of exposure to 'poly-violence' on educational outcomes among adolescents.

Interpersonal Protective Factors for Adolescents' Resilience in Education

Global evidence shows that beyond cultural and socioeconomic characteristics, less controlling and more supportive parenting practices and parenting styles can have a positive impact on adolescents' educational outcomes (Areepattamannil, 2010; Grolnick et al., 2007; N. E. Hill & Taylor, 2004; Jaynes, 2007; Selin, 2013). Furthermore, having a supportive relationship with a school teacher or with peers has the potential to partially compensate against the educational consequences of maltreatment and conflictual relationships at home (Bolger & Patterson, 2003; Crosnoe & Elder, 2004; Lynch & Cicchetti, 1997; Simpson & Ungar, 2012; Theron & Engelbrecht, 2012).

Despite global evidence, little is known about what contributes to adolescents' resilience in education in the face of violence and socioeconomic disadvantage in South Africa. Only one quantitative study has investigated the relationship between supportive parenting practices and children's educational outcomes specifically amongst

socioeconomically disadvantaged children in South Africa (Sherr et al., 2017). The results from this study showed that more supportive parenting was associated with fewer educational risks amongst children aged seven to 13 (Sherr et al., 2017). However, no quantitative research yet exists that investigates the role of parenting against the negative effects of violence on adolescents' education. On the other hand, retrospective qualitative evidence of at-risk yet resilient students in South Africa suggests that teachers may have an important protective role for adolescents' success in education (Dass-Brailsford, 2005; Theron & Theron, 2014). However, again there are no quantitative studies to examine the relationship between teacher support and the educational outcomes of at-risk adolescents in South Africa.

1.2 Aims and contribution of this thesis

This DPhil investigation aimed to address the aforementioned, profound gaps in the literature. In order to decrease this evidence gap, this thesis consisted of two main analyses. First, this thesis examined the effects of being exposed to multiple types of violence on adolescents' school delay and academic motivation in socioeconomically disadvantaged areas in the Eastern Cape, South Africa. Second, by applying a socioecological resilience approach, this study then identified two potential sources of resilience against the impacts of violence: parent and teacher malleable interpersonal factors that may be associated with good educational outcomes, despite adolescents' risks and adversities. Therefore, the overarching aim of this thesis was to inform violence prevention and educational interventions, as well as policies concerning both at-risk adolescents and education.

This DPhil thesis addressed the following research questions:

- Research question 1: Is exposure to multiple types of violence related to school delay and academic motivation in adolescents from socioeconomically disadvantaged communities in the Eastern Cape, South Africa?
- Research question 2: Can supportive parenting protect against school delay for adolescents exposed to multiple types of violence and socioeconomic disadvantage in the Eastern Cape, South Africa?
- Research question 3: Can academic and emotional support from teachers protect against school delay for adolescents exposed to multiple types of violence and socioeconomic disadvantage in the Eastern Cape, South Africa?

This DPhil first examined the relationship between South African adolescents' exposure to multiple types of violence with academic motivation and school delay (Paper 1; Chapter 6). Using LPA, exposure to violence was investigated across multiple settings - home, school and community-, and by different perpetrators – caregivers, peers and other adults. The term '*poly-violence*' was used to indicate past-month exposure to more than one of the following six forms of violence: *domestic violence between household members*, *physical abuse by caregivers*, *emotional abuse by caregivers*, *perceived school violence*, *community violence (victimization)* and *community violence (witnessing)*.

Following a socioecological resilience approach (Rutter, 2012), this DPhil study also investigated two sources of potential resilience against school delay, in a context of risk and adversity (Masten, 2014; Theron & Engelbrecht, 2012; Ungar, 2012b). In particular, Papers 2 and 3 (Chapters 7 and 8 respectively) investigated the potential protective roles of supportive parenting and teacher support against adolescents' school delay, within a context of violence and socioeconomic disadvantage in the Eastern Cape. With this aim,

two distinct types of resilience processes are investigated using multilevel aggregated SEM. First, the potential “compensatory” protective effect (Fergus & Zimmerman, 2005; Masten, 2001, 2014; Sacker & Schoon, 2007) of supportive parenting factors and teacher support factors against overall exposure to violence and socioeconomic disadvantage was analyzed. This was done by looking at the independent and direct relationships between supportive parenting and teacher support factors on adolescents’ school delay. Second, the potential “moderating” protective effect (Garmezy & Masten, 1986; Masten, 2001, 2014) of supportive parenting and teacher support factors against the negative impact of ‘*poly-violence*’ on school delay was investigated. This was operationalized by looking at the moderating effects of parent and teacher support on the relationship between exposure to more-frequent ‘*poly-violence*’ and school delay.

1.3 PAPER 1: How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa?

Adolescents in the study sample showed high rates of school delay, socioeconomic disadvantage and multiple exposures to violence at home, in school and in the community, compared to national prevalence rates (Branson et al., 2014; Leoschut & Kafaar, 2017; Ward et al., 2015). This was to be expected, given the purposive and socioeconomically disadvantaged status of the sample. For instance, 38% of adolescents in the study sample were enrolled in at least one year below the appropriate grade in relation to age; 76% of adolescents lived in households where at least three basic necessities were not covered; more than 60% of the adolescents’ households had no tap water; and approximately 70% lived with no employed adults at home. All adolescents attended state schools, and the vast majority attended poorly-resourced schools in low income areas, and thus did not have to pay school fees (85.5%). Finally, 96.2% of

adolescents in the study sample received free meals at school. Furthermore, adolescents in the sample experienced high rates of violence in the month prior to the baseline survey: 51.1% witnessed some form of domestic violence, 63.2% experienced some form of physical violence by their caregiver, 76.1% experienced some form of emotional violence by their caregiver, 88.3% felt unsafe in school, and 71.8% had witnessed some form of violence in the community. *Exposure to community violence (victimization)* was considerably lower in the study sample (32.4%), compared to other forms of violence. Only four adolescents reported never experiencing any form of violence in the past month.

Of the DPhil sample, 93.8% had experienced '*poly-violence*' – exposure to at least two forms of violence- in the past month. This finding is in line with previous research on children's exposure to violence in South Africa and other Sub-Saharan countries, pointing at high rates of children's multiple victimization (Clarke et al., 2016; Meinck, Cluver, Boyes, et al., 2016; Ward et al., 2015, 2007). For instance, similarly high rates were found in two studies on adolescent poly-victimization in community-based samples in other South African provinces (Collings et al., 2014; Kaminer, Debra et al., 2013).

However, LPA results also showed that not all adolescents in the study sample were exposed to the same levels of '*poly-violence*'. Results identified two distinct profiles in the socioeconomically disadvantaged sample: Profile 1, adolescents exposed to more-frequent '*poly-violence*' (n=60, 11.9%), and Profile 2, adolescents exposed to less-frequent '*poly-violence*' (n=443, 88.1%). Adolescents in Profile 1 were characterized by higher scores of violence at home - domestic violence ($p<0.001$), physical ($p<0.001$) and emotional ($p<0.001$) abuse- as well as higher scores of witnessing community violence ($p=0.001$), compared to adolescents in Profile 2. On average, adolescents in Profile 1 experienced between eight and 22 incidences of different types of violence at home in

Chapter 9 DISCUSSION AND CONCLUSIONS

the past month. In contrast, adolescents in Profile 2 experienced between one and six incidences of violence at home in the past month. Thus, results suggested that two groups of adolescents exposed to multiple types of violence can be found in socioeconomically disadvantaged communities in South Africa: first, those that are frequently exposed to direct (physical and emotional abuse) and indirect violence at home (domestic violence), as well as indirect violence in the community; second, those adolescents that are similarly exposed to family and community violence as are the first group, but in a less frequent manner.

Being exposed to more-frequent '*poly-violence*' was associated with greater risk of school delay – based on age-appropriate grade in South Africa. However, being exposed to more-frequent '*poly-violence*' was not associated with lower academic motivation – adolescents still showed high rates of wanting to achieve. This finding adds to the limited evidence on the negative effects of exposure to violence on school progression and academic performance among adolescents in South Africa (Pieterse, 2015; Sherr et al., 2016).

Previous research on older adolescents has shown high levels of perseverance, expectation and motivation of disadvantaged South African youth to stay in school, regardless of their socioeconomic circumstances (Bray et al., 2010; Strassburg et al., 2010; Ward et al., 2007). This motivation to stay in school seems not to be associated with school completion and academic achievement (Bray et al., 2010; Strassburg et al., 2010). This mismatch seems logical, as both attending poor quality schools and not having access to basic services can impede children's potential for success, despite individual capacities such as high motivation to learn (Ungar, 2015). Similarly, the DPhil disadvantaged sample was also characterized by both high levels of academic motivation and school delay.

1.4 PAPER 2: Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa?

Paper 2 investigated the protective role of supportive parenting against school delay in a sample of South African adolescents exposed to multiple types of violence and socioeconomic disadvantage. Overall, the sample means for all perceived supportive parenting factors were high. This finding is in line with previous studies in South Africa using similarly disadvantaged samples. These studies have generally shown high levels of positive parenting despite poverty, sickness and violence (Cluver et al., 2013; Lachman et al., 2014; Meinck, Cluver, & Boyes, 2015a).

Despite parenting factors not being directly associated with school delay, results showed that two interaction terms were significantly associated with school delay: *more-frequent exposure to poly-violence*positive parenting* ($p < 0.01$) and *more-frequent exposure to poly-violence*consistent discipline* ($p < 0.05$). Thus, results indicated that supportive parenting practices and styles have important moderating impacts, but cannot completely compensate against the strong negative effects of exposure to violence and socioeconomic disadvantage on adolescents' school delay. However, findings also suggest that supportive parenting can have buffering or moderating effects (may partially compensate) against the negative impact of adolescents being exposed to more-frequent '*poly-violence*'. Thus, results showed that parents can have a protective role against school delay for adolescents exposed to a high frequency of '*poly-violence*'. In particular, findings suggest that high levels of positive parenting and consistent discipline can protect against the negative effect of being exposed to more-frequent '*poly-violence*' (rather than less-frequent) on school delay. Adolescents exposed to more-frequent '*poly-violence*' and receiving positive parenting and consistent discipline from their parents are less likely to be behind their appropriate grade for their age. This is compared to those

Chapter 9 DISCUSSION AND CONCLUSIONS

exposed to more-frequent '*poly-violence*' but having less-positive parenting and inconsistent discipline by parents.

Interestingly, neither parental involvement, nor social support or good monitoring were directly or indirectly associated with school delay. Previous research has shown that in general, black socioeconomically disadvantaged parents in South Africa have high expectations and aspirations for their children's education (Bray et al., 2010; Dass-Brailsford, 2005; Mudibo, 2014). However, they do not get involved in the everyday practicalities of their children's schooling (Bray et al., 2010); when they do get involved, their actions do not always have positive effects on their children's outcomes, especially in secondary education (Visser & Juan, 2015). Parental high expectations and generally low involvement of parents from disadvantaged contexts has been investigated in the South African literature. Some scholars explain these factors as parents considering education a very important value, after being historically excluded from education during the apartheid regime (Anderson, 2003; Bray et al., 2010). Thus, scholars argue that very low levels of educational attainment of post-apartheid adolescents' parents leads them to have high aspirations for their own offspring, while perhaps having limited capacity to actually help them on a day-to-day basis, such as with school homework (Anderson, 2003; Bray et al., 2010). Contrary to previous research, results from this DPhil study showed that sample at-risk adolescents perceived both high levels of parental involvement and support. A descriptive table of caregiver self-report data is included in Appendix 9. This table shows the socioeconomic characteristics of the study adolescents' caregivers and confirms a low level of caregiver/ parental education. This might be indicative of parental involvement or support not having a significant protective role on adolescents' educational outcomes. Although plausible, this study does not allow for confirming this hypothesis.

1.5 PAPER 3: Exposure to violence, teacher support and school delay amongst adolescents in South Africa

Paper 3 analyzed the effects of teacher support and exposure to '*poly-violence*' on school delay amongst adolescents in South Africa. Descriptive statistics showed that adolescents in socioeconomically disadvantaged communities perceive the academic support provided by teachers to be low. This is coherent with the socioeconomic characteristics of poorly resourced state schools in rural Eastern Cape, where high learner-teacher ratios and poor academic learning environments are common (John, 2015; Spaull, 2013b). In such contexts, providing consistent and effective academic support to all students can be difficult due to limited resources, high proportions of adolescents with special educational needs, institutionalized poor education of many teachers under the apartheid regime, and overall low turnout and high sickness amongst school staff (Spaull, 2015; Spaull & Kotze, 2015). In contrast, these same adolescents perceived the emotional support provided by teachers to be high. This is also in line with findings from other studies of at-risk youth in South Africa identifying teachers as sources of encouragement and care (Dass-Brailsford, 2005; Theron & Engelbrecht, 2012; Ward et al., 2007).

Results showed that being exposed to more-frequent '*poly-violence*' and receiving more emotional support from teachers were both independently associated with greater school delay ($p < 0.05$). On the contrary, higher academic support from teachers was associated with lower school delay ($p < 0.01$). Academic support provided by teachers can help to mitigate the likelihood of school delay for all adolescents living in disadvantaged communities in South Africa (just not an extra 'boost' for those who experience more-frequent '*poly-violence*'). This finding extends previous work with adolescents in high income countries (HICs) such as the US, the Netherlands, New Zealand, and Hong Kong (Chen, 2005; Nugent, 2009; Perry & Liu, 2010; Zee et al., 2013).

Chapter 9 DISCUSSION AND CONCLUSIONS

Contrary to what was hypothesized, emotional support from teachers is associated with an *increased* likelihood of school delay amongst adolescents who are exposed to multiple forms of violence and socioeconomic disadvantage. This finding seems to contradict previous qualitative evidence in South Africa that point at the positive effect of affective or social support from teachers on educational outcomes (Dass-Brailsford, 2005; Phasha, 2010). Given the South African school context, one plausible explanation is that those adolescents who were in greater need of affectionate support were the most at-risk for academic failure. For instance, other studies have shown how severe distress often hinders adolescents' academic progress in South Africa (Cluver et al., 2011; Operario et al., 2008).

On this line, results from a recent ethnography study in a disadvantaged secondary school in Durban, South Africa (Amin & Vithal, 2015) showed how teachers' strategies of not getting to know their students' personal circumstances (characterized by poverty and disadvantaged families), proved to be appropriate for successful teaching (Amin & Vithal, 2015). According to some teachers in this study, not knowing about their students' traumas and stories of marginalization helped them to treat all learners as equals, by being able to only focus on learning and academic matters (Amin & Vithal, 2015). This was also seen as a good strategy by some teachers to effectively offer academic support to their students without using a lot of their teaching energy for knowing, understanding and showing them sympathy (Amin & Vithal, 2015).

