Risk factors related to the mental health issues of selected South African adolescent learners living with mild to moderate intellectual difficulties

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Abstract

Purpose – *The risk factors related to the mental health issues of adolescents diagnosed with mild to moderate intellectual difficulties (MMID) are not consistently recognised in South Africa. This paper aims to address the scarcity of literature by examining the risk factors linked to the mental health issues of adolescents with MMID.*

Design/methodology/approach – *Four hundred and fourteen participants were sampled from adolescent learners attending three special educational needs schools in Gauteng, South Africa. The selected sample included 275 male and 139 female participants with a median age of 16.5 years. The three schools represented Grade 8 with 177 learners and Grade 9 with 237 learners. Data were collected through a biographical questionnaire and an Adverse Child Experiences Questionnaire. A quantitative approach was used to identify the risk factors impacting the mental health of adolescents with MMID. The findings were used to propose intervention programmes for the support of adolescents diagnosed with MMID.*

Findings – *The findings suggest that risk factors for mental health difficulties issues among adolescents with MMID include family dysfunction, along with experiences of physical, sexual and verbal abuse as well as emotional and physical neglect. The recommendations stemming from the findings advocate empowering teachers, parents and caregivers to provide support for the mental health of learners with MMID.*

Originality/value – *The study makes a valuable contribution to reducing the existing gap in the literature regarding risk factors impacting the mental health of adolescents with MMID in South Africa. The study served as a platform for adolescents diagnosed with MMID to articulate their challenges. This cohort is occasionally marginalised and this research acts as an active contribution to research that focuses on their experiences. Their insights are crucial for enhancing intervention programmes and promoting their overall well-being.*

Keywords *Adolescent learners, Mental health, Mild intellectual difficulties, Moderate intellectual disabilities, Risk factors*

Paper type *Research paper*

Introduction

Adolescents with mild to moderate intellectual difficulties (MMID) face a range of mental health challenges that are more prevalent compared to the general population (Hughes-McCormack *et al.*, 2017). Hatton *et al.* (2018) suggested that children with MMID, experience more frequent and earlier onset of persistent mental health challenges. Due to the diagnosis of MMID, adolescents face challenges in interpersonal skills, social judgement and social communication. These challenges, coupled with a limited understanding of age-appropriate behavioural norms, contribute to their mental health

status (Patel *et al.*, 2018). In addition, they display ongoing limitations in executive functions such as planning, organisation, prioritisation, abstract thinking and short-term memory (American Psychiatric Association, 2013). According to Boat and Wu (2015), individuals with mild to moderate intellectual difficulties (MMID), although slower in all areas of conceptual development and daily living skills, can still learn practical life skills. This means they only require nominal support to operate in ordinary life. Although they may have deficits in academic performance, with adequate support, they can complete school work (American Psychiatric Association, 2013).

In social situations, their behaviour is often seen as inconsequential or even offensive, reflecting a limited understanding of societal norms and customs (American Psychiatric Association, 2013). Adolescence is not only an analytical period of rapid physical development but also a high-occurrence risk factor for mental health difficulties (Han *et al.*, 2023). Guo *et al.* (2020) elaborated that statistics suggest that 450 million people worldwide endure various mental health issues. For example, 121 million have depression, 24 million have schizophrenia and more than 1 million people die of suicide annually. In their biographical surveys, Bergström *et al.* (2015) found that some adolescents reported living apart from their families and parents due to unforeseen circumstances such as divorce or death of parents as being austere for both adolescents and their parents (McLaughlin *et al.*, 2019). Due to their contexts, such children are particularly vulnerable to the failure of support and affection and a decrease in cognitive stimulation and interference in social interaction (Lee *et al.*, 2020). Parents living with children with these conditions often find their parenting roles limited and frustrating (Eisman *et al.*, 2015).

