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THE CORRELATION BETWEEN PARENT'S HIV STATUS, MULTIPLE TYPES OF VIOLENCE AND CHILDREN'S FUTURE BEHAVIOURAL OUTCOME IN MPUMALANGA AND WESTERN CAPE PROVINCE.

By

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A Mini dissertation submitted in fulfilment of the requirement for the degree:

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DECLARATION

I, Happiness Ngobeni (11616209) declare that this thesis, **"The correlation between parent's HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and Western Cape Province,"** has not been submitted previously for a degree at this or any other university, that it is my own work in design and in execution, and that all reference material contained therein has been duly acknowledged.

Signature:  **Date**: 10 March 2023

PREFACE

This mini dissertation is written for my master's degree in Public Health and presented in an **Article Format**. The title of my mini dissertation is the correlation between parent's HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and Western Cape Province. The correlation between variables will help make predictions regarding multiple types of violence and Parent's HIV status. It will empower parents or caregivers with knowledge on childhood violence exposure outcomes. Furthermore, it will improve parent-child relationship and enhance good parenting skills, as well as promote mental health issues that has been overlooked particularly in the rural and urban areas. This thesis is presented in three Sections. **Section 1-** Overview of the study **Section 2** – Provides the manuscripts/articles and **Section 3-** presents the conclusion, limitations, and recommendations of the mini dissertation.

Section 1: Mini dissertation Overview

Section 2: Article /Papers

This section has a total of 2 articles as detailed below:

Article 1: Parent's HIV Status and Childhood Violence: Implications for Children's Behavioral Outcomes - A Systematic Review

Review of literature to set the grounding for this mini dissertation.

Article 2: The correlation between parents' HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and western cape province.

This study investigated the association between Parent's HIV status, multiple types of violence and children's future behavioural outcomes. Childhood violence exposure was associated with the HIV status of parents and caregivers and results were correlated.

Section 3: Conclusion, Recommendations and Limitations

This section provides the conclusions of all manuscripts and the general conclusion based on the overall studies, recommendations and limitations of the study

ABSTRACT

This study investigated the correlation between Parent's HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and Western Cape Province. The study objectives were to determine parent's HIV status and childhood violence exposure, to determine the prevalence of multiple types of violence, to investigate children's future behavioural outcomes and to establish the correlation between parent's HIV status, multiple types of violence and children's future behavioural outcomes.

Methods: Using a cross sectional survey design, a total number of 3515 were selected to participate in the study. 751 were males and 913 were females residing in Mpumalanga, while 772 males and 1079 were females residing in the Western Cape areas. Teenagers from the urban and rural areas of Mpumalanga and Western Cape Province were selected (MP=urban 848 and WC=930) (MP=rural 816 and WC=921).

Their age range was 13 - 17 years and was teenagers. The study employed a secondary data analysis of the data collected in the selected areas of Mpumalanga and Western Cape Provinces by the University of Oxford. This was in collaboration with the University of Witwatersrand, University of KwaZulu-Natal, University of Cape Town, and the Department of Social Development and Department of Health and Education in Pretoria about Violence in the study Teen Talk 2 South Africa 2011 (www.youngcarers.org.za).

Secondary data were analysed using SPSS version 27 software. Descriptive and inferential statistics were employed during data analysis. Furthermore, a cross-tabulations were used to determine differences in multiple types of violence and HIV status.

Results: Positive relationships between variables were seen. There was an influence of the independent variable on the dependant variable. Parent's HIV status had a positive relationship with multiple types of violence and children's future behavioural outcome.

Recommendations: Parents and community members should be psycho-educated about childhood violence exposure to create an enabling environment for their children's mental health and development. Programs that enhance the children's mental health should be implemented in the Mpumalanga and Western Cape Province, if not the rest of the country.

Conclusion: The study concluded that childhood violence exposure results negatively. It affects children psychologically and disrupting their daily functioning and exposing them to psychological conditions that last longer.

Keywords: Violence exposure, Parents HIV status and children's future behavioural outcome.

DEDICATION

This study is dedicated to the loving memory of my beloved, loving and supportive father, Mr Kumani P. Ngobeni.

ACKNOWLEDGMENT

I would like to appreciate and send my gratitude to everyone who played a role in this study. This piece of work would not have been possible if it was not for your support, cooperation and encouragement. Thank you so much for the love and care you gave me during the time I was engaged with this work.

- Most importantly, I am grateful to my Lord and Saviour, God, for guiding me with His everlasting affection. He has been with me through thick and thin.
- I am grateful to the National Research Foundation (NRF) for funding this study. Thank you so much NRF for your financial support.
- To my supervisor, Prof L Makhado, for all his contributions in the form of guidance, inspiration and support during the writing of this manuscript.
- To my external supervisor Prof F Meinck, for her contributions and allowing me to use the existing data from her database.
- To my parents and family, for being there for me throughout my academic years. Their support encouraged me to push hard despite all the odds.
- To all participants who gave permission to invade their personal lives, thus making this manuscript a reality.
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LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immuno Deficiency Syndrome.
ANOVA	Analysis of Variance
CDC	Centre for Disease Control.
HCTREC	Human and Clinical Trial Research Ethics Committee.
HIV	Human Immunodeficiency Virus.
ICAST	ISPCAN Child Abuse Screening Tools.
IPV	Intimate Partner Violence.
SA	South Africa.
SAHA	Social and Health Assessment.
SAPS	South African Police Service.
SPSS	Statistical Package for Social Sciences.
STATS SA	Statistics South Africa.
UNAIDS	United Nations Programme on HIV/AIDS.
UNICEF	United Nations Children's Fund.
VAQ	Verbal Autopsy Questionnaire.
WHO	World Health Organization.

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Section 1: Thesis Overview

1. Introduction and problem statement

During the past years, violence received much attention from scholars Barnett et al., 2018; Fulu et al., 2017; WHO, 2016a; Richter, Mathews, Kagura, & Nonterah, 2018; Widom & Wilson, 2015. Exposure and perpetration of violence have been identified as serious social and public health concerns. Childhood violence exposure is associated with long-term effects such as poor physical health, mental and reproductive health, poor performance at school, lack of social and cognitive functioning, and changes in the development of the brain (Meinck., 2017; Sherr et al., 2017; Teicher, Samson, Anderson & Ohashi, 2016).

Violence against children can be inflicted in many forms such as emotional, physical and sexual and it is happening worldwide, South Africa, United Stated, Indonesia etc, and even our respective households, online, communities and schools (UNICEF, 2022). In addition, the are consequences that follows childhood violence exposure such as behavioural problems, mental illness (depression and anxiety), sexual disorders and substance abuse as well as criminal offences. Furthermore, it was discussed that such behaviours had a strong perspective or impact on the future behavioural outcome of children as stated that children exposed to violence while growing are most likely to re-enact violence as young adults or as parents themselves.

Therefore, exposure to violence is associated with risky behaviours such as smoking, alcohol and drug use, and sexual risk behaviours, which increase the risk of developing cancer and other non-communicable diseases and sexually transmitted infections and death. Authors reported a link between exposure to violence during childhood and the perpetuation of violence in late adolescence and adulthood (Widom et al., 2015). Exposure to violence is defined as the direct experience of violence or as being a victim of violence. Perpetration of violence is defined as committing a violent act against another, it can be unwanted, intentional and harmful (Hamby, 2017).

According to statistics reported by South African Police Service (2020) reported that 42348 of children were exposed to multiple types of violence. 943 included murders, 22070 included sexual assaults, 7506 included serious body harm and with over 10692 of cases that included common incidents of assault. Furthermore 22070 of these children were victims of sexual assaults while 17118 were cases of rape while 586 of these cases were attempted rape. With the above statistics, exposure to violence can impact on the future behavioural outcome of children, given that the first set of statistics were children who were exposed to violence while the second set were victims of violence. Researchers revealved that girls and boys experience violence differently, girls were most likely to report sexual harassment, while boys reported

physical violence and being recruited by gangs (Scorgie et al., 2017). SAPS (2020) reported that Western cape was the second province with a high rate of violence in 2019 while Mpumalanga was the second last province.