Nevertheless, Study 3 results showed that despite overall low levels of perceived academic support from teachers, the higher the adolescents' perceived emotional support from teachers, the higher the perceived academic support from teachers was, and vice versa. Thus, results also showed that teachers may not have necessarily been prioritizing their most vulnerable students' wellbeing and mental health above and beyond academic

matters. In fact, given the cross-sectional nature of this data and recognizing that many adolescents were already delayed at baseline, it is not plausible to conclude whether greater emotional support from teachers at post-test was a risk factor for adolescents' worse school delay, or instead, greater emotional support from teachers was actually a response to school delay. Further longitudinal and qualitative research on the effects of emotional support from teachers on the academic outcomes of at-risk adolescents in South Africa is still needed to confirm the alternative plausible hypotheses.

The SEM also tested for potential interaction effects between exposure to more-frequent '*poly-violence*' and one or both of the teacher support measures. Results revealed that no significant effects were found for either the interaction of more-frequent '*poly-violence*' with teacher academic support ($p=0.466$) or more-frequent '*poly-violence*' with teacher emotional support ($p=0.846$). Thus, neither the academic nor emotional support provided by teachers proved protective against the increased school delay associated with being more frequently exposed to '*poly-violence*'. This finding suggests that teacher support has little buffering effect against the negative impact of being more frequently exposed to '*poly-violence*' on adolescents' school delay.

2. Strengths and limitations of the study

2.1 Strengths and novelty of the study

This thesis has several main strengths. First, this thesis presents the first study examining the impact of exposure to multiple forms of violence in the home, school and community on the educational outcomes of adolescents (including younger and older) from socioeconomically disadvantaged communities in South Africa. Second, this is the first study to do so from a prospective approach, as data was collected in two waves (pre-intervention or baseline, and post-intervention or follow-up). Third, this is the first study that has applied a person-centered approach to measure any group of adolescents'

exposure to violence in South Africa (the identification of heterogeneous groups in a high-risk sample). Fourth, this is one of the very few studies focusing on a highly at-risk sample in a Sub-Saharan context (purposive sample of adolescents exposed to high levels of violence and socioeconomic disadvantage). Fifth, this is the first study looking at the potential contribution of parenting to the educational resilience of adolescents exposed to multiple types of violence and socioeconomic disadvantage in South Africa. Sixth, this is the first study to investigate the effects of teacher support on adolescents' academic outcomes in South Africa through the gathering and analysis of numeric data. Finally, this study used CASI techniques for data entry, checking, submission and storage in order to minimize bias and missing data (<1%).

2.2 Limitations and implications for future research

Besides the above mentioned strengths, several limitations must be noted when drawing inferences from this thesis' findings. Specific limitations to the socioecological resilience framework and methodology employed in this doctoral study can be found in Chapters 4 and 5. Thus, this section addresses further limitations not already discussed in Chapters 4 and 5 and presents the ways in which they may be mitigated in future research studies.

Potential confounding factors

It is likely that findings on the educational delay of adolescents may not be explained by exposure to violence alone. For instance, baseline characteristics showed that adolescents in the sample were simultaneously disadvantaged in other ways in the home (coming from impoverished families), at school (attending poorly-resourced schools) and in the community (living in low-income communities). All these factors measuring socioeconomic disadvantage have been associated with school delay and grade repetition in South Africa (Branson et al., 2014; Lam et al., 2011; Spaul, 2015). Furthermore, the relationship between poverty and lower levels of education during childhood has also

been identified as a strong predictor of violence perpetration and victimization in youth and adult life (WHO, 2002). Although results showed that family poverty was not associated with exposure to violence, the poverty measure in the current analysis needs to be interpreted as an indicator of greater disadvantage in an already disadvantaged setting (all adolescents were highly at risk as they came from socioeconomically disadvantaged communities). Further studies which compare the exposure to violence of socioeconomically disadvantaged and socioeconomically non-disadvantaged adolescents are needed in South Africa. These studies may shed further light on whether incidences of exposure to multiple types of violence and its effects on educational outcomes differ, depending on the socioeconomic status. Finally, results suggest that the disadvantaged communities in which participants lived may plausibly have contributed to the high rates of both exposure to violence and school delay in the overall sample. A comparison group of adolescents not exposed to violence was not included in the analysis.

Although violence and socioeconomic disadvantage are two important factors related to school delay, one needs to be aware of other potential confounding effects of some important missing variables (third variables). On the one hand, important systemic problems for the analysis and comprehension of school delay in South Africa were not investigated in the present study. For instance, school-level factors, such as poor teaching and education quality as well as community characteristics such as lack of transport and limited access to health and social services were not measured (Burton & Leoschut, 2013; Theron & Engelbrecht, 2012; Visser & Juan, 2015). Furthermore, significant individual and family factors can also hinder adolescents' school progression in South Africa such as orphanhood, psychological distress (i.e. depression, anxiety or PTSD), or family positive HIV/AIDS statuses (Cluver et al., 2011; Kuo et al., 2012; Orkin et al., 2014).

Chapter 9 DISCUSSION AND CONCLUSIONS

Finally, important interpersonal factors such as those between peers were not included in the study. This is an important limitation as global evidence has shown that peers can influence the educational outcomes of at-risk adolescents (Tajima et al., 2011). Thus, further research needs to examine other potential factors mediating the relationship between exposure to violence and school delay, such as peer support.

Sexual abuse, neglect, school-based violence and 'poly-violence'

The present study did not include two important forms of violence against children and adolescents in South Africa (sexual violence and neglect). Results from national studies on the prevalence of exposure to violence amongst adolescents in South Africa pointed at high levels of sexual abuse and neglect (Ward et al., 2015). For instance, one in five adolescents aged 15 to 17 in South Africa reported having experienced some form of sexual abuse in their lifetimes (Ward et al., 2015). Similarly, one in five adolescents reported having experienced neglect at home (Ward et al., 2015). These two forms of violence often co-occur with physical and emotional violence at home, in the school and in the community contributing to the poly-victimization of children in South Africa (Leoschut & Kafaar, 2017). While some data was collected by the overall research team on neglect and sexual abuse, the candidate decided to not include it. This was for two main reasons: 1) the high levels of neglect identified in the study context could be considered as a proxy measure for broader poverty and family disadvantage (Ward et al., 2015), given the high levels of deprivation in the study sample; and 2) the low reliability of the sexual abuse measure and the overall low levels of sexual abuse reported in the study sample (which may have indicated underreporting) make it difficult to yield valid conclusions from the analysis results. Thus, further research is needed to better inform the measurement of these two forms of violence in socioeconomically disadvantaged contexts.

Furthermore, although school violence was measured and included in the present analysis, bullying, gang-related violence and physical and humiliating punishment from teachers, which are also common school-based forms of violence in South Africa (Breen, Daniels, & Tomlinson, 2015; Burton & Leoschut, 2013; Meinck, Cluver, Boyes, et al., 2016; Mthanti & Mncube, 2014), were not specifically investigated. Thus, further studies using a more comprehensive measure to assess the various types of violence that adolescents are exposed to in schools are needed. These studies could complement DPhil study findings on ‘*poly-violence*’, currently pointing at the main difference in exposure to multiple types of violence being at the family level (i.e. measuring violence perpetrated by caregivers). It is plausible that by using similar measures to the ones used at the family-level (i.e. more detailed and reliable scales) to capture violence exposure outside the home, the concept of ‘*poly-violence*’ may vary.

Absence of educational attainment data

In the current investigation, directly assessing academic achievement was not possible due to the difficulty of measuring cognitive outcomes such as numeracy and literacy skills in such a diverse sample (i.e. adolescents were aged 10 to 18, attended 94 different schools and lived in 40 different communities). Therefore, the candidate intended to analyze the national, standardized test results (the ANA) in Mathematics and First Language, accessible via school records. Yet, due to difficulties in the reliability and availability of this data, including the last-minute postponement of the ANA test by the Government, the decision was made not to include data on academic achievement (see Section 2.3 in Chapter 5 for more information on the absence of attainment data, and Section 2.2 in Chapter 9 for the limitations and implications of this absence). In line with research from other LMICs (Spaull & Taylor, 2015), access to education was very high amongst at-risk adolescents participating in the Sinovuyo Teen Study. However,

Chapter 9 DISCUSSION AND CONCLUSIONS

adolescents showed different patterns of school progression when taking into account the age-appropriate grade of enrolment in South Africa. Thus, the DPhil candidate focused on school delay as an indication of adolescents' school progress, which may be considered as a proxy measure to assess the impact of violence and poverty on the educational attainment of adolescents. Further studies using a dual approach to measure both 'quantity' (years of school and school progression) and 'quality' (the actual learning) in LMICs are urgently needed (Spaull & Taylor, 2015). This approach would further contribute to the understanding of the impact of violence and poverty on adolescents' resilience in education, both in South Africa and in other LMICs.

“Parenting” versus “caregiving”

As introduced in Chapters 1 and 3, adolescents' movement between extended family homes is common amongst black African cultures in South Africa. Adolescents commonly living with adults who are not biological parents may partly be explained by historical discriminatory policies (i.e. forced movement according to Apartheid labor norms), epidemiological reasons (i.e. orphanhood due to HIV/AIDS), cultural values (i.e. Ubuntu's ethic of care) and gender-based social norms (i.e. child raising traditionally being a female task). Accordingly, this study did not set up an inclusion criteria based on biological relationships in order for families to participate, and Sinovuyo Teen participants were therefore dyads consisting of adolescents and their primary caregivers (see *Key Terms* in the introductory section). Thus, the use of the term 'supportive parenting' refers to supportive relationships with their primary caregivers. Descriptive analyses in Appendix 9 show that less than 50% of primary caregivers in the sample were biological parents. In fact, only 2% of adolescents in the sample identified their biological fathers as their primary caregivers and less than 5% of the total caregiver sample were males. Further descriptive results in Tables 2 and 3 in Appendix 10 show that overall

there were no significant differences in past-month exposure to violence, '*poly-violence*', and supportive parenting, based on types of adolescent caregiver in the study sample. Despite no differences being found based on the type of primary caregiver, findings from this DPhil investigation need to be interpreted within the Xhosa socioeconomically disadvantaged cultural context, which primarily refer to biological mothers and biological grandmothers.

Causality

The fact that this study is unable to determine whether school delay happened before or after adolescents' experiences of poverty, violence, and parenting and teacher support is regularly highlighted throughout this thesis. For instance, baseline descriptive results showed that many adolescents in the sample were already behind, plausibly indicating that school delay had occurred over the years prior to this study. It is also likely that past-month reported experiences of violence, poverty, and parenting and teacher support had happened more than a month before baseline data collection, which might have affected adolescents' educational outcomes before the beginning of the study. Thus, despite its prospective approach, causality and directionality cannot be inferred amongst study factors. By applying longer time frames and various time points, further studies could better understand the associations between violence, parenting, teacher support, socioeconomic disadvantage and school delay. Only then could claims linking supportive parenting or teacher support as predictors of later academic outcomes be made.

3. Implications for policy, practice and programing

This section summarizes implications of the three DPhil paper findings for violence prevention and educational interventions, as well as for policies concerning both at-risk adolescents and education. The applied socioecological resilience framework suggests

there are several potential interventions to inform policy and program designers (Masten & Powell, 2003). On the one hand, interventions might attempt to reduce the levels of risk factors, such as exposure to violence, poor-quality education and socioeconomic disadvantage (Study 1). These interventions can target elevated risk families, schools and communities (i.e. affected by socioeconomic disadvantage) or focus on early signs of abuse (i.e. reducing intimate partner violence or harsh parenting; Axford & Berry, 2018). On the other hand, programs might attempt to boost protective factors such as improving key relationships with caregivers and other adult mentors (Studies 2 and 3; Axford & Berry, 2018).

Study 1 results suggest that in order to improve the educational outcomes of at-risk adolescents in South Africa, interventions aiming at reducing frequent exposure to multiple types of violence are urgently needed. Addressing exposure to '*poly-violence*' in socioeconomically disadvantaged communities in South Africa is particularly important as adolescents frequently exposed to multiple forms of violence are more likely to experience cumulative negative effects and worse educational outcomes than those with minimal victimization or those exposed to only one specific form of violence (Bolger & Patterson, 2003; Ethier et al., 2004; Holt et al., 2007; Jaffe & Kohn Maikovich-Fong, 2011). However, given the great need and the limited resources available in this context, LPA profile characteristics identified in Study 1 suggest that early interventions specifically focusing on reducing violence at home may make the greatest difference towards the most at-risk adolescents' resilience in education. In this line, Study 2 results also showed the potential benefit of targeted interventions promoting positive and consistent parenting amongst the most vulnerable families with adolescents exposed to more-frequent '*poly-violence*'. Thus, parenting interventions and family conflict mediation efforts that have been proven effective at reducing domestic violence, harsh

parenting and adolescent physical and emotional abuse, may also have a positive, indirect effect on adolescents' educational outcomes. There are several evidence-based parenting programs proven effective in reducing violence and improving parent-child relationships in HICs (e.g. Triple P, FastTrack). However, to the candidate's knowledge, the Sinovuyo Parenting program is currently the only low-cost evidence-based parenting program for families with adolescents that has been rigorously evaluated in a LMIC. Results showed that this program can be implemented in socioeconomically disadvantaged communities in South Africa and succeed in reducing corporal punishment, harsh parenting and adolescent abuse by caregivers (Cluver et al., 2018). However, further research evaluating the effects of the Sinovuyo Teen Parenting program on the long-term educational outcomes of at-risk adolescent participants is needed in order to confirm this finding and inform social and education policy.

Moreover, different implications for policy, practice and programming may arise, depending on the methods used to identify poly-victimized adolescents (i.e. depending on the operationalization of violence and '*poly-violence*'; Segura, Pereda, & Guilera, 2018). In this DPhil investigation, the broad inclusion criteria of what constitutes an episode of violence, coupled with identifying '*poly-violence*' as exposure to at least two types of violence, translates into the vast majority of adolescents in the sample being exposed to '*poly-violence*' in the past month (93.8%).

