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Investing in our future: supporting pregnant and mother learners' return to school

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Investing in our future: supporting pregnant and mother learners' return to school

Abstract

In South Africa, one third of women have been pregnant during adolescence, with the last four years (2017-21) seeing a staggering increase of 48.7% in births amongst 10- to 14-year-olds and 17.9% amongst 15- to 19-year-olds. Adolescent motherhood can have a negative impact on the education, livelihoods, and health of adolescents and their children. Enabling adolescent mothers' return to school is essential, given the profound impact that school dropout has on psychological, physical, social and economic health. Further, higher education levels are protective not only for adolescent mothers but also for their children. The education sector is well placed to respond to the support needs of adolescent mothers; this is recognised in the South African Department of Basic Education (DBE)'s Policy on the Prevention and Management of Learner Pregnancy in Schools (2021) – with a positive vision for quality education, good health and well-being, and gender equality. Achieving policy goals requires clear evidence and research on how best to operationalise and implement them. It is against this backdrop that our research team – co-led by the Universities of Cape Town and Oxford – was approached by the DBE to undertake research to inform the implementation of their Policy on the Prevention and Management of Learner Pregnancy in Schools, and specifically the management component. We undertook a collaborative and systematic research project to conceptualise what pregnant and mother learners need, in order to return to school successfully. We adopted a three-pronged approach to this project: reviewing the latest evidence from existing reviews and South African interventions; conducting quantitative analysis of data from a longitudinal cohort study with over 1,000 adolescent mothers and their children; and conducting participatory research activities with young people with recent or current secondary schooling, pregnancy, and parenting experience. Drawing on findings from this three-pronged approach, we propose that supporting pregnant and mother learners' return to school should incorporate four inter-related components: (1) strengthening multi-stakeholder

school structures, (2) case management, (3) peer-based support, and (4) strong partnerships and referral mechanisms. Implementing these recommendations at a school level – especially in resource-constrained settings – is urgently needed but may be difficult. While many of our suggestions can be integrated into existing services and support structures, their feasibility and acceptability – both for education stakeholders and learners themselves – should be explored, ideally across different school settings. To assess effectiveness and identify ways to refine the interventions, each adaptation should involve strong monitoring and evaluation mechanisms, implementation-science research, as well as costing analysis to support scale-up.

1. Introduction

Sub-Saharan Africa has the highest rate of adolescent parenthood globally, with 46% of young women becoming mothers during adolescence (United Nations Population Fund [UNFPA], 2022). About one third of South African women have been pregnant during adolescence (Amoateng et al., 2022). Worryingly, in South Africa in the last four years (2017-21) the number of births to adolescent girls aged 15 to 19 years increased by 17.9% and by 48.7% amongst 10- to 14-year-olds (Barron et al., 2022). The COVID-19 pandemic and associated restrictions are likely to have played a role in this increase in the last two years – while sexual and reproductive health services were deemed essential during the pandemic (World Health Organisation, 2020), there were many disruptions to healthcare, including limited access to family planning services and maternal and child health services (Riley et al., 2020).

Adolescent motherhood can have a negative impact on the education, livelihoods and health of adolescents and their children (Barron et al., 2022). These impacts include a lower socio-economic status, a heightened risk for HIV acquisition, a propensity for rapid repeat pregnancies, poorer physical and mental health outcomes, and school drop-out and reduced career prospects (Amongin et al., 2021; Branson et al., 2015; Chen et al., 2007; Noori et al., 2022; Roberts et al., 2021; Woodward et al., 2001).

Inclusive and equitable access to education for adolescent girls is a global priority reflected in Social Development Goal (SDG) 4. However, in South Africa, an estimated 250,000 school-going children drop out of school each year; this tripled to 750,000 between March 2020 and July 2021 (United Nations Children's Fund [UNICEF], 2022). Young women in particular face substantial barriers to completing school, with one common barrier being adolescent pregnancy, especially in the context of economic disadvantage (Jochim et al., 2021; Stoner et

al., 2019). Being grade delayed at the onset of pregnancy, having an unplanned or unwanted pregnancy, and lack of information from caregivers on the pregnancy increase the odds of school withdrawal during pregnancy amongst school-going learners (Jochim et al., 2021). Further, pregnant learners often face stigma and discrimination from other learners, and from teachers and members of their community (Erasmus et al., 2020), which may contribute to them leaving social spaces, including schools, unless they receive targeted support (Jochim et al., 2021). Indeed, recent research from rural and urban areas in South Africa suggests that between 35% and 50% of adolescent mothers do not return to school after giving birth (Jochim et al., 2020).