According to UNICEF (2022), under sustainable development goals, it was stated that children's experience violence especially on the hands of the individuals they trust most. In addition, evidence was presented and found that about 15 million of children have been sexually assaulted and about 10% of these children have been found not to be legally protected from corporal punishment. Furthermore, it was added that about 1 in 3 teenage learners from the ages of 13-15 experience bullying worldwide. Moreover, 1 in 4 children under the age of 5 and some of 176 million of these children reside with a parent who is a victim of intimate partner violence and that 3 in 4 children who were 2 And 4 years of age around a population of 300 million are regularly exposed to violence by their caregivers/parents.

Violence and hardship in childhood are considered the most common risk factors for violence exposure and perpetration in adulthood (Widom & Wilson, 2015). A recent systematic review has established that families, where a parent experienced childhood maltreatment are at much higher risk of maltreating their own children than those without maltreatment histories (Assink et al., 2018). Children who are exposed to Intimate Partner Violence (IPV) between their parents or children who experience bullying or child maltreatment are more likely to experience or perpetrate IPV during adulthood (Godbout et al., 2017; Hébert et al., 2017; Kimber, Adham, Gill, McTavish; MacMillan, 2018).

It is necessary that the correlation of results be used in the study to determine the relationship that exists among variables. It will also provide more insight ragarding the variables and will also assist the researcher to make predictions. It will be important to establish if whether parents HIV status, multiple types of violence and children's future behavioural outcome has a relatioship exixting among them.

Therefore, the findings mentioned above were supported by the following social ecological model discussed below.

The study was guided by the social-ecological model established in the 1970s by Urie Bronfenbrenner to understand human behaviour. According to this model, a child's development is seen as a complex relationship system affected by the environment, such as family, educational setting, cultural values, laws and customs, CDC (2021). It was explained in the model that four levels must be considered when understanding humans at risk of violence, as well as protecting them from perpetrating and experiencing violence. This study will focus on the individual and relationship aspects of this Socio-Ecological Model.

Individual- At this level, biological and personal history components are to be identified as what increases the likelihood of becoming a victim or perpetrator of violence. The ecological model stresses that for an individual to be a victim or perpetrator of violence, certain aspects must be taken into consideration that is social factors within them. Their history of substance use, age, income and their level of education. The above factors play an important role in the upbringing of children and their future behavioural outcome. It further states that if parents expose their children to violence it may impact on them negatively, that is they may present with poor emotional intelligence, poor skills in conflict resolution and they may grow to have unhealthy relationships.

Relationship-This level examines close relationships that increase the risk of being a victim of violence perpetrator. In this case, an individual's family, peers and partners influence their behaviour and influence their experience of violence. Furthermore, the model stresses children learn through observing, meaning that if their close relationships can act violently towards them, it will be easier for them to model the behaviour more than the perpetrator themselves. Thus, exposure to family-related violence may influence the participants' behavioural changes. This also acknowledges having a family member or parent living with HIV, which may influence the child's future behavioural outcomes. This in a later stage may influence their problem-solving skills and may present with poor communication skills towards their parents.

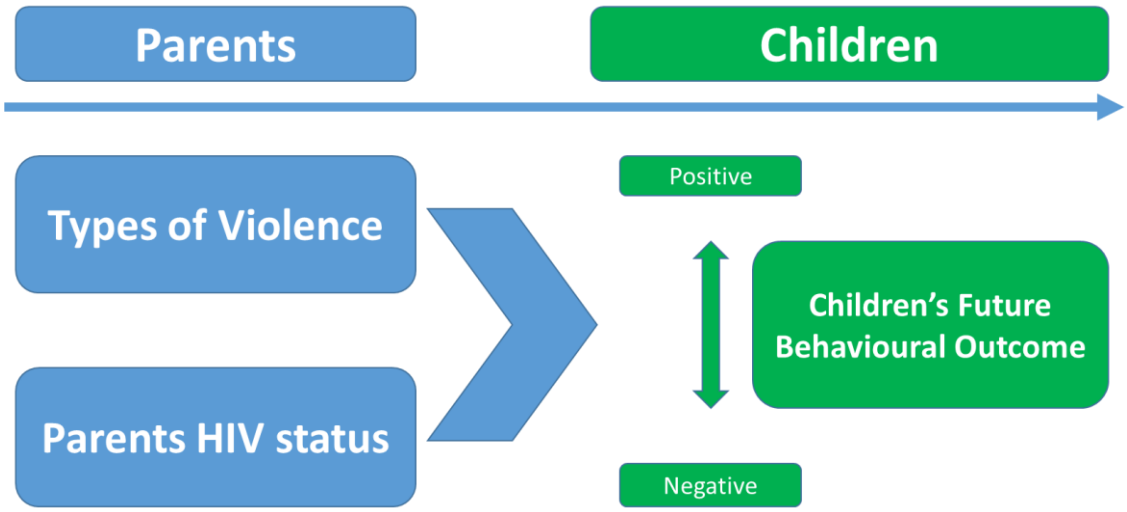

Figure 1.1: Theoretical framework diagram

According to the diagram, parents are first contacts to their children. This means that children learn certain behaviours from their primary source who happens to be their families. if a parent is HIV positive or negative whichever the outcome and they expose their children to multiple

types of violence, it may impact on the child's future behavioural outcome either negatively or positively as proven in the study. The above mentioned play a role in children's future behavioutral outcomes. Therefore above mentioned variables in the diagram were correlated.

Violence is a public health problem that has impacted the world nationwide. It affects both social and mental health and the rights of individuals (WHO, 2016a). It has become an area of concern in South Africa. Even though a lot of research has been conducted on violence, little attention has been given to children. As a Registered Counsellor and former Research fieldworker who engaged closely with participants, the researcher had observed a lot of violence existing in the selected areas of Mpumalanga and Western Cape provinces. During the process of working closely with children, quite a number of children presented with marks, bruises and scars on their bodies and seemed maltreated, bullied and neglected. As a result, these children were said to be facing problems with bullying at their respective schools and communities as they engaged in fights. Due to this concern, the researcher decided to conduct a study on these factors to obtain evidence-based research by correlating results from the two provinces. Exposure to multiple types of violence due to parents HIV status has been found to have negative impact on children's future behavioural outcome by scholars (WHO, 2016). Therefore, the study compared the correlated results and drew conclusions or made predictions in the study.

Evidence for the role of parents' HIV status, childhood violence exposure and children's future behavioural outcome.

There is evidence that Intimate Partner Violence is connected with heightened risk for HIV infection among heterosexual women (Durevall & Lindskog, 2015; Li et al., 2014) and reduced retention in HIV care (Hatcher, Smout, Turan, Christofides, & Stöckl, 2015), there are existing models that struggle with the temporal order of risk factors. It was estimated that up to 22% of new infections among women are associated with their experiences of IPV (Kouyoumdjian et al., 2013).

In addition, HIV disclosure is connected with heightened risk for IPV exposure (Colombini, James, Ndwiga, Integra team, & Mayhew, 2016; WHO and UNAIDS, 2017), and other studies showed higher risk of physical and emotional abuse for children in families with AIDS-symptomatic household members (Meinck et al., 2015a; Meinck, Cluver, Orkin, Kuo, Sharma, Hensels, Sherr, et al., 2017). Men who have experienced childhood violence are more likely to perpetrate sexual assault (Machisa, Christofides, & Jewkes, 2016), and also it was reported that younger men who have been physically violent towards a partner are more likely than non-violent men to be HIV positive (Jewkes, Sikweyiya, Morrell,& Dunkle, 2011).

Currently, there is limited research into the ways in which the high rate of HIV in sub-Saharan Africa may compound violence exposure at individual, family and community levels. Furthermore, most of the research on the association between HIV and violence exposure focuses on young adults and late adult populations, providing little information of how these factors affect younger children (teenagers) and parenting behaviours. Moreover, there are gaps to be filled on how children who are exposed to violence turn out in future context.