As described in the Key Terms section of this DPhil thesis, the broad concept of '*poly-violence*' includes less severe but common episodes of violence in the family contexts. The decision to include such events is justified. On the one hand, longitudinal evidence in South Africa shows that less severe psychological violence as a form of discipline by caregivers, as well as harsh parenting and everyday domestic violence, are independently associated with poor educational outcomes amongst young adolescents (Sherr et al.,

2016). On the other hand, less severe (but still aggressive) techniques to discipline a child have been associated with more severe episodes of violence at home (Mathews et al., 2016; Meinck, Cluver, Boyes, et al., 2015). DPhil findings suggest that many adolescents from socioeconomically disadvantaged communities are exposed to everyday violence at home (Study 1). However, these very same adolescents also experience non-aggressive supportive techniques by caregivers, such as positive parenting and social support (Study 2). Findings from Study 2 are in line with evidence on social norms in the Xhosa population on how to raise and care for adolescents, which often includes caregivers showing both warmth and support, while at the same time applying authoritarian and aggressive discipline (Lachman et al., 2014; Meinck, Cluver, Boyes, et al., 2015). This is not unique to the Xhosa culture and is common in many other contexts (Berry, 2008; Know Violence in Childhood, 2017).

While the inclusion of less severe (but still aggressive) tactics to discipline adolescents in the current DPhil investigation is justified, DPhil findings do not necessarily call for the need to provide targeted parenting interventions to all adolescents in socioeconomically disadvantaged communities. On the contrary, the findings suggest that a universal public health approach to prevent all types of aggressive and violent behavior at home may be more appropriate. For instance, universal prevention campaigns, alongside changes in legislation, promoting positive and non-aggressive techniques to discipline adolescents may translate into small changes in attitudes and behaviors amongst families. These small changes may, in the long-run, lead to the eradication of violent, yet culturally accepted, discipline techniques against children and adolescents in South Africa (Berry, 2008; Rose, 1992; Wolfe & Jaffe, 1999).

In South Africa, policy efforts have already been put in place to end violence aimed to discipline children in contexts outside the home. For instance, the 1997 Abolition of

Chapter 9 DISCUSSION AND CONCLUSIONS

Corporal Punishment Act bans the use of physical and humiliating punishment by teachers in all schools in South Africa, while promoting the use of positive discipline (Republic of South Africa, 1997). While the prevalence of corporal punishment has decreased overall in schools over the past two decades, it is estimated that 12.4% of South African learners experienced corporal punishment in schools in 2014 (Faranaaz & Power, 2017). Interestingly, two important factors have been found to be associated with the high prevalence of corporal punishment: the lack of support to educate teachers and the overall parental support for the use of corporal punishment (Faranaaz & Power, 2017). Thus, in order to ensure that both homes and schools are safe environments for children and adolescents, further preventive efforts are needed in South African policy to target social norms and educate the population as a whole (Rose, 1992).

Findings from Study 1 also suggested that adolescents from socioeconomically disadvantaged communities are exposed to multiple stressors at home, in the school and in the community. Thus, poverty and exposure to violence affect adolescents' lives and their education opportunities. Consistent with evidence from HICs, effective programs to reduce poverty should be important policy priorities to prevent and reduce violence against children (Bolger & Patterson, 2003). Moreover, findings from Study 2 also confirm the need of not only focusing on parent-adolescent relations but also addressing socioeconomic structural risk factors to reduce adolescent exposure to violence (Bolger & Patterson, 2003). For instance, promoting positive parenting practices while reducing financial stress at home may help to reduce domestic violence (Cluver et al., 2018; Meinck, Cluver, Boyes, et al., 2015).

Findings from Study 3 add to findings from Studies 1 and 2 by showing the important effects of relationships beyond family influences (Rutter, 2012). Findings suggested that academic support provided by teachers can help to mitigate the likelihood of school delay

for all adolescents exposed to violence and living in disadvantaged communities in South Africa. However, adolescents' academic support from teachers is low in poorly-resourced school contexts in South Africa. Qualitative evidence suggests the great impact of some teachers' support actively mediating for highly at-risk adolescents' resilience (Phasha, 2010; Theron & Engelbrecht, 2012). Thus, increased recognition of the role of teachers to contribute to overall adolescents' resilience is needed, especially in challenging pedagogical contexts, such as in South Africa (Theron & Engelbrecht, 2012). Investment in disadvantaged schools is needed to allow for conditions where teachers can provide better academic support to all students, and particularly to highly at-risk adolescents. Furthermore, socioeconomically disadvantaged adolescents should be given the opportunity to attend good quality and effective schools, with qualified teachers and extra support to enable them to self-regulate their study and compensate their poor learning environment at home (Sammons, Toth, & Sylva, 2016). School-based interventions assisting teachers with more specific training to provide better academic support in highly-disadvantaged contexts could potentially contribute to the academic resilience of highly at-risk adolescents. These types of interventions should be implemented alongside policy efforts to improve the overall quality of education in state schools located in socioeconomically disadvantaged communities in South Africa. For instance, hiring contract teaching staff or teaching assistants might be an option to address the urgent need to improve learner-teacher ratios in disadvantaged state schools (Spaull, 2016).

Previous studies with at-risk adolescents have shown that interpersonal factors account for a great variation in outcomes (Bierman et al., 2004; Liebenberg & Ungar, 2009). Study 2 results showed the potential protective role of parents for the educational resilience of adolescents frequently exposed to '*poly-violence*' and to socioeconomic disadvantage, while Study 3 focused on the potential protective role of teachers for the

educational resilience of all adolescents exposed to '*poly-violence*' and socioeconomic disadvantage. Thus, findings from Studies 2 and 3 in this DPhil support what child development and resilience researchers have claimed: 1) interpersonal supportive and protective experiences occur and can be effective past early childhood; thus it is never too early or too late to appropriately intervene (Schoon, 2012), and 2) interventions boosting resilience during early adolescence and transition to adulthood require a special focus on the relational and broader social contexts at these two very sensitive periods of development (Liebenberg et al., 2016).

Given the large-scale and complex social problem of adolescents' exposure to violence in South Africa, there is a need for a greater collaboration between different government departments and stakeholders in order to ensure a "collective impact" and violence against children and adolescents (Axford & Berry, 2018). Increased communication among families, school teachers, police, community workers and social workers in the communities is needed. Improving or developing networks for early referral systems between all organizations working with children in order to prevent exposure to '*poly-violence*' is essential.

Findings from all three studies highlight the need to assess and identify the most at-risk adolescents exposed to several types of violence happening within and beyond the school grounds. School-based interventions providing safe and social environments can play an important role not only at a primary violence-prevention level, but also in identifying high-risk students exposed to multiple forms of violence at home and in the community (Barbarin et al., 2001; Holt et al., 2007; Leoschut & Kafaar, 2017). While focusing on academic matters, trained teachers can have a key role in identifying and referring adolescents most in need of additional and specialized services (Liebenberg et al., 2016; Theron & Engelbrecht, 2012). Overall, more efforts are needed to ensure that adolescents

Chapter 9 DISCUSSION AND CONCLUSIONS

in South Africa feel safe within the school grounds. Low cost initiatives such as the Good School Toolkit study in Uganda may reduce violence against children from school staff and peers in socioeconomically disadvantaged schools in South Africa (Devries et al., 2015). Other universal programs such as the Fourth -R- can focus on educating adolescents on both developing healthier relationships and reducing aggressive behaviors (Wolfe et al., 2009).

Given the high prevalence of “poly-victimization” amongst adolescents in South Africa, the need for effective child protection services alongside violence prevention efforts is essential (Axford & Berry, 2018). This is an ongoing challenge especially in disadvantaged communities in South Africa: child protection services are often non-existent or inadequate in many townships and rural areas, leaving victimized children and adolescents without the proper care and support they need (Phasha, 2010).

Additionally, more research into resilience to family and community violence is much needed as well as further studies looking at protective factors for educational outcomes in adolescents exposed to violence. These may inform policy further and help tailor specific interventions for “poly-victimized” disadvantaged adolescents in South Africa. On the one hand, a potential intervention could consist of working with families and communities to help protect their adolescents from exposure to community violence, delinquency and crime (Gorman-Smith & Tolan, 2003), such as the Communities that Care program in the US (Kim, Gloppen, Rhew, Oesterle, & Hawkins, 2015). On the other hand, replicating successful programs such as the SASA community mobilization intervention in Uganda or the Fourth -R- school-based program in the US (both designed to reduce overall prevalence of intimate partner violence), could lessen adolescents’ exposure to domestic violence at home, as well as exposure to peer violence in South Africa (Abramsky et al., 2016; Wolfe et al., 2009).

While the above-mentioned implications for policy, practice and programming may help at-risk adolescents to do better in school, these suggestions should only complement actions that tackle the multiple, important structural challenges within the South African education system (Axford & Berry, 2018). There is a pressing need to end the Apartheid “*legacy of fragmented, diverse and unequal systems*” (Howie, 2016, p. 16). Such systems are characterized by the irregular and poor management of limited resources, the overall weak institutional functionality, the great gap in the quality of education provided in schools, the overall weak teacher content knowledge and pedagogical skill, and the generalized low learner performance in South Africa (Howie, 2016; van der Berg et al., 2016). Only then will adolescents in South Africa have access to equal learning opportunities amidst exposure to violence and poverty.

4. Dissemination

Dissemination efforts to date have included publications in peer-reviewed journals and presentations at international conferences and academic seminars:

- The candidate has three first-authored articles accepted for publication from this thesis. Paper 1 in chapter 6 was accepted in the *Journal of Interpersonal Violence* (Herrero Romero, Hall, Cluver, et al., 2018), Paper 2 in Chapter 7 was accepted in *Child Abuse and Neglect* (Herrero Romero et al., 2017), while Paper 3 in Chapter 8 was accepted in the *British Journal of Educational Psychology* (Herrero Romero, Hall, & Cluver, 2018). These journals had impact factors of 1.94, 2.29 and 3.14, respectively.
- The analyses and methodologies used for this thesis were presented at the international conference *Problematizing Inequality Comparative and International Education Society Conference (CIES)* in Atlanta, US (March 2017) as an oral presentation. Furthermore, three abstracts arising from the findings of

this thesis were recently accepted to be presented at the *ISPCAN XXII International Congress on Child Abuse and Neglect*, Prague, Czech Republic (September 2018), two as oral presentations and one as a poster.

- Methods and preliminary findings were disseminated via academic presentations, including two seminars at the Department of Social Policy and Intervention in Oxford (both in May 2016) and a seminar at the Instituto Nacional de Evaluación Educativa, Ministerio de Educación, Cultura y Deporte in Madrid, Spain (April 2017).

5. Conclusion

This doctoral thesis contributes to the knowledge on the lives of South African adolescents living in poverty by considering the relationship that exists between their exposure to multiple types of violence and subsequent measures of academic motivation and school delay. Furthermore, this thesis provides further evidence on the effects of interpersonal protective factors from parents and teachers contributing to adolescents' resilience in South Africa. While results suggested that frequent exposure to multiple types of violence and socioeconomic disadvantage has a detrimental effect on adolescents' school delay, findings also showed that parents and teacher can protect adolescents against school delay in different ways within this context. Although further longitudinal and intervention studies are needed to complement and reinforce this thesis' findings, results showed that investing in supportive parenting and teacher support can make a difference in the lives of highly at-risk adolescents in South Africa. Thus, results yielded important implications for practice, programing and policy in education in disadvantaged communities in South Africa. Policy makers involved in improving the overall educational attainment of at-risk adolescents in South Africa should take violence prevention and poverty-alleviation efforts into consideration. It is hoped that this study's

Chapter 9 DISCUSSION AND CONCLUSIONS

findings contribute to the improvement of child protection and violence prevention services, as well as contributing to the educational opportunities and overall wellbeing of highly at-risk adolescents in South Africa.

REFERENCES

REFERENCES

- Abbot, S. (2014). The Glossary of Education Reform. Retrieved November 19, 2018, from <https://www.edglossary.org/hidden-curriculum/>
- Abramsky, T., Devries, K. M., Michau, L., Nakuti, J., Musuya, T., Kyegombe, N., & Watts, C. (2016). The impact of SASA !, a community mobilisation intervention , on women ' s experiences of intimate partner violence : secondary fi ndings from a cluster randomised trial in Kampala , Uganda. *Journal of Epidemiology and Community Health*, 70(8), 1–8. <http://doi.org/10.1136/jech-2015-206665>
- Africa Check. (2017). FACTSHEET: South Africa's crime statistics for 2016/17. Retrieved June 11, 2018, from <https://africacheck.org/factsheets/south-africas-crime-statistics-201617/>
- Ahmed, W., Minnaert, Æ. A., Werf, G. Van Der, & Kuyper, Æ. H. (2010). Perceived Social Support and Early Adolescents ' Achievement : The Mediatlional Roles of Motivational Beliefs and Emotions. *Journal of Youth Adolescence*, 39, 36–46. <http://doi.org/10.1007/s10964-008-9367-7>
- Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Akmatov, M. K. (2011). Child abuse in 28 developing and transitional countries — results from the Multiple Indicator Cluster Surveys. *International Journal of Epidemiology*, (40), 219–227. <http://doi.org/10.1093/ije/dyq168>
- Amin, N., & Vithal, R. (2015). Teacher knowing or not knowing about students. *South African Journal of Education*, 35(3), 1–9. <http://doi.org/10.15700/saje.v35n3a1078>
- Anderson, K. G. (2003). *Family Structure, Schooling Outcomes, and Investment in Education in South Africa*. Populations Studies Center, Institute for Social Research, University of Michigan. Michigan.
- Ansong, D., Okumu, M., Bowen, G. L., Walker, A. M., & Eisensmith, S. R. (2017). The role of parent, classmate, and teacher support in student engagement: Evidence from Ghana. *International Journal of Educational Development*, 54(October 2016), 51–58. <http://doi.org/10.1016/j.ijedudev.2017.03.010>
- Areepattamannil, S. (2010). Parenting Practices, Parenting Style, and Chidlren's School Achievement. *Journal of Psychological Studies*, 55(283). <http://doi.org/doi:10.1007/s12646-010-0043-0>
- Axford, N., & Berry, V. (2018). Perfect Bedfellows: Why Early Intervention Can Play a Critical Role in Protecting Children - A Response to Featherstone et al. (2014) - A Marriage Made in Hell: Child Protection Meets Early Intervention'. *British Journal of Social Work*, 48(1), 254–273. <http://doi.org/10.1093/bjsw/bcx003>
- Baird, S., Ferreira, F. H. G., & Özler, B. (2013). Relative Effectiveness of Conditional and Unconditional Cash Transfers for Schooling Outcomes in Developing Countries : A Systematic Review, (September). <http://doi.org/10.4073/csr.2013.8>
- Baker-henningham, H., Meeks-gardner, J., Chang, S., & Walker, S. (2009). Experiences of violence and deficits in academic achievement among urban primary school children in Jamaica &. *Child Abuse & Neglect*, 33, 296–306.