Several studies on adverse childhood experiences (ACEs) and how they impact on children's well-being have been done in recent years. For example, a study by Webster (2022) investigated the prevalence of ACEs in children under six years and found that children who were exposed to more ACEs tended to have more health and developmental problems. Moonen *et al.*'s (2022) study also showed the critical need to prevent ACEs among children with intellectual disabilities and to promote protective factors to reduce the effects of ACEs on children. Scully *et al.* (2020) also found that family functioning was significantly associated with children's experiences of ACEs. Vervoort-Schel *et al.* (2021) further found a moderate association between the number of ACEs and family debts among children with intellectual disabilities. These studies highlight the importance of creating healthy family conditions that protect children from being exposed to adverse experiences. In cases where children are exposed to ACEs, Moonen *et al.* (2022) emphasised the use of trauma-informed care to assist children with recovery.

Currently, 10%–20% of children and adolescents experience mental health difficulties globally and nearly half of these difficulties commence at the age of 14 (Waid and Kelly, 2020). However, most cases go unrecognised, undiagnosed and untreated, imposing significant burdens on families and society (Han *et al.*, 2023). In essence, potential hidden mental health risk factors for adolescents are intricate and varied, predominantly intertwined with family, school and societal influences (Han *et al.*, 2023). Research indicates that stronger emotional bonds between adolescents and their parents contribute to improved parent–child relationships, leading to a reduced likelihood of behavioural and emotional challenges in adolescents (Oldfield *et al.*, 2016). However, numerous adolescents consistently face ACEs, which are widespread and significant determinants of depression in young adulthood (Amone-P'Olak and Letswai, 2020). Amone-P'Olak and Letswai (2020) clarified that the development of depressive disorders involves various implicated factors. These risk factors encompass "biological, psychological, familial, communal or cultural aspects that predict and correlate with a higher likelihood of negative outcomes" (O'Connell *et al.*, 2009, p. 28).

In South African schools, there are guidelines provided in various policy documents on how to support learners with disabilities including those with learning difficulties like MMID. For

example, the Screening, Identification, Assessment and Support Policy (Department of Basic Education, 2014) provided guidelines on how to screen, identify, assess and support learners with various barriers to learning in mainstream schools. According to policy, therapists should be stationed at the schools or visit occasionally from the district offices as part of their roles as members of district-based support teams, depending on the need (Department of Education, 2001). These therapists are responsible for providing different forms of support including emotional and psychosocial.

Although contained in policies, Deghaye (2021) noted that South Africa still lacks the provision of specialist services such as psychologists and therapists to support learners in public schools including special educational needs (SEN) schools. Even if specialist services are sometimes provided to SEN schools, this remains inadequate due to human resources shortages. According to the National Association of School Psychologists, there is a ratio of one educational psychologist to between 1,211 and 1,500 learners in South Africa (Mampane, 2023), depending on the province. The high number of learners exposed to mental health risk factors thus, implies the need to increase specialist support, especially for those with MMID.

The presence of more risk factors in the life of an adolescent with MMID and lack of support to handle them increases the likelihood of heightened mental health challenges (Pinto *et al.*, 2014). Several risk factors, such as adverse family experiences like divorce, substance abuse, imprisonment, both emotional and physical neglect and various forms of abuse such as physical, sexual and verbal, can elevate the likelihood of deteriorating mental health in adolescents with MMID (Dong *et al.*, 2022).

South Africa presents a unique scenario on the prevalence and impact of ACEs on children compared to other countries. For example, South Africa is rated as one of the countries with the highest forms of violence and crime in the world (Cowling, 2024). This means children are more exposed to ACEs compared to other more peaceful countries. Characterised with serious poverty in some places, the South African context also implies that some of its children are more affected with ACEs associated with poverty (Manyema and Richter, 2019). Such disparities mean that some children may not have access to healthcare services, social support and mental healthcare facilities. Coupled with this are also certain cultural beliefs which prevail in South Africa, which are otherwise not common in other countries. For example, the use of corporal punishment is still prevalent and acceptable as a form of discipline in many homes and schools in South Africa (Calvino, 2021) which further exposes children to family and school violence more than in other countries where this strongly rejected as abuse and illegal. Thus, insights of these cultural differences can be helpful in providing informed interventions to mitigate risk factors that cause mental health issues among children with MMID as these may in many cases be more vulnerable to ACEs than their normal counterparts. Insufficient research explores how the severity of ACEs affects adolescents with MMID. Thus, the study aimed to reduce this gap by investigating the risk factors linked to the mental health issues of adolescents with MMID in the context of selected South African schools.