2. Research objectives

The study objectives were to determine parents' HIV status and childhood violence exposure, to determine the prevalence of multiple types of violence and to investigate children's future behavioural outcomes also to establish the correlation between parents' HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and Western Cape province.

3. Definition of key concepts

Parent's HIV Status- in the study it was referred to any person caring for a child, either adopted or biological with confirmed HIV test results (HIV positive, negative or unknown status). (No conceptual definition found in this concept). **Multiple types of violence-** for the purpose of the study multiple types of violence were limited to child maltreatment, bullying, domestic violence and community violence (No conceptual definition found in this concept). **Children's future behavioural outcome-** Typical consequences result in children acting in a particular way (Raising children.net.au, 2021). For this study, children's future behavioural outcomes refer to the adapted behaviour after a child has been exposed to multiple types of violence.

4. Significance of the study

It is with hope that the study findings will contribute to the South African literature. It will take into account the recommendations of intervention programs for children who are exposed to violence. The study's findings may be used to highlight to health care members the importance of intervention on childhood violence exposure and prevention. The results are further expected to serve as a critical factor in enhancing health care for children who engage in violent behaviours. Study findings are expected to add to the current theoretical knowledge. The study findings may be used to help the researcher to draw conclusions and also recommend programs with the aim to assist households that are facing challenges regarding

HIV status and violence exposure. The study results may also provide knowledge on how children turn to respond to violent behaviours in future context.

5. Research Methods and design

5.1 Study design

The study was quantitative in nature. According to Abuhamda et al. (2021), quantitative research systematically collects and analyses numerical data from a sub-group under study. A cross-sectional survey was adopted in the study. The cross-sectional survey design observes studies that analyse data from a population at a single point in time (Wang and Cheng, 2020). This design was employed because the data was collected at one point in time.

5.2 Study setting or area of study

The study population was drawn from the selected areas of Mpumalanga and Western Cape province. In Mpumalanga, the selected areas are Mbombela and Acornhoek under Ehlanzeni district. In Mbombela it was Swati dominant speaking area and in Acornhoek it was a Tsonga dominant speaking area. In Western Cape the selected areas are Cape town under Cape Town City Metropolitan district and Hermanus under Overberg district. Cape town and Hermanus were Afrikaans and Xhosa dominant speaking people.

HIV had a high prevalence in Mpumalanga and Western Cape by 70% in 2019. It was reported that during antenatal visits it was discovered that parents knew their HIV status before they even fell pregnant (McDowell and Low, 2019). It was further reported that overtime, Mpumalanga had a high rate of individuals living with HIV by 705174 (15.41%) and Western Cape by 452210 (6.76%). Over a million children in South Africa live with parents who are HIV positive, and they are mostly affected by those parents. Children's development and mental health are affected by witnessing mental breakdowns from parents (www.Youngcarers.org.za). Authors highlighted that children who came from caregivers with AIDS-related illnesses were affected by their parent's behaviour (Meinck et al., 2017). Researchers entered door to door to recruit participants who were children from 10-17 years (n=3500).

5.3 Study population and sampling

Probability sampling was used, wherein cluster sampling was adopted, and this was achieved by dividing the population or sample into smaller groups called clusters. Participants were randomly selected from the sample and categorised according to their eligibility criteria

(Taherdoost, 2020). The total sample size was 3500 for the data collected from the original research study (Meinck, Christofides, Fouche' & Woollett, 2019).

Table 1 below provides the distribution for each cluster. A a total number of 3500 questionnaires were distributed to the communities of Mpumalanga and Western cape province (1750 in each province) and only 2400 questionnaires were retrieved from study participants in both provinces. The tables below show number of questionnaires retrieved from both provinces.

Mpumalanga	**Western Cape**
Mbombela= 400	Cape town= 850
Acornhoek= 300	Hermanus= 850
Total= 700	Total= 1700

5.4 Measurement instruments

The study used a questionnaire as a research instrument. The questionnaire included parents' HIV status, multiple types of violence exposure and the children's future behavioural outcomes. All the proposed measures have been validated in sub-Saharan Africa or used extensively with similar populations in South Africa (see www.youngcarers.org.za).

The current study will utilise secondary data collected in the selected areas of Mpumalanga and Western cape provinces by the **University of Oxford** in collaboration with the **University of Witwatersrand**, **University of KwaZulu-Natal**, **University of Cape Town** as well as the **Department of Social Development** and **Department of Health** and **Education** in Pretoria about Violence in the study Teen Talk 2 South Africa (2011).

However, the following scales were used to collect data starting with the demographic information, identifying information and educational background, testing the participants' knowledge and what was expected of them, etc. The scales also took into consideration the psychosocial needs of participants. Below were all the measures used to conduct the study. These measures were recently quoted by youngcarers.org.za (2021).

These measures are for teenage participants

All the proposed measures have been validated in sub-Saharan Africa or used extensively with similar populations in South Africa (see www.youngcarers.org.za).

Violence:

The following scales were selected for the study to measure parents' HIV status, multiple types of violence, and children's future behavioural outcomes.

Parents' HIV status was measured using the Verbal Autopsy Questionnaire, a checklist of AIDS-defining and AIDS-non-specific illnesses.

Multiple types of violence, such as Child maltreatment, were measured using the International Society for the Prevention of Child Abuse and Neglect's ICAST tools to report the frequency of childhood violence exposure. The nine-item SAHA Peer Victimization Scale measured bullying and its frequency. Child abuse was measured using the International Society for the Prevention of Child Abuse and Neglect's ICAST tools for retrospective reporting of frequency of childhood violence (Dunne et al., 2009) and parental reporting of frequency of past-year and lifetime exposure of their children (Runyan et al., 2009). These included questions on physical, emotional and sexual abuse, neglect and exposure to domestic violence. Items also measured if abuse was disclosed, to whom and whether the disclosure was supported or unsupported. IPV exposure and perpetration will be measured using the WHO domestic violence instrument, which measured the lifetime and past-year prevalence of different acts of physical, sexual, psychological and economic abuse, and controlling behaviour (Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2005). One adaptation was made to measure the frequency of IPV. Lifetime and past-year community violence exposure and its frequency was measured using items from the Social and Health Assessment (SAHA) community violence questionnaire Weissberg, Voyce, Kasprow, Arthur, & Shriver, 1991). Lifetime peer violence and its frequency was measured using the nine-item SAHA Peer Victimization Scale (Ruchkin, Schwab-Stone, & Vermeiren, 2004). Non-partner sexual violence against males and females was measured using four items from the UN Multi-country Study on Men and Violence (Fulu et al., 2017). Safe and unsafe spaces in the home and community was mapped using the picture-based House and Community Plan (Fouche, 2006).

Community violence *exposure* and its frequency was measured using items from the Social and Health Assessment (SAHA) community violence questionnaire.

IPV exposure and perpetration (domestic violence) and children's future behavioural outcome was measured using the WHO domestic violence instrument, which measures lifetime and past-year prevalence of different acts of physical, sexual, psychological and economic abuse and controlling behaviour.

5.5 Data analysis

Data was analysed using SPSS version 27. Descriptive and inferential statistics were used to analyse the data. Descriptive statistics was utilised to present essential features by using

graphs and tables to present data. Hypothesis was tested using inferential statistics. Furthermore, cross-tabulations was used to determine differences in multiple types of violence and HIV status. Correlation coefficient was used to establish association between variable.

5.6 Ethical considerations

Permission to use data was granted by Dr Franziska Meinck the PI and co-supervisor of this study. Ethical clearance was sought from the University of Venda Human and Clinical Trial Research Ethics Committee (HCTREC). The following ethical guidelines were considered when recruiting participants for the study:

Informed consent- the participants in the study were briefly informed about the study, they were given information on what was expected from them and what was the process of data collection and also provided reasons as to why data was collected. Researchers further elaborated on the aim of the study and how it would benefit the community.

Anonymity- participants' were assured that their names will not be revealed during data collection. They were informed that their credentials will be kept anonymous and will not be provided to anybody expect to the researchers who are directly involved in the study. Participants were given pseudonyms in order to identify them.