REFERENCES

- <http://doi.org/10.1016/j.chiabu.2008.05.011>
- Barbarin, O., Richter, L., & Wet, T. De. (2001). Exposure to Violence , Coping Resources , and Psychological Adjustment of South African Children. *American Journal of Orthopsychiatry*, 71(1), 16–25. <http://doi.org/10.1037/0002-9432.71.1.16>
- Barnes, H., Hall, K., & Sambu, W. (2017). *Review of Research Evidence on Child Poverty in South Africa*. Cape Town.
- Bell, J., & Morton Mckay, T. (2011). The rise of ‘class apartheid’ in accessing secondary schools in Sandton, Gauteng. *Southern African Review of Education*, 17, 27–48. <http://doi.org/10.1080/03050069529236>
- Bellon, E. O., & Ngware, M. W. (2017). The Role of Parental Leadership in Academic Performance : A Case of Pupils in the Free Primary Education Program in Kenya. *Education and Urban Society*, 49(1), 110–130. <http://doi.org/10.1177/0013124516630604>
- Berry, V. (2008). *The relative contribution of family conflict to children’s health and development*. University of Bath.
- Berry, V. (2009). Ethical Considerations in Conducting Family Violence Research. *Research Ethics Review*, 5(3), 91–100. <http://doi.org/10.1177/174701610900500302>
- Bierman, L., Coie, J., Dodge, K., Foster, M., Greenberg, M., Lochman, J., ... Pinderhughes, E. (2004). The Effects of the Fast Track Program on Serious Problem Outcomes at the End of Elementary School. *Journal of Clinical Child and Adolescent Psychology*, 33(4), 650–661. <http://doi.org/10.1207/s15374424jccp3304>
- Bojuwoye, O., Moletsane, M., Stofile, S., Moolla, N., & Sylvester, F. (2014). Learners’ experiences of learning support in selected Western Cape schools. *South African Journal of Education*, 34(1), 1–15. <http://doi.org/10.1007/s11162-011-9247-y>
- Bolger, K., & Patterson, C. (2003). Sequelae of Child Maltreatment. In S. Luthar (Ed.), *Resilience and Vulnerability. Adaptation in the context of Childhood Adversities* (1st ed., pp. 156–181). Cambridge University Press.
- Borman, G., & Rachuba, L. (2001). *Academic success among poor and minority students: An analysis of competing models of school effects. Report No 52*. Baltimore.
- Boyden, J., & Dercon, S. (2008). Young Lives: an international study of childhood poverty. Retrieved June 19, 2018, from www.younglives.org.uk
- Branson, N., Hofmeyr, C., & Lam, D. (2014). Progress through school and the determinants of school dropout in South Africa. *Development Southern Africa*, 31(1), 106–126. <http://doi.org/10.1080/0376835X.2013.853610>
- Bray, R., Gooskens, I., Kahn, L., Moses, S., & Seekings, J. (2010). *Growing up in the new South Africa. Childhood and adolescence in post-apartheid Cape Town*. Cape Town: Human Sciences Research Council.
- Breen, A., Daniels, K., & Tomlinson, M. (2015). Children’s experiences of corporal punishment: A qualitative study in an urban township of South Africa. *Child Abuse and Neglect*, 48, 131–139. <http://doi.org/10.1016/j.chiabu.2015.04.022>

REFERENCES

- Brewster, A. B., & Bowen, G. L. (2004). Engagement of Latino Middle and High School Students at Risk of School Failure. *Child and Adolescent Social Work Journal*, 21(1), 47–67. <http://doi.org/10.1023/B:CASW.0000012348.83939.6b>
- Brislin, R. W. (1970). Back-Translation for Cross-Cultural Research. *Journal of Cross-Cultural Psychology*, 1(3), 185–216. <http://doi.org/http://doi.org/10.1177/135910457000100301>
- Bromfield, L. M., & Higgins, D. J. (2005). Chronic and isolated maltreatment in a child protection sample. *Family Matters*, 70, 38–45.
- Bronfenbrenner, U. (1986). Ecology of the Family as a Context for Human Development : Research Perspectives. *Developmental Psychology*, 22(6), 723–742. <http://doi.org/10.1037//0012-1649.22.6.723>
- Bruwer, B., Govender, R., Bishop, M., Williams, D. R., Stein, D. J., & Seedat, S. (2014). Association between childhood adversities and long-term suicidality among South Africans from the results of the South African Stress and Health study : a cross-sectional study. *BMJ*, 4. <http://doi.org/10.1136/bmjopen-2013-004644>
- Burton, P., & Leoschut, L. (2013). *School violence in South Africa: Results of the 2012 National School Violence Study. Monograph Series, No 12*. Cape Town: Centre for Justice and Crime Prevention.
- Castro, M., Expósito-casas, E., López-martín, E., & Lizasoain, L. (2015). Parental involvement on student academic achievement : A meta-analysis. *Educational Research Review*, 14, 33–46. <http://doi.org/10.1016/j.edurev.2015.01.002>
- Chakravarti, I., Laha, R., & Roy, J. (1967). *Handbook of Methods and Applied Statistics Volume 1*. New York: John Wiley and Sons.
- Charak, R., Byllesby, B. M., Roley, M. E., Meredith, A., Durham, T. A., Ross, J., ... Elhai, J. D. (2016). Latent classes of childhood poly-victimization and associations with suicidal behavior among adult trauma victims : Moderating role of anger. *Child Abuse & Neglect*, 62, 19–28. <http://doi.org/10.1016/j.chiabu.2016.10.010>
- Chen, J. J. (2005). Relation of Academic Support From Parents , Teachers , and Peers to Hong Kong Adolescents ' Academic Achievement : The Mediating Role of Academic Engagement Relation of Academic Support From Parents , Teachers , and Peers to Hong Kong Adolescents ' Academ. *General Psychology Monographs*, 131(2), 77–127. <http://doi.org/10.3200/MONO.131.2.77-127>
- Children's Institute. (2016). *Children's Institute Annual Report 2016*. Cape Town.
- Chowa, G. A. N., Masa, R., & Tucker, J. (2013). Parental Involvement ' s Effects on Academic Performance: Evidence from the YouthSave Ghana Experiment. *Children and Youth Services Review*, 35(12). <http://doi.org/10.1016/j.childyouth.2013.09.009>
- Cicchetti, D. (2003). Foreword. In S. Luthar (Ed.), *Resilience and Vulnerability. Adaptation in the context of Childhood Adversities* (1st ed., pp. xix–xxvii). Cambridge University Press.
- Cicchetti, D., & Lynch, M. (1993). Toward an Ecological / Transactional Model of Community Violence and Child Maltreatment. Consequences for Children's Development. *Psychiatry Interpersonal & Biological Processes*, 56, 96–117.

REFERENCES

- <http://doi.org/10.1521/00332747.1993.11024624>
- Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology*, 8, 597–600. <http://doi.org/10.1017/S0954579400007318>
- Clarke, K., Patalay, P., Allen, E., Knight, L., Naker, D., & Devries, K. (2016). Patterns and predictors of violence against children in Uganda : a latent class analysis. *BMJ Open*, 6, 1–10. <http://doi.org/10.1136/bmjopen-2015-010443>
- Clavel, F. (2015). Advanced Topics: Plotting better Interactions using the Johnson-Neyman Technique in Mplus. Retrieved April 14, 2017, from <https://clavelresearch.wordpress.com/2015/03/23/advanced-topics-plotting-better-interactions-using-the-johnson-neyman-technique-in-mplus/>
- Cluver, L., Boyes, M., Orkin, M., Pantelic, M., Molwena, T., & Sherr, L. (2013). Child-focused state cash transfers and adolescent risk of HIV infection in South Africa : a propensity-score-matched case-control study. *The Lancet Global Health*, 1(6), e362–e370. [http://doi.org/10.1016/S2214-109X\(13\)70115-3](http://doi.org/10.1016/S2214-109X(13)70115-3)
- Cluver, L., & Gardner, F. (2007). Risk and protective factors for psychological well-being of children orphaned by AIDS in Cape Town: a qualitative study of children and caregivers' perspectives. *AIDS Care*, 19(3), 318–25. <http://doi.org/10.1080/09540120600986578>
- Cluver, L., Meinck, F., Shenderovich, Y., Ward, C. L., Herrero Romero, R., Redfern, A., ... Lechowicz, M. (2016). A parenting programme to prevent abuse of adolescents in South Africa : study protocol for a randomised controlled trial. *Trials*, 17(328), 1–10. <http://doi.org/10.1186/s13063-016-1452-8>
- Cluver, L., Meinck, F., Steinert, J., Shenderovich, Y., Doubt, J., Herrero Romero, R., ... (2018). Parenting for Lifelong Health: A pragmatic cluster randomised controlled trial of a non-commercialised parenting programme for adolescents and their families in South Africa. *BMJ Global Health*, 3(1). <http://doi.org/DOI:10.1136/bmjgh-2017-000539>
- Cluver, L., Meinck, F., Yakubovich, A., Doubt, J., Redfern, A., Ward, C., ... Gardner, F. (2016). Reducing child abuse amongst adolescents in low- and middle-income countries : A pre-post trial in South Africa. *BMC Public Health*, 16(567), 1–11. <http://doi.org/10.1186/s12889-016-3262-z>
- Cluver, L., Operario, D., Lane, T., & Kganakga, M. (2011). “I Can’t Go to School and Leave Her in So Much Pain”: Educational Shortfalls Among Adolescent ‘Young Carers’ in the South African AIDS Epidemic. *Journal of Adolescent Research*, 27(5), 581–605. <http://doi.org/10.1177/0743558411417868>
- Cobb, S. (1976). Social Support as a Moderator of Life Stress. *Psychosomatic Medicine*, 38(5). <http://doi.org/10.1097/00006842-197609000-00003>
- Collings, S. J., Penning, S. L., & Valjee, S. R. (2014). Lifetime Poly-Victimization and Posttraumatic Stress Disorder among School- Going Adolescents in Durban, South Africa. *Journal of Psychiatry*, 17(5). <http://doi.org/10.4172/Psychiatry.1000133>
- Cone, D. C., & Gerson, L. W. (2012). Measuring the measurable: A commentary on impact factor. *Academic Emergency Medicine*, 19(11), 1297–1299.

REFERENCES

- <http://doi.org/10.1111/acem.12003>
- Critical Appraisal Skills Programme. (2018). CASP-Qualitative checklist (online). Retrieved June 19, 2018, from <https://casp-uk.net/wp-content/uploads/2018/03/CASP-Qualitative-Checklist-Download.pdf>
- Crosnoe, R., & Elder, G. H. (2004). Family Dynamics, Supportive Relationships, and Educational Resilience During Adolescence. *Journal of Family Issues*, 25(5), 571–602. <http://doi.org/10.1177/0192513X03258307>
- Das-Munshi, J., Lund, C., Mathews, C., Clark, C., Rothon, C., & Stansfeld, S. (2016). Mental health inequalities in adolescents growing up in post-apartheid South Africa: Cross-sectional survey, SHaW study. *PLoS ONE*, 11(5), 1–16. <http://doi.org/10.1371/journal.pone.0154478>
- Dass-Brailsford, P. (2005). Explorating Resiliency: Academic Achievement among Disadvantaged Black Youth in South Africa. *South African Journal of Psychology*, 35, 574–591. <http://doi.org/10.1177/008124630503500311>
- David, A. ., Cole, J. A. ., Ciesla, J. A. ., & Steiger, J. H. (2007). The insidious effects of failing to include design-driven correlated residuals in latent-variable covariance structure analysis. *Psychological Methods*, 12(4), 381–398. <http://doi.org/http://dx.doi.org/10.1037/1082-989X.12.4.381>
- Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: an emotional-security hypothesis. *Psychological Bulletin*, 116, 387–411.
- Delany, A., Proudlock, P., & Lake, L. (2016). *Social assistance: Investing in children South African Child*. Cape Town.
- Department of Basic Education. (2010). *Education for All. Country Report: South Africa*. Pretoria, South Africa.
- Department of Basic Education. (2012). *National policy pertaining to the programme and promotion requirements of the national curriculum statement grades r - 12*. Pretoria, South Africa.
- Department of Basic Education. (2013). *Education for All (EFA) 2013 Country Progress Report : South Africa*. Pretoria, South Africa.
- Department of Basic Education. (2016a). *Report on progress in the schooling sector against key learner performance and attainment indicators*. Pretoria, South Africa.
- Department of Basic Education. (2016b). Schools Masterlist Data. Retrieved March 10, 2015, from <http://www.education.gov.za/Programmes/EMIS/EMISDownloads.aspx>
- Desforges, C., & Abouchaar, A. (2003). *The Impact of Parental Involvement , Parental Support and Family Education on Pupil Achievements and Adjustment : A Literature Review*. Nottingham, UK.
- Devries, K. M., Knight, L., Child, J. C., Mirembe, A., Nakuti, J., Jones, R., ... Allen, E. (2015). The Good School Toolkit for reducing physical violence from school staff to primary school students : a cluster-randomised controlled trial in Uganda. *The Lancet Global Health*, 3(385), e378–e386. [http://doi.org/10.1016/S2214-109X\(15\)00060-1](http://doi.org/10.1016/S2214-109X(15)00060-1)