Enabling adolescent mothers to return to school is essential, given that prolonged absence from school increases an individual's risk of not returning at all (Groves et al., 2022). It is well-established that school dropout has a profound impact on psychological, physical, social, and economic health (Lamb & Markussen, 2011). Without completing school, young people are less able to access further education and training, thus drastically limiting their opportunities for employment and a higher-income or skilled job (DG Murray Trust, 2019). For young women, school dropout has also been associated with an increased risk of HIV acquisition, associated subsequent pregnancy, and increased sexual risk behaviours (Groves et al., 2022; Jochim et al., 2021; Stoner et al., 2019). On the other hand, higher education levels are protective against rapid repeat pregnancies amongst adolescent mothers (Govender et al., 2019), and parental education – especially maternal education – is strongly linked to lasting improvements in child health and life expectancy (Huebener, 2019; Mensch et al., 2019).

For those adolescent mothers who return to school, research shows that institutional support and provision of family members' instrumental support are pivotal, as is access to childcare support (Groves et al., 2022; Moodley, 2021; Lamb & Markussen, 2011). Specifically, adolescent mothers who receive greater support from their school have an easier re-entry process, and adolescent mothers who face barriers upon returning to school but receive instrumental support from their family in dealing with these barriers were able to re-enrol (Groves et al., 2022).

Despite the scale of the ongoing challenges associated with early motherhood (Huda et al., 2021), adolescent mothers have not been a central focus in international development agendas. Encouragingly, though, countries across sub-Saharan Africa – where adolescent birth rates remain the highest in the world – are increasingly realising that the support of pregnant adolescents and adolescent mothers requires urgent attention (Huda et al., 2021; Kassa et al., 2018). Today, roughly half of the countries in the African Union have national laws or policies in place to protect pregnant girls and adolescent mothers' right to education

(Martinez & Odhiambo, 2018), with progressive policy developments in at least five countries since 2019 (Human Rights Watch, 2021).

In South Africa, exclusionary practices were a common approach in managing pregnant school-going girls prior to 1994. Since then, several legislative advances that directly affect young pregnant women have been passed, including the South African Schools Act (No. 84 of 1996) and the Promotion of Equality and Prevention of Unfair Discrimination Act (No. 4 of 2000, as amended, 2008) – both of which stipulate that learners who become pregnant should not be unfairly discriminated against on the basis of their pregnancy. In 2007, the then National Department of Education (drawing on the Schools Act) implemented its Measures for the Prevention and Management of Learner Pregnancy. However, a lack of clear guidelines for teachers left the policy open to interpretation and led to inconsistent implementation in schools (Ngabaza & Shefer, 2013). It is within this context, as well as in recognition of the high rates of learner pregnancies by the Department of Basic Education (DBE), that the DBE launched its Policy on the Prevention and Management of Learner Pregnancy in Schools, and its associated Implementation Guidelines (hereinafter referred to as the DBE Policy). The goals of the DBE Policy are to:

- Reduce the incidence of learner pregnancy through the provision of quality Comprehensive Sexuality Education (CSE) and access to adolescent and adolescent-friendly Sexual and reproductive health (SRH) services;
- Ensure learners are not excluded from school as a result of pregnancy and childbirth; and
- Provide a supportive environment for these learners to continue and complete their basic education (Department of Basic Education [DBE], 2021).

The policy is aligned with the Departments of Basic Education and Health's Integrated School Health Policy (2012), the School Safety Framework, as well as the Standard Operating Procedures for the provision of sexual and reproductive health, rights, and social services in secondary schools (2019). The goals of the policy are also aligned with SDG 3 (Ensure healthy lives and promote wellbeing for all at all ages), SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) and SDG 5 (Achieve gender quality and empower all women and girls).