Methods

Study design

For this study, a quantitative research approach was implemented, which meant that quantitative data were collected that required statistical analysis. The researchers also used the quantitative research method because of the objective and conclusive answers it provided. In addition, a positivist paradigm was chosen because it is consistent with the quantitative research approach used in this study. The researchers used a survey method with a questionnaire to collect data to describe the mental health of participants.

Participants

Using a simple random sampling method, 414 participants for this study were selected from three SEN schools in the Gauteng province, Ekurhuleni North District in South Africa. The cohort consisted of male and female participants who were classified as living with MMID. School 1 consisted of 176 participants composed of 119 males and 57 females. School 2 comprising of 159 participants consisting of 100 males and 59 females and School 3 consisted of 79 participants of which 56 were male and 23 were female.

Procedure

Data were collected from the participants using a private and confidential learner biographical questionnaire compiled by the university in which the researchers were based. A 14-question informal inquiry completed by the participants used a combination of open and closed questions along with structured queries to collect data on participants' age, grade, race and socioeconomic status. These questions offered insights into the daily biographical settings of the participants. The second part of the questionnaire was a mental health test completed by the participants, namely, the ACE questionnaire. This 10-item self-report measure included: physical abuse, sexual abuse, verbal abuse, physical neglect, emotional neglect, a family member who was depressed or diagnosed with other mental illness, a family member who was addicted to alcohol or another substance, a family member who was in prison, witnessing a mother being abused and losing a parent to separation, divorce or death. Assistance to complete the questionnaires was provided by qualified psychologists and support teachers who explained the requirements where needed. This is because some participants had limited capabilities to understand some of the questions and instructions due to their diagnosis of MMID. The outcome of this questionnaire provided substantial epidemiological evidence concerning the link between ACEs and mental and physical illnesses in children (Felitti *et al.*, 1998).

Ethical measures

Permission to proceed with the research was approved by the Faculty of Education's Ethics Committee University of Johannesburg. Furthermore, clearance to conduct research in the selected three schools was granted by the Gauteng Department of Education. Principals and parents gave their consent to continue with the research in the allocated schools and the learners gave their assent to participate in the research process. Before the quantitative data collection procedure, the following were explained to the participants: the aim of the study, concealment aspects such as confidentiality to protect all the participants' privacy, developing trust and rapport with participants and maintaining ethical standards and the integrity of the research process (Baez, 2002).

Data analysis

The grades and age groups were analysed separately as the researchers wanted to investigate any statistical significance between grades or age groups versus the different risk factors impacting the mental health of the participants. Initially, the data collected was analysed using descriptive statistical methods. Descriptive statistics, as explained by Bandari (2022), provide a summary of the characteristics found in a data set derived from various data collection instruments. The data set consists of a distribution of values or scores. The study organised scores, values, frequencies and variables into visual tables and graphs.

In this study, statistics dealing with categorical outcomes of data was compiled by using a combination of the Chi-squared test, Fisher's exact test, Bayes factor and the odds ratio (OR) (Field, 2018). The variables considered in this study encompassed factors such as

race, age, grade and gender. This study followed a comparative approach when examining the associations between race, age, grade and gender against the ACE items. The various frequencies of the independent groups in the sample are given in Table 1.

As shown in Table 1, the four race groups were collapsed into two groups, namely, Black African and Other. This was done as it was not feasible to use four groups due to small numbers and the complexity of possible interactions among variables composed of more than two groups. The Black African group of participants represented 244 (58.9%) of the sample. The second group of participants indicated as Other consisted of Indian 4 (1.0%), Mixed race 38 (9.2%) and White 128 (30.9%) participants giving a total of 170 (41.1%). In terms of age, 163 (39.4%) participants indicated that they were 16 years old or less (≤16 y) whereas 251 (60.6%) of the participants indicated that they were 17 years or older (≥17 y). In addition, the results indicated that 177 (42.8%) were in Grade 8 and there were 237 (57.2%) participants in Grade 9. In terms of gender, 283 (68.2%) participants indicated that they were male and 132 (31.8%) were female. The Department of Basic Education (2016) indicated that there were 3 187 females and 8 276 males with special education needs in MMID schools in Gauteng. The gender population ratio in Gauteng for SEN schools is thus 2.6 males to 1 female. The sample gender ratio of 2.14 was relatively close to the one used in this research allowing for inferences to the population regarding gender differences.