REFERENCES

- Dieltiens, V., & Meny-Gibert, S. (2012). In class? Poverty, social exclusion and school access in South Africa. *Journal of Education*, 55, 128–144.
- du Plessis, B., Kaminer, D., Hardy, A., & Benjamin, A. (2015). The contribution of different forms of violence exposure to internalizing and externalizing symptoms among young South African adolescents. *Child Abuse and Neglect*, 45, 80–89. <http://doi.org/10.1016/j.chiabu.2015.02.021>
- Egeland, B., Carlson, E., & Sroufe, L. A. (1993). Resilience as process. *Development and Psychology*, 5, 517–528. <http://doi.org/10.1017/S0954579400006131>
- Egibiremolen, O. (2017). Determinants of Learning among Primary School Children in Ethiopia : Analysis of Round 2 and 3 of Young Lives Data. *African Development Review*, 29(2), 237–248. <http://doi.org/10.1111/1467-8268.12253>
- Elledge, L. C., Elledge, A. R., Newgent, R. A., & Cavell, T. A. (2016). Social Risk and Peer Victimization in Elementary School Children : The Protective Role of Teacher-Student Relationships. *Journal of Abnormal Child Psychology*, 44(691), 691–703. <http://doi.org/10.1007/s10802-015-0074-z>
- Ellonen, N., & Salmi, V. (2011). Poly-victimization as a life condition: Correlates of poly-victimization among finnish children. *Journal of Scandinavian Studies in Criminology and Crime Prevention*, 12(1), 20–44. <http://doi.org/10.1080/14043858.2011.561621>
- Eppler, M. A., & Harju, B. L. (1997). Achievement Motivation Goals in Relation to Academic Performance in Traditional College Students. *Research in Higher Education*, 38(5), 557–573. <http://doi.org/10.1023/A:1024944429347>
- Equal Education. (2016). Equal Education Annual Report. Retrieved June 19, 2018, from <https://equaleducation.org.za/research/>
- Ethier, L. S., Lemelin, J., & Lacharit, C. (2004). A longitudinal study of the effects of chronic maltreatment on children ' s behavioral and emotional problems &. *Child Abuse & Neglect*, 28, 1265–1278. <http://doi.org/10.1016/j.chiabu.2004.07.006>
- Faranaaz, V., & Power, T. (2017). *Education Rights in South Africa. Chapter 19 Corporal Punishment*. Johannesburg.
- Fergus, S., & Zimmerman, M. a. (2005). Adolescent resilience: a framework for understanding healthy development in the face of risk. *Annual Review of Public Health*, 26, 399–419. <http://doi.org/10.1146/annurev.publhealth.26.021304.144357>
- Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics*. (M. Carmichael, Ed.) (4th ed.). London: SAGE.
- Finkelhor, D., Hamby, S. L., Ormrod, R., & Turner, H. (2005). The Juvenile Victimization Questionnaire: Reliability, validity, and national norms. *Child Abuse and Neglect*, 29(4), 383.
- Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007). Poly-victimization : A neglected component in child victimization. *Child Abuse & Neglect*, 31, 7–26. <http://doi.org/10.1016/j.chiabu.2006.06.008>
- Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2009). Lifetime assessment of poly-

REFERENCES

- victimization in a national sample of children and youth &. *Child Abuse & Neglect*, 33, 403–411. <http://doi.org/10.1016/j.chiabu.2008.09.012>
- Finkelhor, D., Shattuck, A., Turner, H. A., Ormrod, R., & Hamby, S. L. (2011). Polyvictimization in Developmental Context. *Journal of Child and Adolescent Trauma*, 4(4), 291–300. <http://doi.org/10.1080/19361521.2011.610432>
- Flannery, D. J., Wester, K. L., & Singer, M. I. (2004). Impact of exposure to violence in school on child and mental health and behavior. *Journal of Community Psychology*, 32(5), 559–573. <http://doi.org/10.1002/jcop.20019>
- Flaspohler, P. D., Elfstrom, J. L., Vanderzee, K. L., Sink, H. E., & Birchmeier, Z. (2009). Stand by me: the effects of peer and teacher support in mitigating the impact of bullying on quality of life. *Psychology in Schools*, 46(7), 636–649. <http://doi.org/10.1002/pits>
- Fleisch, B., Shindler, J., & Perry, H. (2012). Who is out of school? Evidence from the Statistics South Africa Community Survey. *International Journal of Educational Development*, 32(4), 529–536. <http://doi.org/10.1016/j.ijedudev.2010.05.002>
- Fox, A. M., Jackson, S. S., Hansen, N. B., Gasa, N., Crewe, M., & Sikkema, K. J. (2007). In their own voices a qualitative study of women's risk for intimate partner violence and HIV in South Africa. *Violence Against Women*, 13(6), 583–602. <http://doi.org/10.1177/1077801207299209>
- Frempong, G., Reddy, V., & Kanjee, A. (2011). Exploring equity and quality education in South Africa using multilevel models. *Compare: A Journal of Comparative and International Education*, 41(6), 819–835. <http://doi.org/10.1080/03057925.2011.607488>
- Frick, P. J. (1991). *The Alabama Parenting Questionnaire*. Unpublished rating scale.
- Galant, J. (2015). The organisation of schools that succeed against the odds. *Southern African Review of Education with Education with Production*, 21(2), 29–52. <http://doi.org/10.1080/01425692.2015.1042149>
- Garcia Sierra, P. (2012). Attachment and preschool teacher : An opportunity to develop a secure base. *International Journal of Early Childhood Special Education*, 4(1), 1–16. <http://doi.org/10.20489/intjecse.107935>
- Garmezy, N., & Masten, A. (1986). Stress, Competence, and Resilience: Common Frontiers for Therapist and Psychopathologist. *Behavior Therapy*, 17, 500–521. [http://doi.org/10.1016/S0005-7894\(86\)80091-0](http://doi.org/10.1016/S0005-7894(86)80091-0)
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, 128(4), 539–579. <http://doi.org/10.1037//0033-2909.128.4.539>
- Glennester, & Takavarasha. (2013). *Running Randomized Evaluations: A Practical Guide*. Princeton: NJ: Princeton University Press.
- Godfrey, E., Osher, D., Williams, L., Wolf, S., Berg, J., Torrente, C., ... Aber, J. L. (2012). Cross-national measurement of school learning environments: Creating indicators for evaluating UNICEF's Child Friendly Schools Initiative. *Child Youth Service Review*, 34(3), 546–557.

REFERENCES

- <http://doi.org/10.1016/j.childyouth.2011.10.015>. Cross-national
- Goodenow, C. (1993). Classroom Belonging Among Early Adolescent Students: Relationships to Motivation and Achievement. *Journal of Early Adolescence*, 13(1), 21–43. <http://doi.org/10.1177/0272431693013001002>
- Gorman-smith, D., Henry, D. B., Tolan, P. H., Henry, D. B., Tolan, P. H., Gorman-smith, D., ... Tolan, P. H. (2004). Exposure to Community Violence and Violence Perpetration : The Protective Effects of Family Functioning Exposure to Community Violence and Violence Perpetration : The Protective Effects of Family Functioning. *Journal of Clinical Child and Adolescent Psychology*, 33(3), 439–449. <http://doi.org/10.1207/s15374424jccp3303>
- Gorman-Smith, D., & Tolan, P. H. (2003). Positive Adaptation among Youth Exposed to Community Violence. In S. Luthar (Ed.), *Resilience and Vulnerability. Adaptation in the context of Childhood Adversities* (1st ed., pp. 392–413). Cambridge University Press.
- Grant, C., Jasson, A., & Lawrence, G. (2010). Resilient Kwazulu-Natal schools: An ethics of care. *Southern African Review of Education*, 16(2), 81–99.
- Grantham-McGregor, S., Cheung, Y. B., Cueto, S., Glewwe, P., Richter, L., & Strupp, B. (2007). Developmental potential in the first 5 years for children in developing countries. *Lancet*, 369(9555), 60–70. [http://doi.org/10.1016/S0140-6736\(07\)60032-4](http://doi.org/10.1016/S0140-6736(07)60032-4)
- Griffith, J., & Taylor, P. (1996). Relation Empowerment , to Student of Parental and Academic Involvement , Traits Performance. *The Journal of Educational Research*, 90(1), 33–41. <http://doi.org/10.1080/00220671.1996.9944441>
- Grolnick, W. S., Price, C. E., Beiswenger, K. L., & Sauck, C. C. (2007). Evaluative Pressure in Mothers : Effects of Situation , Maternal , and Child Characteristics on Autonomy Supportive Versus Controlling Behavior. *Developmental Psychology*, 43(4), 991–1002. <http://doi.org/10.1037/0012-1649.43.4.991>
- Grych, J. H., & Fincham, F. D. (1993). Children’s appraisals of marital conflict: initial investigations of the cognitive-contextual framework. *Child Development*, 64(1), 215–230.
- Gudyanga, A., Adam, K., & Kurup, R. (2015). Zimbabwean Female Participation in Physics: The Influence of Context on Identity Formation. *African Journal of Research in Mathematics, Science and Technology Education*, 19(2), 176–182. <http://doi.org/DOI: 10.1080/10288457.2015.1050805>
- Gutman, L. M., Sameroff, A. J., & Eccles, J. S. (2002). The academic achievement of African American students during early adolescence: an examination of multiple risk, promotive, and protective factors. *American Journal of Community Psychology*, 30(3), 367–99. <http://doi.org/10.1023/A:1015389103911>
- Hall, J. (2009). *The Contribution of Early Education to Vulnerable and Resilient Developmental Pathways*. University of Oxford.
- Hall, J., Sylva, K., Sammons, P., Melhuish, E., Siraj-Blatchford, I., & Taggart, B. (2013). Can preschool protect young children ’ s cognitive and social development ? Variation by center quality and duration of attendance. *School Effectiveness and*

REFERENCES

- School Improvement*, 24(2), 155–176.
<http://doi.org/10.1080/09243453.2012.749793>
- Halloran, K. D. O. (2016). Measure what is measurable : IJMS comes of age as the baton changes hands. *Irish Journal of Medical Science (1971 -)*, 185(4), 769.
<http://doi.org/10.1007/s11845-016-1518-3>
- Hamre, B. K., & Pianta, R. C. (2001). Early Teacher – Child Relationships and the Trajectory of Children ’ s School Outcomes through Eighth Grade. *Child Development*, 72(2), 625–638. <http://doi.org/10.1111/1467-8624.00301>
- Herrero Romero, R., Cluver, L., Hall, J., & Steinert, J. (2018). Socioeconomically disadvantaged adolescents and educational delay in two provinces in South Africa: Impacts of personal, family and school characteristics. *Education as Change, In press*.
- Herrero Romero, R., Hall, J., & Cluver, L. (2018). Exposure to violence, teacher support and school delay amongst adolescents in South Africa. *British Journal of Educational Psychology, in press*. <http://doi.org/10.1111/bjep.12212>
- Herrero Romero, R., Hall, J., Cluver, L., & Meinck, F. (2017). Can supportive parenting protect against school delay amongst violence-exposed adolescents in South Africa? *Child Abuse & Neglect, In press*. <http://doi.org/doi:10.1016/j.chiabu.2017.09.025>
- Herrero Romero, R., Hall, J., Cluver, L., Meinck, F., & Hinde, E. (2018). How does exposure to violence affect school delay and academic motivation for adolescents living in socioeconomically disadvantaged communities in South Africa? *Journal of Interpersonal Violence, in press*. <http://doi.org/http://doi.org/10.1111/bjep.12212>
- Hill, A. B. (1965). The environment and disease: association or causation? *Proceedings of the Royal Society of Medicine*, 58, 295–300.
<http://doi.org/10.1177/0141076814562718>
- Hill, L. (2016). Race , school choice and transfers to opportunity : implications for educational stratification in South Africa. *British Journal of Sociology of Education*, 37(4), 520–547. <http://doi.org/10.1080/01425692.2014.952810>
- Hill, N. E., & Taylor, L. C. (2004). Parental School Involvement and Children’s Academic Achievement: Pragmatics and Issues. *Current Directions in Psychological Science*, 13(4), 161–164. <http://doi.org/DOI:10.1111/j.0963-7214.2004.00298.x>.
- Hill, N. E., & Tyson, D. F. (2009). Parental Involvement in Middle School: A Meta-Analytic Assessment of the Strategies That Promote Achievement. *Development and Psychology*, 45(3), 740–763. <http://doi.org/10.1037/a0015362>.Parental
- Holt, M., Finkelhor, D., & Kantor, G. (2007). Multiple victimization experiences of urban elementary school students: Associations with psychosocial functioning and academic performance. *Child Abuse & Neglect*, 31, 503–515.
<http://doi.org/10.1016/j.chiabu.2006.12.006>
- Howie, S. (2016). *Assessment for political accountability or towards educational quality ? 42nd IAEA Conference*. Cape Town.
- Hox, J. (2010). *Multilevel Anaysis Techniques and Applications* (2nd ed.). New York: Routledge.

REFERENCES

- Hsiao, C., Fry, D., Ward, C. L., Ganz, G., Casey, T., Zheng, X., & Fang, X. (2018). Violence against children in South Africa : the cost of inaction to society and the economy. *BMJ Global Health*, 3, 1–8. <http://doi.org/10.1136/bmjgh-2017-000573>
- Hunter, J., Chandran, T., Asmall, S., Tucker, J.-M., Ravhengani, N., & Mokgalagadi, Y. (2017). The Ideal Clinic in South Africa: progress and challenges in implementation. In *South African Health Review 2017* (20th ed., pp. 111–127). Durban: Health Systems Trust.
- Ingram, M., Wolfe, R. B., & Lieberman, J. M. (2007). The Role of Parents in in High-Achieving Schools Serving Low-Income, At-Risk Populations. *Education and Urban Society*, (2002), 479–497. <http://doi.org/10.1177/0013124507302120>
- ISPCAN. (2016). *Ethical Considerations for the Collection, Analysis & Publication of Child Maltreatment Data*. Aurora, CO.
- Jaffe, S., & Kohn Maikovich-Fong, A. (2011). Effects of Chronic Maltreatment and Maltreatment Timing on Children’s Behavior and Cognitive Abilities. *Journal of Child Psychology & Psychiatry*, 52(2), 184–194. <http://doi.org/10.1111/j.1469-7610.2010.02304.x.Effects>
- Jeynes, W. H. (2007). The Relationship Between Parental Involvement and Urban Secondary School Student Academic Achievement. *Urban Education*, 42(1), 82–110. <http://doi.org/http://dx.doi.org/10.1155/2011/915326>
- John, V. (2015, July 3). Special Investigating Unit to probe Eastern Cape education. Retrieved June 19, 2018, from <https://mg.co.za/article/2015-07-02-special-investigating-unit-to-probe-eastern-cape-education>
- Johnson, D. R., & Creech, J. C. (1998). Ordinal measures in multiple indicator models: A simulation study of categorization error. *American Sociological Review*, 48, 398–407. <http://doi.org/10.2307/2095231>
- Johnson, M. P. (1995). Patriarchal Terrorism and Common Couple Violence : Two Forms of Violence Against Women. *Journal of Marriage and Family*, 57(2), 283–294.
- Johnson, P., & Neyman, J. (1936). Tests of certain linear hypotheses and their applications to some educational problems. *Statistical Research Memoirs*, 1, 57–93. <http://doi.org/10.1007/BF02310468>
- Joorst, J. (2016). Towards a self-schooled habitus: how poor, rural working-class high school students in a rural West Coast township navigate their learning in limiting circumstances. *Unpublished Manuscript*, 1–21.
- Kaminer, Debra, du Plessis, B., Hardy, A., & Benjamin, A. (2013). Exposure to violence across multiple sites among young South African adolescents. *Journal of Peace Psychology*, 19(2), 112–124.
- Kan, K., & Tsai, W. (2005). Parenting practices and children ’ s education outcomes. *Economic of Education Review*, 24, 29–43. <http://doi.org/10.1016/j.econedurev.2004.04.006>
- Kenny, D. (2014). Measures of Model Fit Webinars. Retrieved April 14, 2017, from http://davidakenny.net/webinars/SEM/General/Fit/Measures/Measures_of_Fit.html
- Kim, B. K. E., Gloppen, K. M., Rhew, I. C., Oesterle, S. J., & Hawkins, J. D. (2015).