2. Objectives

Achieving policy goals requires clear evidence and research on how best to operationalise and implement policies. It is against this backdrop that our research team – co-led by the Universities of Cape Town and Oxford – was approached by

the DBE to undertake research to inform the implementation of their Policy on the Prevention and Management of Learner Pregnancy in Schools, and specifically, the management component. Our team undertook a research project to conceptualise what pregnant and mother learners need, in order to return to school successfully. The findings of this project are reported in this Working Paper, beginning with the methods used followed by overall findings from each component, and a summary of recommendations for implementation.

3. Methods

To investigate what pregnant and mother learners need to return to school, we adopted a three-pronged iterative approach (see Figure 1 below).

Firstly, we reviewed evidence from existing reviews focused on supporting school return and other health outcomes for adolescent mothers (Harding et al., 2020; Laurenzi et al., 2020; SmithBattle et al., 2017; Steinka-Fry et al., 2013). In parallel, we also reviewed local South African implementation models, and engaged with several stakeholders involved in these models in a workshop setting.

Secondly, we conducted quantitative analyses using existing data from the HEY BABY longitudinal cohort study. This study comprises 1,046 adolescent mothers and their children residing in the Eastern Cape province of South Africa. The analyses aimed to test the effect of multiple policy-aligned protective provisions on select goals of the DBE's policy.

Thirdly, we undertook participatory research (design incubators) with 13 young research advisors (ages 19 to 24) with recent or current secondary schooling, pregnancy, and parenting experience. The young advisors were recruited from and form part of our Eastern Cape Teen Advisory Group (TAG), established in 2019. TAG young advisors' perspectives, participation and arts-based research outputs have been instrumental in informing various health, social and HIV/AIDS-related policies and programmes (Cluver et al., 2021; Gittings, Medley et al., 2022). Both the HEY BABY and TAG studies have ethical approval through the Universities of Cape Town and Oxford (UCT HREC - 226/2017; Oxford IDREC - R48876/RE007).

This three-pronged approach aimed to ensure that what we are proposing, to support pregnant and mother learners' return to school, is not only evidence-based and data-driven but is also responsive to the expressed needs of adolescents, young people and the communities where they live in South Africa. In addition, this approach was not linear; rather, components overlapped and iteratively informed each other.