Confidentiality and privacy- participants were ensured that their information will be kept confidential, and data will be safely stored. Participants were ensured that information obtained will be protected under the database of the University of Oxford. Furthermore, data was collected using encrypted tablet that were safely protected by using passwords that only researchers directly involved in the study had access to.

Beneficence and non-maleficence- participants were all treated fairly without prejudice or discrimination. In order to avoid harm, the study was not presented as a study about violence or HIV but instead it was presented as a study about the well-being of teenagers in the context of their family and community background. Questions on perpetration and victimisation were embedded among other survey questions related to the well-being of teenagers in line with WHO guidelines on violence research (World Health Organziation, 2016a).

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Section 2: Manuscripts/Articles

Parent's HIV Status and Childhood Violence: Implications for Children's Behavioral Outcomes - A Systematic Review

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See **Annexure I** for Author Guidelines

Article

Parent's HIV Status and Childhood Violence: Implications for Children's Behavioral Outcomes - A Systematic Review.

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Abstract: This systematic review aims to investigate the relationship between HIV status, various types of violence, and the future behavior of children. The review will identify gaps in existing literature, justify the research question, and provide clarity to the research problem. The review will also improve research methodology and increase knowledge on the research topic. By synthesizing the arguments and ideas of the existing body of knowledge, the review will provide an overview of the topic of interest. To ensure the authenticity and accuracy of the literature review, the following steps will be taken: PICO model, defining research questions, inclusion and exclusion criteria, conducting a literature search, assessing the quality of literature, analyzing, synthesizing, and disseminating the findings. Google Scholar, Ebscohost, Science Direct, and Web of Science will be used for the search. The study will use the population, intervention, comparison, and outcome model. Literature topics include understanding childhood violence exposure, parental HIV status, and violence perpetration, violence exposure and children's future behavioral outcomes, domestic and community violence exposure, bullying, and childhood violence exposure, and future violence. The review shows that HIV status and violence exposure have been a concern in both the past and present. Children exposed to violence tend to become violence perpetrators and can develop clinical conditions such as depression. The proposed study will focus on HIV status and childhood violence exposure, including socio-economic factors that influence childhood violence exposure.

Key words: Parental HIV status; violence exposure; children's future behavioural outcome, Violence perpetration; Bullying

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1. Introduction

Literature review is the process of analyzing and evaluating existing literature that has been documented in a logical manner, and is relevant to the topic under study (1). The main aim of conducting a literature review is to synthesize and summarize the opinions of other authors, scholars, and researchers on a particular topic, without adding any new information (1). Additionally, a literature review provides the groundwork for future research in a specific field.

This study focuses on conducting a literature review that describes, identifies, summarizes, assesses, and evaluates the existing information on the relationship between HIV status, various types of violence, and children's future behavioral outcomes. Existing research suggests that a parent's HIV status has an impact on childhood violence exposure (2). Literature review plays a vital role in research, as it helps to outline the body of knowledge on a particular topic from different researchers (1). It

is essential that the literature review be well-structured and represent a clear selection strategy for the search to be easily understood.

To identify gaps in the existing literature on the association between HIV status, various types of violence, and children's future behavioral outcomes, a systematic review will be conducted following the PRISMA guidelines. Databases such as Google Scholar, Ebscohost, Science Direct, and Web of Science will be searched. Two reviewers will screen studies for inclusion, and meta-analyses will be conducted to assess the quality of studies.

The objective of this systematic review is to explore the relationship between HIV status, several forms of violence including child maltreatment, domestic and community violence, and bullying, and how they impact children's future behavior. The review intends to provide valuable information regarding the influence of HIV status, multiple types of violence, and children's future behavioral outcomes. Additionally, this review seeks to establish links between studies on violence exposure and child outcomes, and enhance the existing database by integrating the research findings.

2. Methods

2.1 Define the research question

To achieve the study's purpose, a systematic review is used to scientifically evaluate and identify evidence from both quantitative and qualitative studies, articles, and private documents related to HIV status and violence exposure. The systematic review process involves several steps that aim to ensure authenticity, minimize errors and bias, and provide a transparent and comprehensive overview of available literature [1]. Researchers emphasize the importance of defining a research question that addresses HIV status, various types of violence, and the future behavioral outcomes of children to identify the purpose and aim of the review. Defining research questions also helps determine the type of knowledge to be reviewed. For this study, research questions were developed through discussions with a supervisor, fellow public health specialist, and colleagues to ensure the relevance of the questions being reviewed. The research question was: Does HIV status impact violence exposure in children, and what are the behavioral outcomes of children who have experienced violence?

Table 1.

Inclusion criteria	Exclusion
Reviewed Ebscohost, Science direct, Web of knowledge and Google scholar Studies published in the year 2015 to 2021 were reviewed. Only studies that involved childhood violence exposure, multiple types of violence and Parents HIV status were reviewed Articles that included adolescents who were exposed to violence in childhood and adolescents not exposed to violence were included (disclosure of violence.)	Studies that were more than 5 years published were excluded.

2.2 Setting for inclusion and exclusion criteria

Shamseer et al. [3] state that this section of the literature review aims to present the criteria in an organized manner, while also highlighting the strengths and limitations of the review. The PICO (population, intervention, comparison, and outcome) model was used to conceptualize the topic, as outlined by [4]. The PICO model provides the rationale, inclusion, and exclusion criteria for the review. In this study, the inclusion and exclusion criteria are presented above.

2.3 Conducting the literature search

To conduct the literature search, the University of Venda online databases were utilized to search for both South African and international articles and journals. Quantitative, qualitative, and mixed methods journal articles were included in the review. Four databases, namely ScienceDirect, EBSCOhost, Web of Knowledge, and Google Scholar, were searched. Grey literature was also included, such as reports from the World Health Organization. The search strategy involved the use of specific keywords such as "parental HIV status and violence perpetration", "childhood violence exposure", "domestic and community violence", "child maltreatment", and "the relationship between multiple types of violence and children's future behavioral outcomes".

2.4 Assessing the quality of literature included in the review

All articles from four databases were combined for the review, and duplicate articles were removed. Only primary sources published between 2015 and September 2021 were included. The search was limited to English language peer-reviewed journals. Abstracts were reviewed to identify gaps in the literature, and correlation studies were examined to assess the association between HIV status and child violence exposure. Additionally, studies reporting on child violence exposure and HIV status, as well as children's future behavioral outcomes, were reviewed. Secondary and tertiary sources were not included in the review.

2.5 Analyze, Synthesize and dissemination of findings

The systematic review of the literature involved organizing the topics into a logical order. Seven topics were identified, starting with the understanding of childhood violence exposure and concluding with a summary of the gaps identified during the search.

2.6 Understanding childhood violence exposure and children's future behavioural outcome

Violence during childhood is a significant problem affecting more than 250 million children worldwide before they reach the age of 18, which is a violation of children's rights [5]. The effects of violence are associated with various types of violence, including sexual violence, medical conditions, mental disorders, exposure to and perpetration of violence, and addiction to violent behavior. For this study, violence is defined as the use of force or threats against oneself or others.
Sikweyiya [6] reported that exposure to violence can lead to poor

mental health outcomes, such as an increased risk of developing depression, substance abuse, and post-traumatic stress disorder.

According to Unicef [7], an estimated 133 to 275 million children have been exposed to violence, while the Centers for Disease Control and Prevention reports that over 1 billion children are exposed to violence each year [2]. Furthermore, child violence exposure has short- and long-term effects. Multiple types of violence have been linked to a high level of intimate partner violence in young female adults who were exposed to childhood violence and also presented with emotional, physical, and sexual violent behaviors [2]..

2.7 Parent's HIV status and violence perpetration

In a study by [8], 56% of participants were female and 30% lived in families affected by AIDS. The study found that in 2012, 56.3% of participants had experienced physical abuse, 35.5% had experienced emotional abuse, and 9% had experienced sexual abuse at some point in their lives. Furthermore, 68.9% of participants reported being victimized during their lifetimes, and 27.1% reported experiencing multiple types of violence. The study also found a strong association between household deprivation, childhood exposure to violence, and poor health outcomes in children.