REFERENCES

- Effects of the Communities that Care prevention system on youth reports of protective factors. *Prevention Science*, 16(5), 652–662.
- Kiwanuka, H. N., Van Damme, J., Van Den Noortgate, W., Anumendem, D. N., & Namusisi, S. (2015). Factors affecting Mathematics achievement of first-year secondary school students in Central Uganda. *South African Journal of Education*, 35(3), 1–16. <http://doi.org/10.15700/saje.v35n3a1106>
- Know Violence in Childhood. (2017). *Ending Violence in Childhood. Global Report 2017*. New Delhi, India.
- Konishi, C., Hymel, S., Zumbo, B. D., & Li, Z. (2010). Do School Bullying and Student – Teacher Relationships Matter for Academic Achievement? A Multilevel Analysis. *Canadian Journal of School Psychology*, 25(1), 13–39. <http://doi.org/10.1177/0829573509357550>
- Kristin, B., Moore, A., Whitney, C., & Kinukawa, A. (2009). Exploring the links between family strengths and adolescent outcomes. Retrieved June 19, 2018, from <https://www.childtrends.org/publications/exploring-the-links-between-family-strengths-and-adolescent-outcomes>
- Kumpfer, K. L. (1999). Factors and Processes Contributing to Resilience. In Glantz and Johnson (Ed.), *Resilience and Development: Positive Life Adaptations* (pp. 179–214). New York: Kluwer Academic.
- Kuo, C., Operario, D., & Cluver, L. (2012). Depression among carers of AIDS-orphaned and other-orphaned children in Umlazi Township, South Africa. *Global Public Health*, 7(3), 253–69. <http://doi.org/10.1080/17441692.2011.626436>
- Labadarios, D., Steyn, N., Maunder, E., MacIntyre, U., Gericke, G., Swart, R., ... Nel, J. (2007). The National Food Consumption Survey (NFCS): South Africa, 1999. *Public Health Nutrition*, 8(05), 533–543. <http://doi.org/10.1079/PHN2005816>
- Lachman, J. M., Cluver, L., Boyes, M. E., Kuo, C., & Casale, M. (2014). Positive parenting for positive parents: HIV/AIDS, poverty, caregiver depression, child behavior, and parenting in South Africa. *AIDS Care*, 26(3), 304–13. <http://doi.org/10.1080/09540121.2013.825368>
- Lam, D., Ardington, C., & Leibbrandt, M. (2011). Schooling as a Lottery: racial differences in School Advancement in Urban South Africa. *Journal of Developmental Economy*, 95(2), 121–136. <http://doi.org/10.1016/j.jdeveco.2010.05.005>
- Langford, C. P., Bowsher, J., Maloney, J. P., & Lillis, P. P. (1997). Social support : a conceptual analysis. *Journal of Advanced Nursing*, 25, 95–100. <http://doi.org/10.1046/j.1365-2648.1997.1997025095>
- Lanza, S., & Rhoades, B. L. (2014). Latent Class Analysis: An Alternative Perspective on Subgroup Analysis in Prevention and Treatment. *Prevention Science*, 14(2), 157–168. <http://doi.org/10.1007/s11121-011-0201-1>
- Lanza, S., Tan, X., & Bray, B. C. (2013). Latent class analysis with distal outcomes: a flexible model-based approach. *Structural Equation Modeling : A Multidisciplinary Journal*, 20(1), 1–26. <http://doi.org/10.1080/10705511.2013.742377>
- Laugksch, R., Aldridge, J., & Fraser, B. (2007). Outcomes-Based Education in South

REFERENCES

- Africa: Using an Instrument to Assess School-Level Environments during the Implementation. *Education (AARE)*, (November 2007), 25–29. <http://doi.org/10.1007/s10984-006-9009-5>
- Lawson, T. (2012). *Impact of School Feeding Programs on Educational, Nutritional, and Agricultural Development Goals: A Systematic Review of Literature*. Michigan State University.
- Leoschut, L., & Kafaar, Z. (2017). The frequency and predictors of poly-victimisation of South African children and the role of schools in its prevention. *Psychology, Health & Medicine*, 22(1), 81–93. <http://doi.org/10.1080/13548506.2016.1273533>
- Liebenberg, L., Theron, L., Sanders, J., Munford, R., van Rensburg, A., Rothmann, S., & Ungar, M. (2016). Bolstering resilience through teacher-student interaction: Lessons for school psychologists. *School Psychology International*, 37(2), 140–154. <http://doi.org/10.1177/0143034315614689>
- Liebenberg, L., & Ungar, M. (2009). Introduction: the Challenges in Researching Resilience. In L. Liebenberg & M. Ungar (Eds.), *Researching Resilience*. Toronto: University of Toronto Press.
- Luthar, S. (1993). Annotation: Methodological and Conceptual Issues in Research on Childhood Resilience. *NIH*, 34(4), 441–453. [http://doi.org/S01406736\(08\)61556-1](http://doi.org/S01406736(08)61556-1)
- Luthar, S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Risk, disorder, and adaptation* (pp. 739–795). New York: NY: Wiley.
- Luthar, S., Cicchetti, D., & Becker, B. (2000). The Construct of Resilience: A Critical Evaluation and Guidelines for Future Work. *Child Development*, 71(3), 543–562. <http://doi.org/10.1111/1467-8624.00164>
- Luthar, S., & Zelazo, L. (2003). Research on resilience: An integrative review. In S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversities* (pp. 510–549). New York: Cambridge University Press.
- Lynch, M., & Cicchetti, D. (1992). Maltreated Children ' s Reports of Relatedness to Their Teachers. *New Directions for Child Development*, (57), 81–107. <http://doi.org/10.1002/cd.23219925707>
- Lynch, M., & Cicchetti, D. (1997). Children ' s Relationships with Adults and Peers : An Examination of Elementary and Junior High School Students. *Journal of School Psychology*, 35(1), 81–99. [http://doi.org/10.1016/S0022-4405\(96\)00031-3](http://doi.org/10.1016/S0022-4405(96)00031-3)
- MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the Practice of Dichotomization of Quantitative Variables. *Psychological Methods*, 7(1), 19–40. <http://doi.org/10.1037//1082-989X.7.1.19>
- Masitsa, M. G. (2011). Exploring safety in township secondary schools in the Free State province. *South African Journal of Education*, 31(1), 163–174. <http://doi.org/10.15700/saje.v31n2a477>
- Masten, A. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56(3), 227–238. <http://doi.org/10.1037//0003-066X.56.3.227>
- Masten, A. (2014). *Ordinary Magic: Resilience in Development*. New York: The

REFERENCES

- Guilford Press.
- Masten, A., & Coatsworth, J. D. (1998). The Development of Competence in Favorable and Unfavorable Environments. *American Psychologist*, 53(2), 205–220. <http://doi.org/10.1037/0003-066X.53.2.205>
- Masten, A., & Powell, J. (2003). A resilience framework for research, policy and practice. In S. Luthar (Ed.), *Resilience and Vulnerability. Adaptation in the context of Childhood Adversities* (1st ed., pp. 1–25). Cambridge University Press.
- Masten, A. S., & Wright, M. (1998). Cumulative Risk and Protection Models of Child Maltreatment Ann. *Journal of Aggression, Maltreatment & Trauma*, 2(1), 7–30. <http://doi.org/10.1300/J146v02n01>
- Masyn, K. (2013). Latent Class analysis and finite mixture modeling. In T. D. Li (Ed.), *The Oxford handbook of quantitative methods in psychology* (Vol. 2) (pp. 551–611). New York: Oxford University Press.
- Mathews, S., Govender, R., Lamb, G., Boonzaier, F., Dawes, A., Ward, C., ... S., R. (2016). *Towards a more comprehensive understanding of the direct and indirect determinants of violence against women and children in South Africa with a view to enhancing violence prevention*. Cape Town.
- Mboweni, L. (2014). *Challenges and factors contributing to learner absenteeism in selected primary schools in Acornhoek*. UNISA.
- McCreary Centre Society. (2009). *A Picture of Health. Highlights from the 2008 British Columbia Adolescent Health Survey*. Vancouver, BC.
- McLachlan, G., & Peel, D. (2005). *Finite Mixture Models*. John Wiley & Sons, Inc.
- Meinck, F., Boyes, M., Cluver, L., Ward, C., Schmidt, P., & Dunne, M. (2018). Development and Psychometric Properties of the ISPCAN Child Abuse Screening Tool for use in TRIALS Among South African Adolescents and their Primary Caregivers. *Child Abuse & Neglect*, *In press*.
- Meinck, F., Cluver, L., & Boyes, M. (2015a). Longitudinal Predictors of Child Sexual Abuse in a Large Community-Based Sample of South African Youth. *Journal of Interpersonal Violence*, 32(18), 2804–2836. <http://doi.org/10.1177/088626098013001001>
- Meinck, F., Cluver, L., & Boyes, M. E. (2015b). Household illness , poverty and physical and emotional child abuse victimisation : findings from South Africa ’ s first prospective cohort study. *BMC Public Health*, 15(444), 1–13. <http://doi.org/10.1186/s12889-015-1792-4>
- Meinck, F., Cluver, L., Boyes, M. E., & Loening-Voysey, H. (2016). Physical , emotional and sexual adolescent abuse victimisation in South Africa : prevalence , incidence , perpetrators and locations. *Journal of Epidemiol Community Health*, 0, 1–7. <http://doi.org/10.1136/jech-2015-205860>
- Meinck, F., Cluver, L., Boyes, M., & Ndhlovu, L. (2015). Risk and Protective Factors for Physical and Emotional Abuse Victimisation amongst Vulnerable Children in South Africa. *Child Abuse Review*, 24(3), 182–197. <http://doi.org/10.1002/car.2283>
- Meinck, F., Cluver, L., Orkin, F. M., Kuo, C., Sharma, A. D., Hensels, I. S., & Sherr, L.

REFERENCES

- (2016). Pathways From Family Disadvantage via Abusive Parenting and Caregiver Mental Health to Adolescent Health Risks in South Africa. *Journal of Adolescent Health*, 60(1), 57–64. <http://doi.org/10.1016/j.jadohealth.2016.08.016>
- Meny-Gibert, S., & Russell, B. (2010). *Enrolment, delays and completion in South African schools. Social Surveys Africa* (Vol. 1). Johannesburg.
- Mo, Y., & Singh, K. (2008). Parents' Relationships and Involvement: Effects on Students' School Engagement and Performance. *Research in Middle Level Education*, 31(10). <http://doi.org/10.1080/19404476.2008.11462053>
- Moloi, K. C., Dzvimbo, K. P., Potgieter, F. J., Wolhuter, C. C., & Walt, J. L. Van Der. (2010). Learners' perceptions as to what contributes to their school success: a case study. *South African Journal of Education*, 30, 475–490. <http://doi.org/10.15700/saje.v30n3a365>
- Morgan, C., Petrosino, A., & Fronius, A. (2012). *A systematic review of the evidence of the impact of eliminating school user fees in low-income developing countries*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.
- Mthanti, B., & Mncube, V. (2014). The social and economic impact of corporal punishment in South African schools. *Journal of Sociology and Social Anthropology*, 5(1), 71–80. <http://doi.org/10.1080/09766634.2014.11885611>
- Mudibo, S. (2014). *Impact Of Parents' Involvement On Students' Academic Success In Secondary Schools In Kenya*. University of Nairobi.
- Muller, A. (2013). Linking poverty and violence: The South African scenario. *Unpublished Manuscript*, 45–64.
- Mullis, I., Martin, M., Foy, P., & Hooper, M. (2016). *PIRLS 2016 International Results in Reading*. Chestnut Hill, MA.
- Murray, J., Farrington, D. P., & Eisner, M. P. (2009). Drawing conclusions about causes from systematic reviews of risk factors: The Cambridge Quality Checklists. *Journal of Experimental Criminology*, 5(1), 1–23. <http://doi.org/10.1007/s11292-008-9066-0>
- Muthen, L., & Muthen, B. (2012). *Mplus user's guide (7th edition)*. (M. & Muthen, Ed.). Los Angeles (CA).
- Muthén, L., & Muthén, B. (2010). *Mplus user's guide* (6th ed.). Los Angeles, CA: Muthén & Muthén.
- Mzolo, S. (2013). *Fracturated Hope: celebrating 20 years of democracy amid poverty and despair*. Cape Town: Trafford Publishing.
- National Data Archive on Child Abuse and Neglect. (2015). *Longitudinal Studies of Child Abuse and Neglect (LONGSCAN) Assessments 0-18*.
- National Research Council. (1993). *Understanding Child Abuse and Neglect*. Washington, D.C.
- Nolte-schamm, C. (2006). African anthropology as a resource for reconciliation: Ubuntu / Botho as a reconciliatory paradigm in South Africa. *Scriptura*, 93, 370–383.