Results from the ACE questionnaire

Associations between the race groups and ACE

Table 2 below gives the results of the associations between the race groups and ACE.

The data in Table 2 indicated that there were no race groups where all four tests found significant differences present. However, the OR indicated that Black Africans in the sample had the perception that they suffered more ACEs than the Other racial group regarding all three abuse items, namely, emotional, physical and sexual abuse. This was also so regarding physical neglect. However, the OR showed that where household dysfunction was involved due to divorce, battered wife, substance abuse and mental illness, the Other racial group had the greater perception of experiencing these ACEs.

Associations between the age groups and ACE

Table 3 below shows results for associations between the age groups and ACEs.

Results in Table 3 showed that the ≥17 y age group had significantly more yes than no answers to the item responded to than the ≤16-year age group. The data in Table 3 also indicated that it was only in item A3 (sexual abuse) that all four of the tests showed that the older age group (≥17 y) had significantly more adverse experiences than the younger age group (≤16 y). Regarding item A5, the Chi-squared, Fischer's exact test and the OR indicated that the ≥17 y age group had the perception that they experienced more physical

Table 1 Frequencies of the various independent groups in the sample

Variable	*Group*	*Frequency*	*%*	*Total*
Race	Black African	244	58.9	414
	Other	170	41.1	
Age	16 or less	163	39.4	414
	17 or more	251	60.5	
Grade	G8	177	42.8	414
	G9	237	57.2	
Gender	Male	283	68.2	414

Source: Table by author

Table 2 Associations between the race groups and adverse childhood experiences

		Tests conducted (two race groups vs ACE items)				
No.	*Item in ACE questionnaire*	*Chi-squared ($p < 0.05$)*	*Fischer's exact test ($p < 0.05$)*	*Bayes factor ($1/BF) > 1.0$*	*Odds ratio of BA* vs O***	*Support for alternative hypothesis*
A1	Abuse (swearing, humiliation)	No (0.169)	No (0.195)	No (0.39)	Yes BA:O =1.39	OR only BA > O
A2	Abuse (physical)	No (0.641)	No (0.698)	No (0.15)	Yes BA:O = 1.13	OR only BA > O
A3	Abuse (sexual)	No (0.782)	No (0.851)	No (0.10)	Yes BA:O = 1.11	OR only BA > O
A4	Neglect (emotional)	No (0.412)	No (0.418)	No (0.22)	No O: BA = 1.01	No O≈ BA
A5	Neglect (physical)	No (0.645)	No (0.824)	No (0.09)	Yes BA:O= 1.23	OR only BA > O
A6	Dysfunction (divorce)	No (0.059)	No (0.066)	No (1.04)	Yes O:BA =1.47	OR only O>BA
A7	Dysfunction(battered wife)	No (0.592)	No (0.638)	No (0.14)	Yes O:BA = 1.18	Only OR O>BA
A8	Dysfunction(substance abuse)	No (0.451)	No (0.508)	No (0.18)	Yes O:BA =1.22	Ony OR O>BA
A9	Dysfunction(mental illness)	No (0.724)	No (0.752)	No (0.12)	Yes O: BA = 1.12	Only OR O>BA
A10	Dysfunction(imprisonment)	No (0.454)	No (0.481)	No (0.17)	Yes BA:0 = 1.24	Only OR BA>O

Notes: *BA = Black African group; **O = Others (White, coloured and Indian)
Source: Table by author