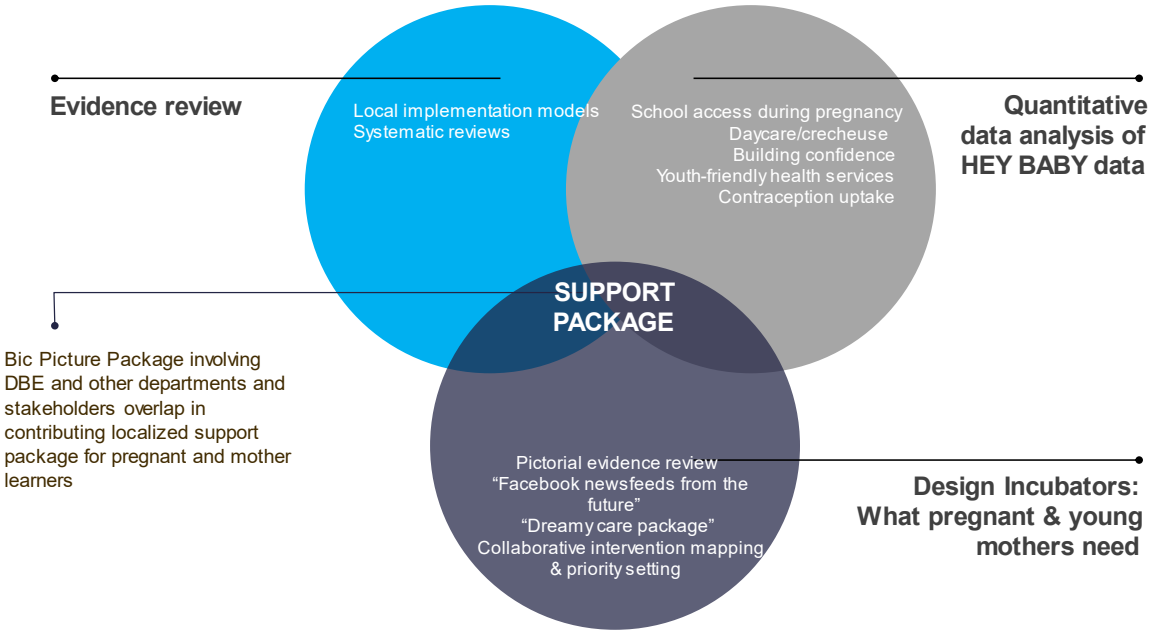

Figure 1: Three-pronged approach to investigate what pregnant and mother learners need to return to school

In the sections that follow, we present the findings of our three-pronged approach, beginning with the evidence review, then moving to the quantitative data analyses, and the design incubator findings. In the final section we present a synthesis of our findings.

4. PRONG 1: Evidence review

4.1 Methods

In undertaking our evidence review we began by looking at four systematic reviews and meta-analyses focused on interventions that support adolescent mothers (Harding et al., 2020; Laurenzi et al., 2020; SmithBattle et al., 2017; Steinka-Fry et al., 2013). In our review we extracted information about the impact of these interventions on education and health outcomes. To learn more about some of the specific interventions upon which these reviews were based, we took a more in-depth look at several interventions in Harding et al. (2020), Steinka-Fry et al. (2013) and SmithBattle et al.'s (2017) reviews, drawing out information on both their impact and implementation.

In parallel, we reviewed South African interventions including the Small Projects Foundation suite of programmes (such as the Kistefos Mentor Moms Project), the Zimele project (Bekker et al., 2019), the My Journey Programme (implemented

by NACOSA - Networking HIV and AIDS Community of Southern Africa), the Basic Package of Support (currently being developed by SALDRU – Southern Africa Labour and Research Development Unit; Smith et al., 2020), the IMAGINE programme (implemented by NACOSA, evaluated by SAMRC – South African Medical Research Council), Flourish (DGMT – DG Murray Trust), Zero Dropout (DGMT), and a school-based support programme for learner mothers in Macassar (implemented by the Western Cape Department of Health). We engaged with several of the stakeholders involved in these interventions in a workshop setting, with the aim to understand how the interventions are being implemented and what lessons have been learnt. In the sections that follow we present our findings of this review process, beginning with the systematic reviews.

4.2 Key Findings

School-level interventions for pregnant and mothering adolescents generally fall into one of two categories: multiservice programmes or attendance monitoring and contingency programmes. Multiservice programmes usually offer a wide range of services for participants, including remedial education, vocational or other employment-related training, case management, and health and childcare services. Attendance monitoring and contingency programmes usually provide financial incentives for adolescent mothers to return to school, or make the receipt of welfare payments contingent on school attendance. These programmes also tend to be comprehensive, and frequently include support services such as case management, transportation assistance, and childcare services (Steinka-Fry et al., 2013).

In a comparison across both programme types (multiservice and attendance monitoring), the adjusted mean odds ratio for the attendance monitoring programmes was higher than that of the multiservice programmes, but the difference was not statistically significant. Importantly, young mothers in both types of programmes exhibited significantly higher school graduation rates than mothers in comparison or control groups (Steinka-Fry et al., 2013). However, it is important to note that the study design was associated with the odds ratio effect sizes, with random assignment and matched designs generally producing smaller odds ratios than non-random, non-matched designs; this highlights that results achieved in wide-scale rollouts may well be smaller than the overall mean effects found in research studies (Steinka-Fry et al., 2013). In addition, effects tended to be larger when researchers were more closely involved with programme delivery. The programmes included in this review were large, lengthy, and involved a complicated array of services that make high quality implementation difficult, especially for under-resourced implementation agencies. Researcher involvement may have meant that there were more resources available, which may have contributed to greater intervention effects (Steinka-Fry et al., 2013).

Interventions that support pregnant and mother learners' return to school usually assess either education or health outcomes, or a combination of both. These findings are summarized below.