A cross-sectional study conducted by Durell et al. and Li et al. [9,10] revealed that women who were heterosexual had a higher risk of HIV infection and reduced retention for HIV care. However, the authors encountered difficulty in developing models that identify risk factors for intimate partner violence [11]. According to estimates, approximately 22% of new cases of HIV infection were linked to previous experiences of IPV [12]. The authors also predicted that disclosing one's HIV status is associated with intimate partner violence [13,14].

Other studies have found that violence exposure and sexual victimization are prevalent in girls who witness violence early in their lives, especially those from AIDS-affected families [15,16]. One study reported that rape was more likely to be perpetrated by males who had been exposed to violence in their early years, and young adult males who were physically violent to their partners were more likely to be HIV positive [17,18].

South Africa is an ideal setting for further research, given the high prevalence of violence exposure and the government's recognition of the need for policy developments and programming to address violence against children and women [19,20,21]. The AIDS epidemic and high levels of poverty and inequality have affected vulnerable communities in South Africa, with millions of children growing up as orphans [22]. Violence occurs often in patriarchal families, and research has shown that both male and female children present with high rates of violence [6,25].

Gender plays a role in the development of violence, with girls experiencing violence differently than boys. Violence that occurs before the age of 18 has a lasting impact on adulthood, and any type of violence

that occurs after the age of 18 is associated with physical violence [6]. It has also been estimated that new cases of HIV infection are associated with previous experiences of intimate partner violence [12], and HIV disclosure is associated with intimate partner violence [13,14].

2.8 Violence exposure and children's future behavioural outcome

According to research, individuals who were exposed to child neglect, physical and emotional abuse are at a higher risk of experiencing post-traumatic stress disorder, depression, and somatic symptoms in adulthood. The effectiveness of psychological support in promoting children's resilience has been confirmed by a meta-analysis that emphasizes the importance of social support. Moreover, the authors suggest that the risk of developing conduct disorder, depression, and anxiety can be reduced if children are taught coping skills and problem-solving techniques as part of their upbringing and cultural norms [26].

2.9 Domestic and community violence as well as children's future behavioural outcome

SAMHSA [21] has stated that children who experience various forms of violence such as domestic and community violence are at a high risk of developing emotional problems that can persist into adulthood. The negative effects of violence exposure in childhood can lead to social, emotional, and behavioral problems, which can hinder the victims' overall development and academic performance. However, despite these challenges, victims have shown resilience. The sample that reported experiencing multiple forms of violence also showed increased spiritual faith and support from friends.

Haj-Yahia et al. [29] reported that children who witness violence in families are more likely to experience parental violence, family dynamics, and arguments. A survey conducted in 2013 to 2014 among 4,000 children aged 0-17 years found that 25.5% of children had witnessed family violence, and 5.8% had witnessed violence between parents. Children between the ages of 14-15 reported witnessing family violence throughout their lives (22%) and parental violence (25%). Witnessing family violence at a young age can lead to poor self-esteem, difficulties in regulating social relationships, and cognitive difficulties. Women who were victims of domestic violence were found to have children with elevated levels of anxiety, dissociation, and sleeping problems.

2.10 The relationship between multiple types of violence and children's future behavioural outcome

Experiencing violence has been linked to the development of severe mental disorders [31]. Child abuse and neglect have also been associated with suicidal thoughts in many individuals. It is still unclear what causes abuse in children, but those who have been exposed to violence tend to have different coping mechanisms and levels of psychological resilience. According to Horn et al. [32], resilience refers to the ability to bounce back mentally while facing stress and adversity. This ability is influenced by childhood experiences, as seen in a study by Yoon et al. [33], which found that young adults who had experienced sexual violence were often

victims of sexual abuse in childhood, and their coping strategies were found to be ineffective and dysfunctional.

In a South African study of pregnant women, severe PTSD was identified and linked to emotional and sexual abuse, with concerning effects [34]. Researchers like Verma et al. [35] have highlighted the lifelong negative impact of childhood trauma on victims.

3. Discussion

The literature reviewed in this study examined the long-lasting effects of violence exposure and the correlation between childhood violence and physical intimate partner violence in adulthood. The research aims to investigate the impact of HIV status, child maltreatment, bullying, domestic and community violence on children's future behavioral outcomes. However, the study does not associate parental violence perpetration with HIV status. The study will focus on teenagers, and while past research has primarily focused on individual and relationship factors, there is a need for a theoretical framework that considers the complex mechanisms underlying the transmission of violence over time in families and communities. Factors such as poverty, poor service delivery, and ongoing epidemics, such as HIV, need to be examined to determine whether they increase or alleviate the risk of violence. Research on the prevalence of HIV burden on individuals, families, and communities in relation to violence exposure in Africa is insufficient, particularly regarding adolescents. Studies primarily focused on caregivers and adults and provided inadequate information on how certain factors affect adolescents.

4. Conclusions

The studies examined in this review primarily centered on intimate partner violence (IPV) and violence exposure in young adults, with limited attention paid to the influence of parental HIV status. While physical, emotional, and sexual violence among children were discussed, this review placed a greater emphasis on studies that focused on children. The review also revealed a gap in the literature, as most studies focused on women as victims of violence, with few acknowledging that men also experience violence from their partners. Moreover, few authors considered the impact of prior violence history on victims. This review aims to address questions such as the role of parental HIV status in childhood violence exposure.

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The correlation between parents' HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and western cape province

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See **Annexure in I** for Author Guidelines

Article

The correlation between parents' HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and western cape province.

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Abstract: The way in which children are exposed to violence during their childhood can have a significant impact on their development, either positively or negatively. To investigate this issue, a study was conducted to examine the relationship between parents' HIV status, various forms of violence, and children's future behavior. The study used a cross-sectional survey to collect data from a sample of 3515 participants using ICAST tools to measure physical, emotional, and sexual abuse, child maltreatment and neglect, bullying, domestic violence, and community violence, as well as children's future behavioral outcomes. The data was analyzed using ANOVA and a T-Test. The study found that parents' HIV status had a positive relationship with multiple types of violence, except for sexual abuse and child maltreatment. In Mpumalanga, 12.8% of children exposed to multiple types of violence had a parent, caregiver, or guardian living with HIV, while in the Western Cape Province, this was 11.8%. Violence and trauma were also found to have a positive relationship, and both provinces showed a significant difference in psychological and behavioral outcomes. However, suicide yielded negative results. Therefore, it can be concluded that parents' HIV status played a role in shaping the upbringing of children and that any form of parenting a child is exposed to can have a significant impact on their future behavioral outcomes, both physically and psychologically, making them susceptible to long-lasting trauma.

Keywords: Children's future behavioural outcome, Correlation study and types of violence, Parent's 'HIV status.

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1. Introduction

Violence is a global public health issue that impacts social and mental health as well as individual rights, and it is a concern in countries like South Africa, the United States, Indonesia, and others [1]. Children are especially vulnerable to violence, and exposure to childhood violence has been linked to long-term effects such as poor physical, mental, and reproductive health, academic struggles, cognitive and social functioning difficulties, and brain development changes [3,4,5]. This study examines the relationship between parents' HIV status and various forms of violence, including physical, emotional, and sexual abuse, child maltreatment, domestic violence, and community violence, to determine whether children are exposed to violence due to their

parents' HIV status and how it impacts their future behavioral outcomes. The study focuses on different types of violence, including emotional, physical, and sexual violence, as factors that shape a person's upbringing and influence their future behavior. Violence can occur in various settings, such as households, communities, online, and schools [1]. Childhood violence exposure can lead to numerous consequences, such as behavioral issues, mental illness (depression and anxiety), sexual disorders, substance abuse, and criminal activity. The study defines exposure to violence as direct experience or victimization, while perpetration refers to committing a violent act against another, which can be intentional, unwanted, and harmful [6].