Table 3 Associations between age groups and adverse childhood experiences

		Tests conducted (age groups vs ACE items)				
No.	*Item in ACE questionnaire*	*Chi-squared (p < 0.05)*	*Fischer's exact test (p < 0.05)*	*Bayes factor (1/BF) > 1.0*	*Odds ratio of ≤ 16 y: ≥ 17 y 16 y ≤ ≥ 17 y*	*Support for alternative hypothesis*
A1	Abuse (swearing, humiliation)	No (0.218)	No (0.236)	No (0.32)	Yes 17y:16y = 1.35	Only OR* 17 y >16 y
A2	Abuse (physical)	No (0.357)	No (0.433)	No (0.21)	Yes 17 y:16 y = 1.28	Only OR 17 y > 16 y
A3	Abuse (sexual)	Yes (0.018)	Yes (0.021)	Yes (1.70)	Yes 17 y:16 y = 2.90	Yes 17 y > 16 y
A4	Neglect (emotional)	No (0.177)	No (0.198)	No (0.38)	Yes 17 y:16 y= 1.38	Only OR 17 y >16 y
A5	Neglect (physical)	Yes (0.037)	Yes (0.043)	No (0.73)	Yes 17 y:16 y= 3.07	Only1/BF not 17 y >16 y
A6	Dysfunction (divorce)	No (0.83)	No (0.84)	No (0.18)	No 16 y: 17 y= 1.04	No 17y ≈ 16 y
A7	Dysfunction (battered wife)	No (0.873)	No (1.00	No (0.12)	Yes 17 y:16 y =1.05	Only OR 17y > 16y
A8	Dysfunction (substance abuse)	No (0.112)	No (0.142)	No (0.47)	Yes 17 y:16 y= 1.55	Ony OR 17y > 16y
A9	Dysfunction (mental illness)	No (0.319)	No (0.342)	No (0.47)	Yes 17 y:16 y = 1.39	Only OR 17 y > 16 y
A10	Dysfunction (imprisonment)	No (0.108)	No (0.118)	No (0.45)	Yes 17 y:16 y= 1.62)	Only OR 17 y > 16 y

Note: *OR = odds ratio
Source: Table by author

neglect than the younger age group. The OR showed significant differences in nine of the 10 variables used, and in each, the ≥17 year age group had significantly more adverse experiences than the younger age group. The only exception was item A6 where the ≤16 y age group had slightly more yes than no answers. However, the odds ratios were similar showing that in the ≤16 y age group the divorce rate was 68.04%, whereas in the ≥17 y age group it was 65.13%. Although the two age groups did not differ significantly in their perceptions regarding divorce rates, the percentages who indicated divorce as an ACE for both groups, were above 50.0% and that is a cause for concern.

Associations between the grade groups and ACEs (A1–A10)

The South African Schools Act (South African Schools Act, 1996) provides guidelines for the age at which children should attend school, normally, ages seven to 13 years are associated with primary school, Grades 1–7 and ages 14–18 years with secondary school, Grades 8–12. However, in SEN schools the guidelines are different and grades start at Grade 8 or higher. In this research, there were only two grade groups, namely, Grade 8 and Grade 9 that were used. A summary of the various statistical results is given in Table 4.

The results in Table 4 showed that it was only in item A5 (physical neglect) where participants felt that parents did not provide sufficient food, clothing or protection or were too drunk or high on drugs to care sufficiently for them. All four tests indicated that learners in Grade 9 had a significantly larger perception of physical neglect than learners in Grade 8. The learners in Grade 8 only had a significantly higher yes to no odds ratio in item A6 (divorce) than the Grade 9s. However, the odds of yes to no in the Grade 8 group of 0.7333 and that in Grade 9 of 0.6122 were both relatively high indicating that divorce was problematic for both grade groups but more so for the lower grade group (yes to no ratio closer to 1). The tests regarding grade groups were similar to the age groups as the odds ratio showed significant differences in nine of the 10 items tested, and in each, the Grade 9 group had significantly more adverse experiences than the lower grade group. The only

Table 4 Summary of associations between grade groups and adverse childhood experiences (items A1–A10)