4.2.1 Education outcomes

In a systematic review that looked at interventions focused on promoting good educational outcomes and healthy birth spacing amongst pregnant teens, just over half of studies (seven out of 13) that evaluated an educational outcome showed at least one favourable effect, with six studies not showing any favourable effects (although they did not show unfavourable effects, either). Interventions in the studies were more likely to improve adolescent educational progress (such as attendance or credit accumulation) as opposed to their educational attainment (such as finishing high school). This may be because short follow-up periods do not provide enough time to observe impacts on attainment, or it could imply that gains made in progression might not always translate into educational attainment due to other factors beyond the effect or impact of each intervention. To stay in school long enough to receive a credential, young mothers may require financial support, given the challenges they face in supporting themselves and their children (Harding et al., 2020).

In a systematic review focused on psychosocial interventions, findings showed that, compared to controls, these kinds of interventions resulted in significant improved school attendance outcomes. However, there were only two studies (of n=17) that measured this outcome. More evidence is needed about outcomes related to school re-enrolment, attendance, and completion to understand the impact of psychosocial interventions on this domain (Laurenzi et al., 2020).

There are several specific intervention models that had statistically significant effects for education outcomes amongst pregnant and mothering adolescents. The *Learning, Earning and Parenting* programme (Bos & Fellerath, 1997), which provides monthly one-to-one case management services and financial incentives for school enrolment, had a statistically significant impact on educational progression amongst adolescent mothers 40 months after the onset of the study. There was also an effect on school completion, but this was not statistically significant. *Taking Charge* (Harris & Franklin, 2011) – a school-based curriculum facilitated by a social worker and young mother in weekly group meetings that also involves a small incentive – showed a significant impact on school attendance and average school grades amongst adolescent mothers, at less than five months after the study onset. This effect continued for school attendance (but not educational attainment) at 18 months after the study onset. The *New Chance* programme (Quint et al., 1997), which combines education courses with case management, employment and childcare services, had a significant impact on

completion of high school amongst adolescent mothers, which persisted 40 months after the study had finished.

4.2.2 Health outcomes

An umbrella review of meta-analyses of interventions designed to improve health outcomes for adolescent mothers found minimal or small effects in delaying subsequent births. However, programmes which enrolled adolescent mothers during pregnancy or within six months of the birth showed greater effects on reducing a repeat birth than interventions that enrolled adolescents at later stages in their pregnancy. Randomised Control Trials (RCTs) that included adolescents with a mean age less than 18 years also showed greater effects than interventions that enrolled adolescents with a mean age of 18 years (SmithBattle et al., 2017).

In the systematic review by Harding et al. (2020), nearly half of the interventions that included contraceptive use as an outcome had favourable effects on at least one outcome, and some of these effects were sustained more than nine months after the intervention ended. Further, more than one-third of the studies that examined an outcome related to repeat pregnancy or birth showed favourable effects. These programmes had diverse characteristics. Of those that were effective (in that they improved at least one target health outcome), more than half used either home visiting or case management; most provided one-to-one support, either on their own or alongside other strategies such as group meetings; just over half were implemented by case workers (who do not have a professional license); and many were intensive in that they provided at least bi-weekly contact for longer than a year. That being said, programmes that did not improve one of the target outcomes shared many of these characteristics (Harding et al., 2020).

Psychosocial interventions show overall significant improvements in positive mental health, but this is based on low quality evidence. In addition, there is limited evidence for effectiveness of these interventions in dealing with symptoms and diagnoses of depression and anxiety. More high quality evidence is needed, in particular from low- and middle-income countries, to establish the effectiveness of psychosocial interventions on interlinked mental health outcomes among pregnant and parenting adolescents (Laurenzi et al., 2020).