REFERENCES

- <http://doi.org/10.7833/93-0-1376>
- Norman, G. (2010). Likert scales, levels of measurement and the “laws” of statistics. *Advances in Health Sciences Education*, 15(5), 625–632. <http://doi.org/10.1007/s10459-010-9222>
- Nugent, T. (2009). *The impact of teacher-student interaction on student motivation and achievement*. University of Central Florida.
- Nylund, K. L., & Muthén, B. (2007). Deciding on the Number of Classes in Latent Class Analysis and Growth Mixture Modeling: A Monte Carlo Simulation Study. *Structural Equation Modelling*, 14(4), 535–569. <http://doi.org/10.1080/10705510701575396>
- Operario, D., Cluver, L., Rees, H., Macphail, C., & Pettifor, A. (2008). Orphanhood and Completion of Compulsory School Education Among Young People in South Africa : Findings From a National Representative Survey. *Journal of Research on Adolescence*, 18(1), 173–186. <http://doi.org/10.1111/j.1532-7795.2008.00555.x>
- Orkin, M., Boyes, M. E., Cluver, L., & Zhang, Y. (2014). Pathways to poor educational outcomes for HIV/AIDS-affected youth in South Africa. *AIDS Care*, 26(3), 343–50. <http://doi.org/10.1080/09540121.2013.824533>
- Osofsky, J. D. (1998). Children as invisible victims of domestic and community violence. In G. W. Holden, R. Geffner, & E. N. Jouriles (Eds.), *Children exposed to marital violence: Theory, research, and applied issues* (pp. 95–117). Washington D.C.: APA science Vols. <http://doi.org/10.1037/10257-003>
- Osterman, K. (2002). Schools as Communities for Students. In G. Furman (Ed.), *School as Community: from Promise to practice* (pp. 163–194). State University of New York press. <http://doi.org/10.1111/j.1745-9125.2003.tb01003>
- Pears, K. C., Kim, H. K., & Fisher, P. A. (2008). Psychosocial and Cognitive Functioning of Children with Specific Profiles of Maltreatment Katherine. *Child Abuse & Neglect*, 32(10), 958–971. <http://doi.org/10.1016/j.chiabu.2007.12.009>Psychosocial
- Pereda, N., Guilera, G., & Abad, J. (2014). Victimization and polyvictimization of Spanish children and youth: Results from a community sample. *Child Abuse and Neglect*, 38(4), 640–649. <http://doi.org/10.1016/j.chiabu.2014.01.019>
- Perry, J. C., & Liu, X. (2010). School Engagement as a Mediator of Academic Performance Among Urban Youth : The Role of Career Preparation , Parental Career Support , and Teacher Support. *The Counseling Psychologist*, 38(2), 269–295. <http://doi.org/10.1177/0011000009349272>
- Petersen, I., Louw, J., & Dumont, K. (2009). Adjustment to university and academic performance among disadvantaged students in South Africa. *Educational Psychology*, 29(1), 99–115. <http://doi.org/10.1080/01443410802521066>
- Petrenko, C., Friend, A., Garrido, E., Taussig, H., & Culhane, S. (2013). Does subtype matter? Assessing the effects of maltreatment on functioning in preadolescent youth in out-of-home care. *Child Abuse & Neglect*, 36(9), 633–644. <http://doi.org/10.1016/j.chiabu.2012.07.001>Does
- Phasha, T. N. (2010). Educational Resilience Among African Survivors of Child Sexual

REFERENCES

- Abuse in South Africa. *Journal of Black Studies*, 40(6), 1234–1253. <http://doi.org/10.1177/0021934708327693>
- Pieterse, D. (2015). Childhood Maltreatment and Educational Outcomes: Evidence from South Africa Health Economics. *Health Economics*, 24(7), 876–894. <http://doi.org/10.1002/hec.3065>
- Pillay, U., Roberts, B., & Rule, S. (2006). *South African social attitudes: changing times, diverse voices*. Cape Town: HSRC Press.
- Plunkett, S. W., Henry, C. S., Houlberg, B. J., Sands, T., & Abarca-Mortensen, S. (2008). Academic Support by Significant Others and Educational Resilience in Mexican-Origin Ninth Grade Students From Intact Families. *The Journal of Early Adolescence*, 28(3), 333–355. <http://doi.org/10.1177/0272431608314660>
- Pothoff, R. (2006). Johnson-Neyman Technique. *International Statistical Review*. <http://doi.org/10.1002/0471667196.ess1308.pub2>
- Preacher, K., Curran, P. J., & Bauer, D. J. (2006). Computational Tools for Probing Interactions in Multiple Linear Regression, Multilevel Modeling, and Latent Curve Analysis. *Journal of Educational and Behavioral Statistics*, 31(4), 437–448. <http://doi.org/10.3102/10769986031004437>
- Price-Robertson, R., Higgins, D., & Vassallo, S. (2013). *Multi-type maltreatment and polyvictimisation: A comparison of two research frameworks*. Australian Institute of Family Studies.
- Protheroe, N. (2007). Emotional Support and Student Learning. Retrieved June 19, 2018, from <https://www.naesp.org/sites/default/files/resources/2/Principal/2007/M-Ap50.pdf>
- Ramphela, M. (2002). *Steering by the stars: being young in South Africa*. Cape Town: Tafelberg.
- Reddy, V., Isdale, K., Juan, A., Visser, M., Winnaar, L., & Arends, F. (2015). *TIMSS 2015 Highlights of Mathematics Achievement amongst Grade 5 South African Learners*. Nurturing green shoots. Pretoria, South Africa.
- Republic of South Africa. (1996). South African Schools Act, 1996 (Act 84 of 1996). Pretoria: Government Printers.
- Republic of South Africa. (1997). Abolition of Corporal Punishment Act, 1997 (Act No. 33 of 1997).
- Richman, J. M., Rosenfeld, L. B., & Bowen, G. L. (1998). Social support for adolescents at risk of school failure. *Social Work*, 43(4), 309–23. <http://doi.org/10.1093/sw/43.4.309>
- Richter, L. M., Mathews, S., Kagura, J., & Nonterah, E. (2018). A longitudinal perspective on violence in the lives of South African children from the Birth to Twenty Plus cohort study in Johannesburg-Soweto. *South African Medical Journal*, 108(3), 181. <http://doi.org/10.7196/SAMJ.2018.v108i3.12661>
- Robbins, S. B., Lauver, K., Le, H., Davis, D., & Carlstrom, A. (2004). Do Psychosocial and Study Skill Factors Predict College Outcomes? A Meta-Analysis. *Psychological Bulletin*, 130(2), 261–288. <http://doi.org/10.1037/0033->

REFERENCES

2909.130.2.261

- Romano, E., Babchishin, L., Marquis, R., & Fre, S. (2015). Childhood Maltreatment and Educational Outcomes. *Trauma Violence & Abuse*, 16(4), 418–437. <http://doi.org/10.1177/1524838014537908>
- Roorda, D. L., & Koomen, H. M. Y. (2011). The Influence of Affective Teacher – Student Relationships on Students ’ School Engagement and Achievement : A Meta-Analytic Approach. *Review of Educational Research*, 81(4), 493–529. <http://doi.org/10.3102/0034654311421793>
- Rose, G. (1992). *The Strategy of Preventive Medicine*. Oxford: Oxford University Press.
- Rothon, C., Head, J., Klineberg, E., & Stansfeld, S. (2011). Can social support protect bullied adolescents from adverse outcomes? A prospective study on the effects of bullying on the educational achievement and mental health of adolescents at secondary schools in East London. *Journal of Adolescence*, 34(3), 579–588. <http://doi.org/10.1016/j.adolescence.2010.02.007>
- Ruchkin, V., Schwab-Stone, M., & Vermeiren, R. (2004). *Social and Health Assessment (SAHA) Psychometric Development Summary*. New Haven: Yale University.
- Rudasill, K. M., Gallagher, K. C., & White, J. M. (2010). Temperamental attention and activity , classroom emotional support , and academic achievement in third grade third grade. *Journal of School Psychology*, 48(2), 113–134. <http://doi.org/10.1016/j.jsp.2009.11.002>
- Runyan, D., Dunne, M. P., Zolotor, A. J., Madrid, B., Jain, D., Gerbaka, B., ... Youssef, R. M. (2009). The development and piloting of the ISPCAN Child Abuse Screening Tool-Parent version (ICAST-P). *Child Abuse & Neglect*, 33(11), 826–32. <http://doi.org/10.1016/j.chiabu.2009.09.006>
- Rutter, M. (1979). Protective factors in children’s responses to stress and disadvantage. In J. Kent & E. Rolf (Eds.), *Primary prevention of psychopathology* (pp. 49–74). Hanover, NH: University Press of New England.
- Rutter, M. (1985). Resilience in the face of adversity. Protective factors and resistance to psychiatric disorder. *The British Journal of Psychiatry*, 147(6), 598–611. <http://doi.org/10.1192/bjp.147.6.598>
- Rutter, M. (1987). Psychosocial Resilience and Protective Mechanisms. *American Journal of Orthopsychiatry*, 57(3), 316–331. <http://doi.org/10.1017/CBO9780511752872.013>
- Rutter, M. (2012). Resilience: Causal Pathways and Social Ecology. In M. Ungar (Ed.), *The Social Ecology of Resilience* (pp. 32–40). New York: Springer, US.
- Ruzek, E. A., Hafen, C. A., Allen, J. P., Gregory, A., Yee, A., & Pianta, R. C. (2016). How teacher emotional support motivates students : The mediating roles of perceived peer relatedness , autonomy support , and competence. *Learning and Instruction*, 42, 95–103. <http://doi.org/10.1016/j.learninstruc.2016.01.004>
- Sacker, A., & Schoon, I. (2007). Educational resilience in later life: Resources and assets in adolescence and return to education after leaving school at age 16. *Social Science Research*, 36(3), 873–896. <http://doi.org/10.1016/j.ssresearch.2006.06.002>

REFERENCES

- Sakiz, G., Pape, S. J., & Woolfolk, A. (2012). Does perceived teacher affective support matter for middle school students in mathematics classrooms? *Journal of School Psychology, 50*(2), 235–255. <http://doi.org/10.1016/j.jsp.2011.10.005>
- Sameroff, A., Gutman, L. M., & Peck, S. (2003). Adaptation among youth facing multiple risks. In S. Luthar (Ed.), *Resilience and Vulnerability. Adaptation in the context of Childhood Adversities* (1st ed., pp. 364–391). Cambridge University Press.
- Sammons, P., Hall, J., Sylva, K., Melhuish, E., Siraj-blatchford, I., & Taggart, B. (2013). Protecting the development of 5 – 11- year-olds from the impacts of early disadvantage: the role of primary school academic effectiveness. *School Effectiveness and School Improvement, 24*(2), 251–268. <http://doi.org/10.1080/09243453.2012.749797>
- Sammons, P., Toth, K., & Sylva, K. (2016). *How Aspirations and Academic Self Concept Shape Young People's Outcomes*. London.
- Schenk, K., & Williamson, J. (2005). *Ethical approaches to gathering information from children and adolescents in international settings: Guidelines and resources*. Washington, D.C.
- Schoon, I. (2006). *Risk and Resilience Adaptations in Changing Times* by. New York: Cambridge University Press.
- Schoon, I. (2012). Temporal and Contextual Dimensions to Individual Positive Development: A developmental-Contextual Systems Model of Resilience. In M. Ungar (Ed.), *The Social Ecology of Resilience* (pp. 143–156). New York: Springer, US.
- Schulze, S., & Lemmer, E. (2016). The Relationship Between Family Experiences and Motivation to Learn Science for Different Groups of Grade 9 Students in South Africa. *African Journal of Research in Mathematics, Science and Technology Education, 20*(1), 15–24. <http://doi.org/10.1080/10288457.2015.1122897>
- Schulze, S., & Lemmer, E. (2017). Family experiences , the motivation for science learning and science achievement of different learner groups. *South African Journal of Education, 37*(1), 1–9. <http://doi.org/10.15700/saje.v37n1a1276>
- Scotti, V., Schaayi, N., Schneideri, H., & Sandersi, D. (2017). Addressing social determinants of health in South Africa: the journey continues. In *South African Health Review 2017* (pp. 77–87). Durban: Health Systems Trust.
- Seedat, M., Niekerk, A., Suffla, S., & Ratele, K. (2009). Violence and injuries in South Africa : prioritising an agenda for prevention Health in South Africa. *The Lancet, 374*, 1011–22. [http://doi.org/10.1016/S0140-6736\(09\)60948-X](http://doi.org/10.1016/S0140-6736(09)60948-X)
- Segura, A., Pereda, N., & Guilera, G. (2018). Poly-victimization from different methodological approaches using the juvenile victimization questionnaire: Are we identifying the same victims? *Journal of Trauma and Dissociation, 19*(3), 289–306. <http://doi.org/10.1080/15299732.2018.1441352>
- Selin, H. (Ed.). (2013). *Parenting Accross Cultures: Chilrearing, Motherhood and Fatherhood in Non-Western Cultures*. Chicago: Springer.
- Shapiro, S., & Wilk, M. (1965). An analysis of variance test for normality (complete samples). *Biometrika, 52*(3–4), 591–611. <http://doi.org/10.1093/biomet/52.3-4.591>

REFERENCES

- Sherbourne, C., & Stewart, A. (1991). The Medical Outcomes Survey (MOS) social support survey. *Social Science and Medicine*, 32(6), 705–714. <http://doi.org/10.1093/biomet/52.3-4.591>
- Sherr, L., Hensels, I. S., Skeen, S., Tomlinson, M., Roberts, K. J., & Macedo, A. (2016). Exposure to violence predicts poor educational outcomes in young children in South Africa and Malawi. *International Health*, (8), 36–43. <http://doi.org/10.1093/inthealth/ihv070>
- Sherr, L., Macedo, A., Cluver, L., Meinck, F., Skeen, S., Hensels, I., ... Tomlinson, M. (2017). Parenting, the other oldest profession in the world - a cross-sectional study of parenting and child outcomes in South Africa and Malawi. *Health Psychology and Behavioral Medicine*, 5(1), 145–165. <http://doi.org/http://dx.doi.org/10.1080/21642850.2016.1276459>
- Shilubana, M., & Kok, J. C. (2005). Learners Without Adult Care at Home Who Succeed in School. *Education as Change*, 9(March), 101–107. <http://doi.org/10.1080/16823200509487105>
- Shukla, S. Y., Tombari, A. K., Toland, M. D., & Danner, F. W. (2015). Parental Support for Learning and High School Students ' Academic Motivation and Persistence in Mathematics. *Journal of Educational and Developmental Psychology*, 5(1), 44–56. <http://doi.org/10.5539/jedp.v5n1p44>
- Shute, V. J., Hansen, E. G., Underwood, J. S., & Razzouk, R. (2011). A Review of the Relationship between Parental Involvement and Secondary School Students ' Academic Achievement. *Education Research International*. <http://doi.org/10.1155/2011/915326>
- Simon, B. S. (2001). Family Involvement in High School: Predictors and Effects. *NASSAP Bulletin*, 85(627), 8–19. <http://doi.org/10.1177/019263650108562702>
- Simpson, J., & Ungar, M. (2012). An interview with Jude Simpson: Growing Beyond a Life of Abuse and Gang Involvement in New Zealand. In M. Ungar (Ed.), *The Social Ecology of Resilience* (pp. 85–90). London, UK: Springer.
- Siraj-Blatchford, I., Taggart, B., Sammons, P., Melhuish, E., & Sylva, K. (2013). *Effective teachers in primary schools: key research on pedagogy and children's learning*. Stoke On trent, UK: Trentham Books.
- Spaull, N. (2013a). Poverty & privilege : Primary school inequality in South Africa. *International Journal of Educational Development*, 33(5), 436–447. <http://doi.org/10.1016/j.ijedudev.2012.09.009>
- Spaull, N. (2013b). *South Africa's Education Crisis : The quality of education in South Africa 1994-2011*. Centre for Development and Enterprise (Vol. 27). Johannesburg.
- Spaull, N. (2015). Schooling in South Africa: How low quality education becomes a poverty trap. *South African Child Gauge*, (12), 34–41. <http://doi.org/10.2139/ssrn.2973766>
- Spaull, N. (2016). *Excessive class sizes in the Foundation Phase*. Stellenbosch.
- Spaull, N. (2018, April 16). Basic education thrown under the bus — and it shows up in test results. Retrieved June 19, 2018, from <https://www.businesslive.co.za/bd/opinion/2018-04-16-basic-education-thrown->