The research found a link between violence exposure and engaging in risky behaviors, such as smoking, drinking alcohol, using drugs, and engaging in risky sexual behaviors. These behaviors can increase the risk of developing non-communicable diseases, such as cancer, as well as sexually transmitted infections or even death [7]. Additionally, exposure to violence can cause children to become desensitized to violence and can increase their risk of developing psychological conditions during their adolescent and adult years.

UNICEF [1] reports that children often experience violence from the people they trust the most. Shockingly, it has been discovered that approximately 15 million children worldwide have experienced sexual assault, and 10% of these children are not legally protected from corporal punishment. Furthermore, one in three teenagers between the ages of 13-15 experiences bullying globally, while one in four children under the age of five live with a parent who has experienced intimate partner violence. Additionally, three out of four children aged between 2 and 4 from a population of 300 million are regularly exposed to violence by their caregivers or parents.

Furthermore, statistics show that globally, one out of every three teenagers between the ages of 13 and 15 experiences bullying, whereas one out of every four children under the age of five lives with a parent who has been a victim of intimate partner violence. Additionally, a staggering three out of every four children aged between 2 and 4 from a population of 300 million are regularly exposed to violence by their caregivers/parents. Therefore, it is imperative to examine the correlation between parents' HIV status, various types of violence, and the behavioral outcomes of children in order to identify any existing relationships and make predictions about the extent of their impact.

2. Methods

2.1 Study design

A convenient sample of teenagers participated in a cross-sectional quantitative study that utilized a self-report questionnaire on a tablet. Professional fieldworkers administered the survey, which was completed and submitted online by the participants themselves.

2.2 Population and sampling

The research took place in two provinces of South Africa: Mpumalanga and Western Cape. In Mpumalanga, the study was conducted in Mbombela and Acornhoek, which are located in the Ehlanzeni district. Mbombela was predominantly Swati speaking, while Acornhoek was mainly Tsonga speaking. In Western Cape, the study was conducted in Cape Town City Metropolitan district and Hermanus, which are located in the Overberg district. The people in Cape Town and Hermanus were mostly Afrikaans and Xhosa speaking. The study focused on teenagers who were part of the longitudinal study carried out by youngcarers.org.za in 2010 and who lived with caregivers. The teenagers were defined as those enrolled in schools and receiving education. Only individuals from the selected Mpumalanga and Western Cape areas were included, while those who did not reside in these areas were excluded. The study used cluster sampling to select participants randomly based on eligibility criteria, and the total sample size was 3515 individuals, as reported in the original research study [8]..

2.3 Data collection procedure

Various instruments were used to collect data, starting with demographic and educational information and expectations from participants. The instruments also highlighted the psychosocial needs of participants, including measuring parents' HIV status using the Verbal Autopsy Questionnaire and a checklist of AIDS-defining and non-specific illnesses. Additionally, child depression, anxiety, post-traumatic stress symptoms, and suicidal tendencies were measured using specific scales such as the Child Depression Inventory, Children's Manifest Anxiety Scale, Child PTSD checklist, and Mini International Psychiatric Interview. Furthermore, to assess various types of violence, including child maltreatment, the ICAST tools were used to report the frequency of childhood violence exposure.

Child abuse was assessed through two methods: a retrospective reporting of the frequency of childhood violence [9], and parental reporting of their children's past-year and lifetime exposure frequency [10]. The assessment included questions on

physical, emotional and sexual abuse, neglect, and exposure to domestic violence. The tools also examined whether the abuse was disclosed, to whom, and whether the disclosure was supported or unsupported. The nine-item SAHA Peer Victimization Scale [11] was utilized to measure lifetime peer violence (bullying) and its frequency. The picture-based House and Community Plan [12] was used to map safe and unsafe spaces in the home and community. The WHO domestic violence instrument was used to measure IPV exposure and perpetration (domestic violence) and children's future behavioral outcome, assessing the lifetime and past-year prevalence of acts of physical, sexual, psychological, and economic abuse, and controlling behavior [13]. To measure the frequency of IPV, one adaptation was made. Male and female sexual violence involving any non-intimate person was measured using four items from the UN Multi-country Study on Men and Violence [14]. The items from the Social and Health Assessment (SAHA) community violence questionnaire were utilized to measure lifetime and past-year community violence exposure and frequency.

2.3Data analysis

The collected data was analyzed using SPSS version 27 software, employing both descriptive and inferential statistics. Descriptive statistics were used to summarize the data through cross-tabulations for each province. Correlation analysis was conducted to determine the association between dependent and independent variables.

2.4Ethical considerations

Prof Franziska Meinck, the principal investigator and co-supervisor of the study, granted permission for the use of data. The University of Venda Human and Clinical Trial Research Ethics Committee (HCTREC) provided ethical clearance for the study. Informed consent was obtained from participants, and measures were taken to ensure anonymity, confidentiality, and privacy. The study also adhered to principles of beneficence and non-maleficence.

3. Results

3.1 Demographic characteristics

The study collected and analysed 3,515 questionnaires from both urban and rural areas in Mpumalanga and the Western Cape Province. Of these questionnaires, 848 (51.0%) were from the urban area and 816 (49.0%) from the rural area in Mpumalanga. In the Western Cape, 930 (50.2%) were from the urban area while 921 (49.8%) came from the rural area. The gender distribution of the

participants was also noted, with 751 (45.1%) being boys and 913 (54.9%) being girls from the Mpumalanga Province, while in the Western Cape Province, 772 (41.7%) were boys and 1079 (58.3%) were girls.

Table 1.

Demographic Characteristics				
		Province		X^2
		Western Cape	Mpumalanga	(P-value)
Geographical Location	Urban	930(50.2%)	848(51.0%)	.181
	Rural	921(49.8%)	816(49.0%)	(.671)
Gender	Boy	772(41.7%)	751(45.1%)	4.186
	Girl	1079(58.3%)	913(54.9%)	(.041)
Level of Education	Not in School	58(3.1%)	8(0.5%)	35.072[a]
	Primary School	1060(57.3%)	1014(60.9%)	(<,001)
	Secondary School	733(39.6%)	642(38.6%)	
Type of Home	Shack on its own plot	958(51.8%)	64(3.8%)	1614.465[a]
	Block of flats	244(13.2%)	0(0.0%)	(.000)
	living on the streets	1(0.1%)	0(0.0%)	
	Shack in a backyard	92(5.0%)	2(0.1%)	
	children's home or shelter for kids	1(0.1%)	0(0.0%)	
	House made of brick or concrete	554(29.9%)	1592(95.7%)	
	A hut made of traditional materials	1(0.1%)	6(0.4%)	
Have a parent, guardian or caregiver staying with and taking care of	No	2(0.1%)	1(0.1%)	.236[a]
	Yes	1849(99.9%)	1663(99.9%)	(.627)
HIV-positive caregiver/parent/guardian	No	1632(88.2%)	1452(87.3%)	.673[a]
	Yes	219(11.8%)	212(12.7%)	.412

In Mpumalanga, a very small percentage of children, 8 (0.05%), were not in school, while in the Western Cape Province, 58 (3.1%) were not in school. The majority of children in Mpumalanga, about 1014 (60.9%), were on primary level education, while in the Western Cape, 1060 (57.3%) were also on primary level. In Mpumalanga, 642 (38.6%) were on secondary level education and 733 (39.6%) in the Western Cape were on secondary level. In Mpumalanga, 212 (12.7%) children had a parent, caregiver or guardian living with HIV, while in the Western Cape, 219 (11.8%) had a parent, caregiver or guardian living with HIV. Furthermore, in both provinces, almost all children had a parent, caregiver or guardian living with them, 1663 (99.9%) in Mpumalanga and 1849 (99.9%) in the Western Cape (refer to Table 1 for more details).