We turn now to specific intervention models that demonstrate statistically significant results for health outcomes amongst pregnant and mothering adolescents. The *Dollar-a-Day* programme (Stevens-Simon et al., 1997) – which is run by a case worker and offers financial incentives complemented with weekly peer group support sessions – had a significant positive impact on preventing repeat pregnancy. *Centering Pregnancy Plus HIV Prevention* (Kershaw et al., 2009) provides weekly group-based prenatal care in clinics. One study showed favourable effects on contraceptive use (Kershaw et al., 2009) whereas another

did not (Ickovics et al., 2016). However, the programme did demonstrate significant positive impacts on repeat and unintended pregnancy outcomes (Kershaw et al., 2009). *Nurse Family Partnership* (Olds et al., 2007) involves one-on-one home visits with young mothers and their children, by a trained nurse, from early in the pregnancy to when the child is two years of age. Two of the three studies that measured repeat pregnancy or birth showed favourable effects. However, neither of the *Nurse Family Partnership* studies that examined educational outcomes showed any significant effects (Harding et al., 2020). The programme *Early Intervention* (Koniak-Griffin et al., 2000) – which includes prenatal classes and home visits from nursing staff – did show significant positive effects on education outcomes. The programme *Pathways Teen Mothers Support* (McDonell et al., 2007) recorded significant outcomes for both repeat pregnancy and school completion; intervention components included case management complemented with life skills education and training, leadership development, and peer and family support.

It is important to note that the interventions discussed above were all tested in high-income contexts like the United States where socioeconomic conditions and resource access is very different compared to low- and middle-income countries like South Africa.

4.2.3 South African interventions: implementation insights

There are a number of interventions in South Africa focused on supporting young mothers and young people in general. These include multidimensional health and social programmes such as the *Zimele* project (Bekker et al., 2019) and the *My Journey Programme* which focus on several outcomes including reducing HIV infection, reducing the incidence of pregnancy in young girls, and increasing school retention. Other programmes that work specifically with pregnant women and young mothers include *Flourish*, which focuses on antenatal and postnatal support, *Kistefos - Mentor Mom's Project* which focused on mentor mothers providing support to new mothers, and *School-based Support Groups* for young mothers in Macassar, which focuses on providing emotional support, parenting skills and health information and related referrals (Shung-King et al., 2019). Interventions specific to education include *Zero Dropout*, which focuses on preventing school dropout, and the *Basic Package of Support*, which works specifically with young people not in employment, education or training (Smith et al., 2020).

In thinking about how best to support pregnant and mother learners, it is important to take forward implementation insights from these kinds of programmes and models. Below we summarize insights from our engagements with stakeholders involved in programme implementation in South Africa, and substantiate these insights with evidence from the literature.

Firstly, while programmes are often targeted at pregnant or young mothers, it is important – where possible – to also engage with other people in the young mothers' lives who have a central role, such as their parents and partners. These role players may well take on caregiving responsibilities, and/or be instrumental in supporting young mothers to return to school (Groves et al., 2022). Secondly, pregnant and parent adolescents often encounter mistreatment or negative attitudes from family members, healthcare workers, teachers and others in their communities (Erasmus et al., 2020). Thus, interventions with pregnant and young mothers needs to address these forms of stigma and debunk common myths surrounding adolescent pregnancy. Thirdly (and relatedly) it is increasingly being recognised that providing health programmes in a school setting is an acceptable and feasible way of reaching school-going adolescents – in the Zimele project, adolescent girls and young women who were in school were more likely to participate in at least one intervention component compared with those no longer in school (Bekker et al., 2019). Furthermore, having health services at school can help young people overcome challenges associated with accessing clinic-based services, such as transport or inconvenient opening and closing times (Bekker et al., 2019). Fourthly, young people place considerable trust in their peers – oftentimes more trust than they would place in organisations or government institutions. Furthermore, affording young people opportunities to connect with and support one another in group settings can be very valuable for building confidence and self-esteem (Shung-King et al., 2019). Interventions that aim to support pregnant and mother learners would therefore benefit from including peer-based models of support and education.