		Tests conducted (two grade groups vs ACE items)				
No.	*Item in ACE questionnaire*	*Chi-squared ($p < 0.05$)*	*Fischer's exact test ($p < 0.05$)*	*Bayes factor (1/BF) > 1.0*	*Odds ratio of ≤ G8* vs ≥ G9***	*Support for alternative hypothesis*
A1	Abuse (swearing, humiliation)	Yes (0.047)	No (0.060)	Yes (1.65)	Yes G9:G8 = 1.61	3 of 4 – yes G9 > G8
A2	Abuse (physical)	No (0.118)	No (0.124)	No (0.47)	Yes G9:G8 = 1.51	OR only G9 > G8
A3	Abuse (sexual)	No (0.108)	No (0.132)	No (0.34)	Yes G9:G8 = 1.91	OR only G9 > G8
A4	Neglect (emotional)	No (0.614)	No (0.645)	No (0.18)	No G9:G8 = 1.12	OR only G9 > G8
A5	Neglect (physical)	Yes (0.005)	Yes (0.004)	Yes (5.78)	Yes G9:G8 = 5.07	Yes- all tests G9 > G8
A6	Dysfunction (divorce)	No (0.366)	No (0.417)	No (0.27)	Yes G8:G9 = 1.20	OR only G8 > G9
A7	Dysfunction (battered wife)	No (0.333)	No (0.352)	No (0.18)	Yes G9:G8 = 1.36	Only OR G9 > G8
A8	Dysfunction (substance abuse)	No (0.251)	No (0.292)	No (0.26)	Yes G9:G8 = 1.36	Only OR G9>G8
A9	Dysfunction (mental illness)	No (0.140)	No (0.157)	No (0.33)	Yes G9: G8 = 1.63	Only OR G9 > G8
A10	Dysfunction (imprisonment)	No (0.060)	No (0.067)	No (0.74)	Yes G9:G8 = 1.74	Only OR G9 > G8

Notes: *G8 = Grade 8; **G9 = Grade 9
Source: Table by author

exception was item A6 where the Grade 8 group had slightly more yes than no answers. However, the odds ratios were similar showing that in the Grade 8 group, the divorce rate was 73.33%, whereas in the Grade 9 group, it was 61.22%. Both grade groups thus experienced high divorce rates. As expected, the correlation between the age groups and the grade groups was statistically significant, namely, $r = 0.563$, $p = < 0.001$, 95% bootstrap confidence intervals [0.493, 0.625].

Summary of associations between gender and ACEs

Table 5 below gives the results of associations between gender and ACEs.

The data in Table 5 indicated that females answered yes significantly more often than male participants did regarding items B1(psychological abuse), B3 (sexual abuse), B8 (substance abuse) and B10 (family dysfunction). This was the case in all four of the statistical tests conducted. One would not accept the null hypotheses for these items as the alternative hypotheses were more likely and hence there was a significant difference in yes to no answers between male and female participants with respect to these four items regarding ACEs.

Furthermore, the four tests in Table 5 were identified with larger odds ratios of F:M. The OR of F:M > 1.10 indicated that females answered yes significantly more often than male participants did regarding items A3 (abuse, sexual) OR = 3.28; A5 (neglect, physical) OR = 2.25; A1 (abuse, swearing) OR = 1.96; A8 (dysfunction, substance abuse) OR = 1.86; A10 (dysfunction, imprisonment) OR = 1.80; A9 (dysfunction, mental illness) OR = 1.59; A2 (abuse, physical) OR = 1.45; A4 (neglect, emotional) OR = 1.41; A6 (dysfunction, divorce) OR = 1.12; and A7 (dysfunction, battered wife) OR = 1.12.