Table 2. Types of violences

		Province		X^2
		Western Cape	**Mpumalanga**	**(p-value)**
Physical abuse	Not Experienced	**1089 (58.9%)**	572 (34.4%)	**210.792**
	Experienced	761 (41.1%)	**1092 (65.6%)**	**(<,001)**
Emotional Abuse	Not Experienced	1408(76.1%)	1305(78.4%)	2.768
	Experienced	443(23.9%)	359(21.6%)	(.096)
Sexual Abuse	Not Experienced	1742(94.1%)	1469(88.3%)	**37.698**
	Experienced	109(5.9%)	**195(11.7%)**	**(<,001)**
Domestic Violence	Not Experienced	1549(83.9%)	1430(85.9%)	2.799
	Experienced	297(16.1%)	234(14.1%)	(.094)
Community Violence	Not Experienced	648(35.0%)	**1438(86.4%)**	**959.923**
	Experienced	**1203(65.0%)**	226(13.6%)	**(<,001)**
Child Neglect	Not Experienced	1115(60.2%)	1180(70.9%)	**44.070**
	Experienced	**736(39.8%)**	484(29.1%)	**(<,001)**
Child Maltreatment	Not Experienced	1772(95.7%)	1449(87.1%)	**85.596**
	Experienced	79(4.3%)	**215(12.9%)**	**(<,001)**

3.2 Association between violence and trauma

Physical abuse exhibited a noteworthy variance with a chi-squared value of 210.722 and a p-value of less than 0.001 in both provinces. In Mpumalanga, sexual abuse indicated a significant difference with a chi-squared value of 37.698 and a p-value of less than 0.001, whereas no substantial variance was observed in the Western Cape Province. Community violence was statistically significant with a chi-squared value of 959.923 and a p-value of less than 0.001 in both provinces. Furthermore, child neglect demonstrated a significant difference with a chi-squared value of 44.070 and a p-value of less than 0.001 in both provinces. Child maltreatment showed a significant difference in Mpumalanga with a chi-squared value of 85.596 and a p-value of less than 0.001.

Table 3. Behavioural Outcomes

		Province		X^2
		Western Cape	**Mpumalanga**	(p-value)
CDI	Mild	1690 (91.3%)	1612 (96.9%)	47.996
	Moderate	128 (6.9%)	43 (2.6%)	(<,001)
	Severe	33 (1.8%)	9 (0.5%)	
CMAS	Mild	1268 (68.5%)	1258 (75.6%)	25.361
	Moderate	469 (25.3%)	306 (18.4%)	(<,001)

	Severe	114 (6.2%)	100 (6.0%)	
Suicide Scale	No Intervention	1493 (80.7%)	1406 (84.5%)	10.454
	Brief intervention	310 (16.7%)	214 (12.9%)	(.005)
	Hospitalization	48 (2.6%)	44 (2.6%)	
Child PTSD	Mild	716 (38.7%)	1014 (61.0%)	177.695
	Moderate	467 (25.2%)	297 (17.9%)	(<,001)
	Severe	667 (36.1%)	351 (21.1%)	

3.3 Association between psychological and behavioral outcomes

There was a significant difference in CDI scores between Mpumalanga and the Western Cape Province with a chi-square value of 47.996 and a P-value of less than 0.001. Similarly, there was a significant difference in CMAS scores with a chi-square value of 25.361 and a P-value of less than 0.001. Child PTSD also showed a significant difference between the two provinces. Suicidal tendencies were also significantly different in both provinces with a chi-square value of 10.454 and a P-value of 0.005.

Table 4.

		PAE	EAE	SAE	DVE	CVE	CNE	CME	PHS
CDI	r	.003	**.094****	.020	**.051****	**.066****	**.151****	-.018	.018
	Sig.	.864	**<,001**	.237	**.002**	**<,001**	**<,001**	.282	.288
CMAS	r	**.053****	**.119****	**.065****	**.075****	**.072****	**.225****	.001	**.037***
	Sig.	**.002**	**<,001**	**<,001**	**<,001**	**<,001**	**<,001**	.969	**.028**
Suicide Scale	r	.011	**.102****	**.054****	**.044****	**.048****	**.178****	-.007	**.047****
	Sig.	.527	**<,001**	**.001**	**.009**	**.005**	**<,001**	.671	**.005**
Child PTSD	r	-.023	**.122****	**.038***	**.059****	**.161****	**.240****	-.015	**.058****
	Sig.	.181	**<,001**	**.023**	**<,001**	**<,001**	**<,001**	.381	**<,001**
PHS	r	**.092****	**.177****	.030	**.126****	**.042***	**.094****	.025	1
	Sig.	**<,001**	**<,001**	.075	**<,001**	**.013**	**<,001**	.140	

Key: CDI- ;CMAS- ; PTSD- ; PHS- Parent HIV Status; PAE- Physical Abuse Experienced; EAE- Emotional Abuse Experienced, SAE- Sexual Abuse Experienced; DVE- Domestic Violence Experienced, CVE-Community Violence Experienced; CNE- Child Neglection experienced and CME- Child Maltreatment Experienced.

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

3.4 Association between psychological and violence exposure

Table 4 presents significant positive correlations between CDI, EAE, DVE, CVE, and CNE. CDI and EAE were positively correlated (r=.094, P<.001), while DVE (r=.051, P<.002), CVE (r=.006, P<.001), and CNE (r=.151, P<.001) also showed a positive relationship. On the other hand, CDI had negative correlations with PAE, SAE, CME, and PHS, indicating no significant relationships among these variables: PAE (r=-.003, P=.864), SAE (r=.020, P=.237), CME (r=-.188, P=.282), and PHS (r=0.18, P=.288).

Furthermore, CMAS demonstrated significant positive relationships with PAE (r=.053, P=.002), EAE (r=.119, P<.001), SAE (r=.065, P<.001),

DVE (r=.075, P<.001), CVE (r=.072, P<.001), CNE (r=.225, P<.001), and PHS (r=.037, P=.028), but a negative correlation with CME (r=.001, P=.969). Suicidal tendencies showed significant positive relationships with EAE (r=.12, P<.001), SAE (r=.054, P<.001), DVE (r=.044, P=.009), CVE (r=.048, P=.005), CNE (r=.178, P<.001), and PHS (r=.047, P=.005), but a negative correlation with PAE (r=.011, P=.527) and CME (r=-.007, P=.671).

Moreover, Child PTSD demonstrated significant positive relationships with EAE (r=.122, P<.001), SAE (r=.038, P=.023), DVE (r=.059, P<.001), CVE (r=.161, P<.001), CNE (r=.240, P<.001), and PHS (r=.058, P<.001), but negative correlations with PAE (r=-.023, P=.181) and CME (r=-.015, P=.381). PHS had significant positive relationships with PAE (r=.092, P<.001), EAE (r=.177, P<.001), DVE (r=.126, P<.001), CVE (r=-.042, P=.013), and CNE (r=.094, P<.001), but negative correlations with SAE (r=.030, P=.075) and CME (r=.025, P=.140).

4. Discussion

This research focused on examining the links between parents' HIV status, various forms of violence, and the behavioral outcomes of children. The types of violence studied included physical, emotional, and sexual abuse, domestic violence, community violence, child neglect, and child maltreatment. The study was designed to test the following hypotheses:

- There is a connection between parents' HIV status and various types of violence.
- Childhood exposure to violence is related to trauma.
- Exposure to violence in childhood is a predictor of violent behavior in adulthood.
- There are significant differences in the various types of violence and their effects on future child behavior.

4.1 Parents' HIV status and multiple types of violence

The findings of the study suggest that there is a positive association between parents' HIV status and exposure to physical abuse, emotional abuse, domestic violence, community violence, and child neglect, but a negative association with exposure to sexual abuse and child maltreatment. In Mpumalanga, 12.8% of children who experienced multiple types of violence reported living with an HIV-positive parent, caregiver, or guardian, while in the Western Cape Province, 11.8% reported the same. Child maltreatment was more prevalent in Mpumalanga, with a rate of 12.9%, compared to the Western Cape, which had a rate of 4.3%. Furthermore, child neglect was more common in the Western Cape, with a rate of 39.8%, compared to Mpumalanga, which had a rate of 29.1%. Finally, sexual abuse was more prevalent in Mpumalanga, with a rate of 11.7%, compared to the Western Cape, which had a rate of 41.1%. These findings demonstrate the connection between parents' HIV status and exposure to multiple types of violence.