5. PRONG 2: Quantitative data analysis

Despite increasingly favourable policy-environments for adolescent mothers, it is important to recognize that only policies grounded in a solid operationalization will be able to promote good outcomes. The following analyses aim to assess, using real world evidence, the access of the provisions aligned with the DBE Policy, and their synergies, and quantify their associations on select goals of the Policy. Quantitative data for this prong were collected as part of the HEY BABY (Helping Empower Youth Brought up in Adversity with their Babies and Young children) longitudinal cohort study of adolescent mothers and their children residing in the Eastern Cape province of South Africa (N=1,046). This study was co-designed with the DBE prior to conceptualization of the policy, and assessed policy-relevant questions. Further provisions and protective characteristics were considered for analysis, by reviewing the literature for evidence of key services that have shown associations with improved schooling for adolescent mothers in South Africa. Finally, analyses were refined based on feedback from DBE

consultations, and on conversations with experts in the field and adolescent mothers themselves.

5.1 Methods

5.1.1 Study setting, sample, and data collection procedures

Between 2017 and 2019, we interviewed 1,046 adolescent mothers from rural and urban communities of South Africa's Eastern Cape. All participants had their first pregnancy before the age of 20, but were aged up to 24 years at the time of data collection. Based on formative work with an advisory group of adolescent mothers, and using six parallel recruitment channels (maternity obstetric units, health facilities, secondary schools, referrals by social workers, door-to-door recruitment, community referrals), 96% to 98% of all eligible mothers identified through each channel were successfully enrolled in the study. Participants were interviewed in private spaces in and around their own home, or in a place of their choosing (see Toska et al., 2022; and Jochim et al. (2022) for a more detailed description of the methodology).

5.1.2 Scales and measures

5.1.2.1 Policy-aligned goals.

Based on the DBE Policy goals, and our available data, we chose three outcomes: (1) School return after birth was assessed by one binary item which captured whether the adolescent mothers returned to school after the birth of their first-born child; (2) Grade promotion was assessed by one binary item which assessed whether mothers who had not already completed primary and secondary education had passed a grade in the year prior to the data collection; and (3) Condom use was assessed by one binary item which captured that the participant practised safe sex (i.e., condom use) during their last sexual experience. This variable was chosen to capture preventing both pregnancies as well as the transmission of HIV.

5.1.2.2 Policy-aligned provisions and protective characteristics

Seven potential protective provisions and services were tested: *(1) Friendly and respectful health staff* was assessed by a composite score of 13 items, co-developed with young people during piloting, which captured how adolescent mothers were feeling when they visited clinics (e.g., ashamed, scared, worried) and their experience of staff when using health services to access contraception (e.g., unhelpful, too busy, angry); *(2) Antenatal care services* were assessed by assessing if participants had their first antenatal care appointment for their first-born child within the first trimester, and received at least five visits throughout their pregnancy; *(3) Formal Day care/Crèche/ECD centre use* captured formal

day care/creche use for the first-born child in each family; *(4) Confidence and self-efficacy* were assessed by four items capturing self-efficacy (e.g., I can achieve my goals) and four items assessing positive attitudes towards the future (e.g., I will have a good job). After determining the psychometric properties, sum scores were calculated to create a final continuous scale (range: 0-24); *(5) School attendance during pregnancy* was assessed by one item capturing if the adolescent dropped out of school any time before the eighth month of the pregnancy; *(6) Child support grant receipt* was assessed by one item capturing receipt of the grant for the oldest child in the family; *(7) Community-based collaborations and support* was assessed by one item which captured if the participant had any interaction with local organizations, community-health workers, or social workers.

5.1.2.3 Covariates

Thirteen sociodemographic covariates were included in all analyses. They comprised participants' age at pregnancy of the oldest child, age at the time of the interview, child age, being the primary caregiver of the child, HIV status, rural/urban residency, orphanhood (maternal or paternal), poverty (living in informal housing, and past-week food insecurity), distance to school, household size, number of children per adolescent mother, and grade delay at the onset of the pregnancy.