Discussion

The discussion focuses on the four adverse experiences with the highest scores identified within the ACE questionnaire for this study. These scores impacted the mental health of the chosen adolescents living with MMID the most. The first risk factor with the highest score indicated that males, aged 16 or less, within the Other race group, in Grade 8, were more vulnerable to dysfunction caused by divorce in the cohort selected for this study. The recent surge in divorce rates and the evolving structure of nuclear families has led to a rise in single-parent households (Chavda and Nisarga, 2023). According to Bronfenbrenner (1979), adolescents' development is significantly influenced by their environment. Key factors, such as families, schools, neighbourhoods, peers and cultural elements all play crucial roles in shaping their overall development (Galderisi *et al.*, 2015). Research

Table 5 Summary of associations between gender and adverse childhood experiences (items A1–A10) below

		Tests conducted (gender vs ACE items)				
No.	*Item in ACE questionnaire*	*Chi-squared (p < 0.05)*	*Fischer's exact test (p < 0.05)*	*Bayes factor (1/BF) > 1.0*	*Odds ratio of F:M F:M > 1.10*	*Support for alternative hypothesis*
A1	Abuse (swearing, humiliation)	Yes (0.005)	Yes (0.009)	Yes (6.17)	Yes 1.96	Yes. All 4 F > M
A2	Abuse (physical)	No (0.159)	No (0.172)	No (0.36)	Yes (1.45)	No OR only F > M
A3	Abuse (sexual)	Yes (0.001)	Yes (0.002)	Yes (12.82)	Yes (3.28)	Yes F > M
A4	Neglect (emotional)	No (0.149)	No (0.177)	No (0.42)	Yes (1.41)	No OR only F > M
A5	Neglect (physical)	No (0.06)	No (0.097)	No (0.43)	Yes (2.25)	No OR only F > M
A6	Dysfunction (divorce)	No (0.593)	No (0.667)	No (0.19)	Yes (1.12)	No OR only M > F
A7	Dysfunction (battered wife)	No (0.727)	No (0.714)	No (0.12)	Yes (1.12)	No OR only F > M
A8	Dysfunction (substance abuse)	Yes (0.018)	Yes (0.025)	Yes (1.92)	Yes (1.86)	Yes F > M
A9	Dysfunction (mental illness)	No (0.142)	No (0.178)	No (0.32)	Yes (1.59)	No OR only F > M
A10	Dysfunction (imprisonment)	Yes (0.038)	Yes (0.051)	No (0.98)	Yes (1.80)	Yes F > M

Source: Table by author

consistently shows that parental divorce is associated with increased mental health challenges for adolescents such as adjustment challenges, academic difficulties, disruptive behaviours and a higher likelihood of depression (Lee and McLanahan, 2015). Wallis and Sparks (2016) explained that adolescents are more likely to experience mixed emotions, particularly if they are aware that their parents were already unhappy together. In addition, gender differences in adjustment may also be influenced by pre-existing conditions independent of the divorce process. For example, among the cohort selected for this study, males were more susceptible to the negative effects of marital conflict that they had to endure compared to females. Furthermore, according to Statistics South Africa (2023), various racial groups exhibited distinct divorce rates spanning five to nine years. For example, the various race groups showed varying divorce rates such as Black Africans at 28.1%, Mixed race people at 26.1%, White people at 24.6% and Indians/Asians at 20.9% (Statistics South Africa, 2023). Notably, the Other group had a higher divorce rate than the Black African group at age $\leq$16 y in Grade 8 (Year 3). Rich *et al.* (2023) explained that limited to no information is available to assist families through their divorce processes in South Africa.

The second risk factor indicated that females, aged $\geq$17 years, within the Black African race group in Grade 9 (Year 4) were more vulnerable to emotional abuse (swearing/humiliation) in the cohort selected for this study. According to the University of Rochester Medical Center (2024), emotional abuse can be hard to identify at first. For example, it may consist of someone calling a person names, ignoring their feelings and swearing or cursing at them. Furthermore, the abuser creates an emotional environment to control a person and destroys their self-worth and independence (Smith and Seagal, 2023). Children and adolescents exposed to complex trauma may endure lasting impacts on physical and mental health into adulthood, elevating the risk for conditions such as posttraumatic stress disorder, depression, anxiety, behavioural issues, substance abuse, risky sexual behaviour, sexually transmitted infections, chronic diseases (e.g. obesity) and self-harming behaviour, with a dose-response relationship (Witt *et al.*, 2019). However, a thorough analysis of 39 global studies revealed that trauma-focused (TF) practices within schools largely led to the mitigation of posttraumatic symptoms and internalising problems following trauma exposure (Zakszeski *et al.*, 2017).