REFERENCES

- under-the-bus--and-it-shows-up-in-test-results/
- Spaull, N., & Kotze, J. (2015). Starting behind and staying behind in South Africa: The case of insurmountable learning deficits in mathematics. *International Journal of Educational Development*, (41), 13–24. <http://doi.org/10.1016/j.ijedudev.2015.01.002>
- Spaull, N., & Taylor, S. (2015). Access to what? Creating a composite measure of educational quantity and educational quality for 11 African countries. *Comparative Education Review*, 59(1), 133–165. <http://doi.org/10.1086/679295>
- Statistics South Africa. (2011). *Population Census 2011*. Pretoria, South Africa.
- Statistics South Africa. (2013). *Education Series II Focus on schooling in Eastern Cape*. Pretoria, South Africa.
- Statistics South Africa. (2015a). *General Household Survey*. Pretoria, South Africa.
- Statistics South Africa. (2015b). *Millennium Development Goals 2: Achieve universal primary education*. Pretoria, South Africa.
- Statistics South Africa. (2016a). *Community Survey 2016 In Brief*. Pretoria, South Africa.
- Statistics South Africa. (2016b). *Education Series Volume III: Educational Enrolment and Achievement 2016 (Vol. III)*. Pretoria, South Africa.
- Statistics South Africa. (2016c). *South Africa Demographic and Health Survey 2016 Key Indicator Report*. Pretoria, South Africa.
- Statistics South Africa. (2017a). *Poverty Trends in South Africa An examination of absolute poverty between 2006 and 2015*. Pretoria, South Africa.
- Statistics South Africa. (2017b). *Statistical release Quarterly Labour Force Survey. Quarter 2:2017*. Pretoria, South Africa.
- Stith, S. M., Liu, T., Davies, L. C., Boykin, E. L., Alder, M. C., Harris, J. M., & Dees, J. (2009). Risk factors in child maltreatment: a meta-analytic review of the literature. *Aggression and Violent Behavior*, 14(1), 13–29. <http://doi.org/10.1016/j.avb.2006.03.006>
- Strassburg, S., Meny-Gibert, S., & Russell, B. (2010). Left unfinished. *Social Surveys Africa*, 2.
- Straus, M. A., Hamby, S. L., Finkelhor, D., Moore, D., & Runyan, D. (1998). Identification of child maltreatment with the Parent-Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse and Neglect*, 22(4), 249–270.
- Supkoff, L., Puig, J., & Sroufe, L. A. (2012). Situating Resilience in Developmental Context. In M. Ungar (Ed.), *The Social Ecology of Resilience* (1st ed., pp. 127–142). New York: Springer, US.
- Sylva, K., Melhuish, E., Sammons, P., Siraj, I., & Taggart, B. (2014). Students' educational and developmental outcomes at age 16. *Effective Pre-School, Primary and Secondary Education (EPPSE 3-16) Project*, 1.
- Tajima, E., Herrenkohl, T., Moylan, C. A., & Derr, A. (2011). Moderating the Effects of

REFERENCES

- Childhood Exposure to Intimate Partner Violence: The Roles of Parenting Characteristics and Adolescent Peer Support. *Journal of Research on Adolescence*, 21(2), 376–394. <http://doi.org/10.1111/j.1532-7795.2010.00676.x>. Moderating
- The African Child Policy Forum. (2014). *The African Report on Violence against Children*. Addis Ababa, Ethiopia.
- The World Bank. (2014). *South Africa National Education Profile 2014 Update*. Washington, D.C.
- The World Bank. (2017). South Africa Overview. Retrieved June 19, 2018, from <http://www.worldbank.org/en/country/southafrica/overview>
- Theron, L., & Engelbrecht, P. (2012). Caring Teachers: Teacher-Youth Transactions to Promote Resilience. In M. Ungar (Ed.), *The Social Ecology of Resilience* (pp. 265–280). New York: Springer, US.
- Theron, L., & Liebenberg, L. (2015). Understanding Cultural Contexts and Their Relationship to Resilience Processes. In L. Theron & L. Liebenberg (Eds.), *Youth Resilience and Culture* (1st ed., pp. 23–36). New York: Springer, US.
- Theron, L., Liebenberg, L., & Malindi, M. (2013). When schooling experiences are respectful of children's rights: A pathway to resilience. *School Psychology International*, 35(3), 253–265. <http://doi.org/10.1177/0142723713503254>
- Theron, L., & Phasha, N. (2015). Cultural Pathways to Resilience: Opportunities and Obstacles as Recalled by Black South African Students. In L. Theron, L. Liebenberg, & M. Ungar (Eds.), *Youth Resilience and Culture* (1st ed.). New York: Springer, US.
- Theron, L., & Theron, A. (2014). Education services and resilience processes: Resilient Black South African students' experiences. *Children and Youth Services Review*, 47, 297–306. <http://doi.org/10.1016/j.childyouth.2014.10.003>
- UNDP. (2010). *South Africa Country Report. Millennium Development Goals. Goal 2. Achieve universal primary education*. Pretoria, South Africa.
- UNESCO. (2004). *Education for All Global Monitoring Report. The quality imperative*. Paris.
- UNESCO. (2006). *Grade repetition Education Policy Booklet Series Booklet N° 6*. Paris.
- UNESCO. (2017). *School Violence and Bullying: Global Status Report*. Paris.
- UNESCO International Bureau of Education. (2006). *South Africa Early Childhood Care and Education (ECCE) programmes. Country profile prepared for the Education for All Global Monitoring Report 2007*.
- Ungar, M. (2012a). Introduction to the Volume. In M. Ungar (Ed.), *The Social Ecology of Resilience* (1st ed., pp. 1–9). New York: Springer US.
- Ungar, M. (2012b). Social Ecologies and Their Contribution to Resilience. In M. Ungar (Ed.), *The Social Ecology of Resilience* (pp. 13–31). New York: Springer, US.
- Ungar, M. (2015). Resilience and Culture: The Diversity of Protective Processes and Positive Adaptation. In L. Theron, L. Liebenberg, & M. Ungar (Eds.), *Youth Resilience and Culture* (1st ed., pp. 37–48). Springer, US.

REFERENCES

- UNICEF. (2009). *Child friendly schools programming. Global Evaluation Report*. New York.
- van der Berg, S. (2008). How effective are poor schools? Poverty and educational outcomes in South Africa. *Studies in Educational Evaluation*, 34(3), 145–154. <http://doi.org/10.1016/j.stueduc.2008.07.005>
- van der Berg, S., Spaul, N., Wills, G., Gustafsson, M., & Kotze, J. (2016). *Identifying Binding Constraints in Education. Synthesis Report for the Programme to Support Pro-poor Policy Development (PSPPD)*. Stellenbosch.
- Van Wyk, C. (2015). An overview of key data sets in education in South Africa. *South African Journal of Childhood Education*, 5(2), 146–170. <http://doi.org/10.4102/sajce.v5i2.394>
- Visser, M., & Juan, A. (2015). Home and school resources as predictors of mathematics performance in South Africa. *South African Journal of Education*, 35(1), 1–10. <http://doi.org/10.15700/201503062354>
- Walker, S. P., Wachs, T. D., Grantham-Mcgregor, S., Black, M. M., Nelson, C. A., Huffman, S. L., ... Richter, L. (2011). Inequality in early childhood: Risk and protective factors for early child development. *The Lancet*, 378(9799), 1325–1338. [http://doi.org/10.1016/S0140-6736\(11\)60555-2](http://doi.org/10.1016/S0140-6736(11)60555-2)
- Walsh, F. (2012). Facilitating Family Resilience: Relational Resources for Positive Youth Development in Conditions of Adversity. In M. Ungar (Ed.), *The Social Ecology of Resilience* (pp. 173–182). New York: Springer, US.
- Ward, C., Artz, L., Burton, P., & Leoschut, L. (2015). *The Optimus Study on Child Abuse , Violence and Neglect in South Africa*. Cape Town.
- Ward, C., Martin, E., Theron, C., & Distiller, G. (2007). Factors Affecting Resilience in Children Exposed to Violence. *South African Journal of Psychology*, 37(1), 165–187. <http://doi.org/10.1177/008124630703700112>
- Watson, M., McMahon, M., Foxcroft, C., & Els, C. (2010). Occupational Aspirations of Low Socioeconomic Black South African. *Journal of Career Development*, 37(4), 717–734. <http://doi.org/10.1177/0894845309359351>
- WHO. (2002). *World report on violence and health*. Geneva.
- WHO. (2014). Chapter 3. Child abuse and neglect by parents and other caregivers. In World Health Organisation (Ed.), *Global Status Report on Violence Prevention*. Geneva.
- WHO. (2015). *Preventing youth violence: an overview of the evidence*.
- WHO and ISPCAN. (2006). *Preventing child maltreatment: a guide to taking action and generating evidence*. Geneva.
- Wilder, S. (2014). Effects of parental involvement on academic achievement : a meta-synthesis. *Educational Review*, 66(3), 377–397. <http://doi.org/http://dx.doi.org/10.1080/00131911.2013.780009>
- Willoughby, K. A., Desrocher, M., Levine, B., & Rovet, J. F. (2012). Episodic and semantic autobiographical memory and everyday memory during late childhood and

REFERENCES

- early adolescence. *Frontiers in Psychology*, 3(February), 1–15.
<http://doi.org/10.3389/fpsyg.2012.00053>
- Winnar, L. D., Frempong, G., & Blignaut, R. (2015). Understanding school effects in South Africa using multilevel analysis: Findings from TIMSS 2011. *Electronic Journal of Research in Educational Psychology*, 13(1), 151–170.
<http://doi.org/10.14204/ejrep.35.13116>
- Wolfe, D., Crooks, C., Jaffe, P., Chiodo, D., Hughes, R., Ellis, W., ... Donner, A. (2009). A School-Based Program to Prevent Adolescent Dating Violence: A Cluster Randomized Trial. *Arch Pediatr Adolesc Med.*, 163(8), 692–699.
<http://doi.org/10.1001/archpediatrics.2009.69>
- Wolfe, D., & Jaffe, P. G. (1999). Emerging Strategies in the Prevention of Domestic Violence. *Domestic Violence and Children*, 9(3), 133–144.
- Wood, K., Lambert, H., & Jewkes, R. (2008). “Injuries are beyond love”: Young South Africans’ understandings of limit and legitimacy in relation to physical violence in their sexual relationships. *Medical Anthropology*, 27(1), 43–69.
- World Medical Association. (2001). Declaration of Helsinki. *Bulletin of the World Health Organization*, 79(4), 373–374. <http://doi.org/S0042-96862001000400016> [pii]
- Wright, G. (2008). *Findings from the Indicators of Poverty and Social Exclusion Project: A Profile of Poverty using the Socially Perceived Necessities Approach. Key Report 7*. Pretoria.
- Wright, M., & Masten, A. (2015). Pathways to resilience in context. In L. Theron, L. Liebenberg, & M. Ungar (Eds.), *Youth Resilience and Culture* (1st ed., pp. 3–13). Springer, US.
- Wu, J., Hughes, J., & Kwok, O.-M. (2010). Effects on trajectories for achievement and engagement. *Journal of School Psychology*, 48(5), 357–387.
<http://doi.org/10.1016/j.jsp.2010.06.004>.Teacher
- Yates, T., Egeland, B., & Sroufe, L. A. (2003). Rethinking Resilience. A Developmental Process Perspective. In S. Luthar (Ed.), *Resilience and Vulnerability. Adaptation in the context of Childhood Adversities* (1st ed., pp. 243–266). Cambridge University Press.
- Yaw, A., Heaton, T. B., & Kalule-Sabiti, I. (2007). Living Arrangements in South Africa. In A. Yaw & T. B. Heaton (Eds.), *Families and households in post-apartheid South Africa : Socio-demographic perspectives* (pp. 43–60). Cape Town: HSRC Press.
- Yorohan, R. (2011). The relationship between exposure to violence, acceptance of violence and engagement in violence: A study of Turkish adolescence. *Unpublished Manuscript*.
- Zee, M., Koomen, H. M. Y., & Veen, I. Van Der. (2013). Student – teacher relationship quality and academic adjustment in upper elementary school : The role of student personality. *Journal of School Psychology*, 51(4), 517–533.
<http://doi.org/10.1016/j.jsp.2013.05.003>
- Zellman, G. L., Waterman, J. M., & Waterman, J. M. (2017). Understanding the Impact of Parent School Involvement on Children ’ s Educational Outcomes. *Journal of*

REFERENCES

- Educational Research*, 91(6), 370–380. <http://doi.org/10.1080/00220679809597566>
- Zhang, Y., Haddad, E., Torres, B., & Chen, C. (2011). The reciprocal relationships among parents' expectations, adolescents' expectations, and adolescents' achievement: a two-wave longitudinal analysis of the NELS data. *Journal of Youth and Adolescence*, 40(4), 479–89. <http://doi.org/10.1007/s10964-010-9568-8>
- Zolotor, A. J., Runyan, D., Dunne, M. P., Jain, D., Peturs, R., Ramirez, C., ... Isaevaf, O. (2009). ISPCAN Child abuse screening tool children's version (ICAST-C): Instrument development and multi-national pilot testing. *Child Abuse and Neglect*, 33(11), 833–841. <http://doi.org/10.1016/j.chiabu.2009.09.004>
- Zumbo, B. D., & Zimmerman, D. W. (1993). Is the selection of statistical methods governed by level of measurement? *Canadian Psychology*, 34, 390–400. <http://doi.org/10.1007/BF02289443>