4.2 Violence exposure and trauma

The study findings showed a strong positive relationship between exposure to violence and trauma in children [15,16]. The results further

revealed that children who reported trauma had been exposed to multiple types of violence, including physical, emotional, sexual abuse, domestic violence, community violence, neglect, and maltreatment [15]. The study also found a significant difference in the prevalence of violence exposure and trauma in both Mpumalanga and Western Cape provinces [15,16]. The findings emphasized the importance of recognizing the role of violence exposure in the development of child trauma [15,16,17].

5. Conclusions

The study findings suggest that parents' HIV status and various forms of violence have a significant impact on child development and upbringing. The way parents raise their children can affect their behavior in the future. Exposure to different forms of violence can have both physical and psychological effects on children. Psychological problems, including depression, anxiety, suicidal tendencies, and post-traumatic stress disorder, can also have an impact on children's future behavior. The study revealed that parents living with HIV treat their children differently than those who do not have HIV. The study also showed that children living with HIV-positive parents in both Mpumalanga and the Western Cape did not experience psychological problems compared to those who lived with parents who were HIV negative.

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Data Availability Statement: Data outlined in this study is available only on request from the corresponding author. Data cannot be shared publicly due to ethics and data sensitivity.

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Section 3: Conclusions, Recommendations and Limitations

Conclusions

Article 1: Parent's HIV Status and Childhood Violence: Implications for Children's Behavioral Outcomes - A Systematic Review: Conclusion

The studies examined in this review primarily centered on intimate partner violence (IPV) and violence exposure in young adults, with limited attention paid to the influence of parental HIV status. While physical, emotional, and sexual violence among children were discussed, this review placed a greater emphasis on studies that focused on children. The review also revealed a gap in the literature, as most studies focused on women as victims of violence, with few acknowledging that men also experience violence from their partners. Moreover, few authors considered the impact of prior violence history on victims. This review aims to address questions such as the role of parental HIV status in childhood violence exposure.

Article 2: The correlation between parents' HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and western cape province: Conclusion

The study findings suggest that parents' HIV status and various forms of violence have a significant impact on child development and upbringing. The way parents raise their children can affect their behavior in the future. Exposure to different forms of violence can have both physical and psychological effects on children. Psychological problems, including depression, anxiety, suicidal tendencies, and post-traumatic stress disorder, can also have an impact on children's future behavior. The study revealed that parents living with HIV treat their children differently than those who do not have HIV. The study also showed that children living with HIV-positive parents in both Mpumalanga and the Western Cape did not experience psychological problems compared to those who lived with parents who were HIV negative.

General conclusions

It is clear that exposure to violence during childhood has a significant impact on the future behavior of children. Although it is not fully understood why parents living with HIV may subject their children to violence, research shows that psychological distress plays a key role in shaping children's behavior. Violence can take many forms and children often learn to imitate the behaviors of those around them. Whether it occurs in schools, communities, homes, or online, violence can have a profound impact on victims, leading to changes in behavior and resistance to psychological stressors. Moreover, violence not only affects the behavior of children who experience it, but also the behavior of those around them. For example, individuals who reported being bullied at home were more likely to engage in bullying

behaviors themselves, suggesting that the cycle of violence can continue and impact others as well.

Recommendations

To improve the management and upbringing of children, it is suggested that parents receive education and training on HIV and parenting. It is also recommended that policies be put in place to protect children from maltreatment and exposure to violence. Additionally, it is proposed that children be required to attend regular counseling or psychological sessions to support their mental health and overall well-being. Furthermore, the study advises that students should receive education about bullying and its impact on others, as well as emphasizing the importance of mental health.

Study limitations

The study had several limitations, including the use of secondary data analysis, which meant that the researcher had no control over the data collection process. Additionally, certain variables of interest, such as socio-economic status, were not available for selection due to limited information, and the researcher was unable to manipulate the data. Although the researcher aimed to recruit around 3500 participants, the study ended up with 3515 participants. However, data saturation proved to be a challenge, and the selection of variables of interest took longer than expected.

Summary of the manuscript conclusion

The HIV status of parents and exposure to childhood violence were found to have a significant impact on children's development, confirming the study hypothesis. Various forms of violence, including physical, emotional, and sexual abuse, child maltreatment and neglect, bullying, domestic, and community violence, were found to be associated with childhood violence exposure. Children who experienced violence during their upbringing were more likely to report depression, anxiety, and PTSD, but there was no significant difference in suicide rates. The psychological impact of childhood violence exposure was particularly pronounced. Children living with an HIV-positive parent were found to be at risk of developing psychological conditions and of perpetrating violence themselves.

Appendix 1: Ethical Certificate

ETHICS APPROVAL CERTIFICATE

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:

Ms H Ngobeni

STUDENT NO: 11616209

PROJECT TITLE: The correlation between parent's HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and western cape province

ETHICAL CLEARENCE NO: FHS/23/PH/01/1001

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Prof L Makhado	University of Venda	Supervisor
Dr F Meinck	University of Edinburgh, UK	Co-supervisor
Ms H Ngobeni	University of Venda	Investigator-Student

Type: **No Risk**
Risk: **straightforward research without ethical problems**
Approval Period: **February 2023 to February 2024**

The Research Ethics Committee (REC) hereby approves your project as indicated above.

General Conditions
While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following.

- The project leader (principal investigator) must report in the prescribed format to the REC:
  - Annually (or as otherwise requested) on the progress of the project, and upon completion of the project.
  - Within 48hrs in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
  - Annually a number of projects may be randomly selected for an external audit.
- The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the REC. Would there be deviated from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date; a new application must be made to the REC and new approval received before or on the expiry date.
- In the interest of ethical responsibility, the REC retains the right to:
  - Request access to any information or data at any time during the course or after completion of the project,
  - To ask further questions; Seek additional information; Require further modification or monitor the conduct of your research or the informed consent process.
  - withdraw or postpone approval if:
  - Any unethical principles or practices of the project are revealed or suspected.
  - It becomes apparent that any relevant information was withheld from the REC or that information has been false or misrepresented.
  - The required annual report and reporting of adverse events was not done timely and accurately,
  - New institutional rules, national legislation or international conventions deem it necessary.

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE
Date Considered: 24 February 2023

Name of the FHSHCTREC Chairperson of the Committee: Prof RT Lebese

Signature pp _____

University of Venda
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Appendix 2: Permission to use data (Secondary Analysis)

Dr Franziska Meinck
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University of Edinburgh
Edinburgh, EH8 9LD
Tel: (+44) 0131 6515363
Email: FMeinck@ed.ac.uk

23/11/2022

Re: **Young Carers Data – Happiness Ngobeni**

This is to confirm that Ms Happiness Ngobeni has permission to use the Young Carers 2010/11 and 2011/12 dataset to carry out her Masters in Public Health Dissertation research at the University of Venda under the supervision of Prof Makhado entitled:

PARENTS' HIV STATUS, CHILDHOOD VIOLENCE EXPOSURE AND CHILDREN'S FUTURE BEHAVIOURAL OUTCOME IN BUSHBUCKRIDGE, MPUMALANGA PROVINCE: A CORRELATIONAL STUDY

Any plans for publication of the work beyond the dissertation must be agreed with myself prior to submission to a journal.

Kind regards,

Dr Franziska Meinck
Senior Lecturer (Associate Professor) in Social Work

CERTIFICATE OF EDITING

I, C Vorster (ID: 710924 0034 084), Language editor and Translator and member of the South African Translators' Institute (SATI member number 1003172), herewith declare that I did the language editing of two articles written by H Ngobeni of the University of Venda.

Titles of the articles:

The correlation between parents' HIV status, multiple types of violence and children's future behavioural outcome in Mpumalanga and Western Cape Province

AND

A systematic review on the association between parent's HIV status, multiple types of violence and children's future behavioural outcome.

C Vorster — 10 March 2023

C Vorster — Date

Express Editing 24