The third risk factor indicated that females, aged $\geq$17 years, within the Black African race group in Grade 9 were more vulnerable to physical neglect in the cohort selected for this study. Child neglect is the ongoing failure to meet a child's physical or psychological needs, causing significant harm to their health and development (Dubowitz, 2013). In essence, neglect involves failing to meet a child's basic physical and emotional needs, including housing, food, clothing, education, medical care and providing validation and appropriate responses to their feelings (Centers for Disease Control and Prevention, 2022). Child mistreatment is a significant global health issue with severe potential consequences (Ahn *et al.*, 2022). To illustrate, children who experience abuse and neglect are at a higher risk of developing psychiatric disorders, including major depressive disorder, anxiety disorder and posttraumatic stress disorder and engaging in illicit drug use or substance abuse (Ferrara and Bernasconi, 2017).

The fourth risk factor indicated that females, aged $\geq$17 years, within the Black African race group in Grade 9 were more vulnerable to family dysfunction due to imprisonment in the cohort selected for this study. When a family member is incarcerated, it can negatively affect the short-term emotional well-being of adolescents and have long-term consequences on their health and social prospects (McGillivray, 2016). Given the pre-existing disadvantages and challenges related to parental incarceration, children with incarcerated parents are more likely to experience more ACEs than their peers (Turney, 2018). Moreover, children with a parent in prison might encounter diminished self-esteem, depression, disrupted sleep patterns and signs of posttraumatic stress

(Beresford *et al.*, 2020). The parent's imprisonment alone is not the primary risk; it is the response to it – social isolation, shame and trauma – that elevates the mental risk factor.

Implication of findings

In an attempt to move from a medical model of addressing mental health issues, the researchers do not want to present a psychopathological perspective of learners diagnosed with MMID. This implies the need to promote the mental well-being of the learners through adopting protective factors to mitigate the identified risk factors.

Given the dysfunction and mental health issues caused by ACEs, using various types of psychological therapies can be beneficial. Therapy involves examining and comprehending the links between thoughts, emotions and behaviours to promote positive changes in mental well-being (Legg, 2019). Examples of such therapies include but are not limited to cognitive behavioural therapy (CBT), TF-CBT and parent–child intervention therapy. Basically, these therapies help to identify and address psychological issues stemming from challenging thought patterns, unhelpful behaviours and problematic beliefs about oneself, the world and others (Scaripino, 2022). Welsh (2024) noted that they assist traumatised youth to better handle and regulate their thoughts and emotions related to trauma.

For therapy to be effective, caregivers need to be included, hence their willingness to do so is critical. Given that all ACEs were experienced in family contexts, this warrants the use of systemic approaches to therapy to address the key factors in the learners' distress with the aim of restoring and promoting healthy relationships. These can be group, family or individual sessions depending on individual needs. Given that individuals are affected differently, there is need for adapted interventions for learners who wish to have psychological support. This further calls for therapists to assess the affected parties for psychological therapy so that they can make informed decisions based on the individual needs for the type of therapy needed.

Limitations

The limitations of the study indicate that an individual's response to the questionnaire may not accurately reflect the range and relevance of their experiences. The study used only the ACE questionnaire which is criticised for its limited focus on the 10 specified ACEs and its failure to acknowledge diverse sources of adversity, along with structural and social inequalities. Despite its limitations, the results provided valuable insights into the risk factors experienced by participants with MMID. Despite the sample of three SEN schools used in this study, valuable information was provided on the mental health issues of learners with MMID in a South African context. Future studies could expand the geographical boundaries to carry out similar studies.

Conclusion

Based on the study results, it can be concluded that the impact of ACEs on mental well-being varies based on factors such as the nature, duration and severity of experiences as well as the presence of protective factors. There is a need to intervene and support learners with MMID including their families because in some cases, the ACEs originated from family contexts. Addressing the identified risk factors related to mental health issues can assist in improving the mental health status of learners with MMID. While conducted in South Africa, the study's findings are likely applicable and valuable for children diagnosed with MMID worldwide.

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