5.2 Key findings

5.2.1 School enrolment, school return, and grade promotion

Of the seven hypothesized provisions and protective service variables, four were significantly associated with higher likelihood of at least one outcome. First, higher odds of school return were associated with using day care/crèche services (AOR: 3.07. 95% CI 1.72-5.46, $p < 0.001$), higher confidence and self-efficacy (AOR: 1.09, 95% CI 1.01-1.17, $p = 0.020$) and school attendance during pregnancy (AOR: 7.05, 95% CI 4.33-11.47, $p < 0.001$). Second, higher odds of grade promotion were associated with greater scores of exposure to friendly and respectful health staff (AOR: 1.25 95% CI 1.08-1.46, $p = 0.004$), using day care/creche services (AOR: 1.61. 95% CI 1.02-2.51, $p = 0.038$), higher confidence and self-efficacy (AOR: 1.07. 95% CI 1.01-1.14, $p = 0.029$), and school attendance during pregnancy (AOR: 2.69, 95% CI 1.71-4.23, $p < 0.001$). Third, higher odds of condom use were associated with exposure to friendly and respectful health staff (AOR: 1.14. 95% CI 0.99-1.31, $p = 0.054$) though this was just over the p=0.05 cut-off for significance for this analysis.

The adjusted probability for each policy goal was estimated to be higher for a scenario in which participants receive all the identified services versus receiving

none of the services. Without any services, the adjusted probability of school return was 39.72%, whereas with all four services it was 92.09% Without any services, the adjusted probability of grade promotion was 36.62%, whereas with all four services it was 78.67%. Without any services, the adjusted probability of pregnancy/HIV prevention was 55.22%, whereas with all four services it was 66.76% (See Figure 2 below).

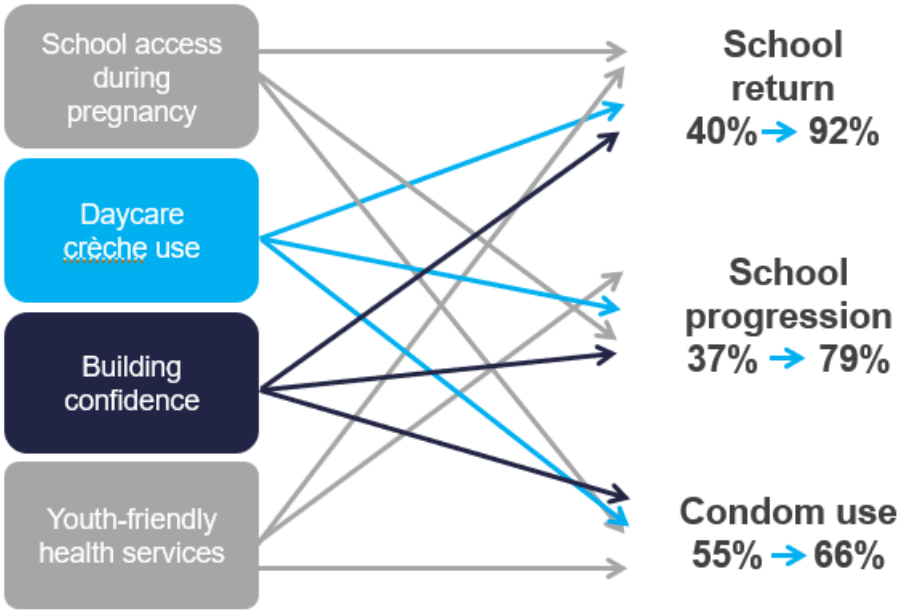

Figure 2: Associations between policy-aligned protective provisions and school and health outcomes

Therefore, there is support for a care package which contains a set of complementing services – the receipt of friendly and respectful health staff, school attendance during pregnancy, confidence and efficacy strengthening, and access to day care services – to improve educational outcomes and provide a means to pregnancy and HIV prevention. Most of the identified protective characteristics can be integrated into already existing services, rendering a service package as a cost-effective mechanism.

6. PRONG 3: Design incubators

The design incubators were informed by 14 years of work (2008 to present) with adolescent advisory groups in South Africa (Cluver et al., 2021; Gittings, Medley et al., 2022; Gittings, Ralayo et al., 2022). The incubators also built on the aforementioned quantitative data analysis (Jochim et al., submitted for publication), and were co-conceived and co-generated with adolescent and young

mothers. The incubators explored priorities and provisions that support or hinder young mothers' educational attainment.

The findings from our quantitative data analysis informed two phases of participatory engagement with our Eastern Cape-based Teen Advisory Group (TAG): (1) remote engagement through a private Facebook Group (n=7); and (2) in-person engagement through a weekend workshop (n=13), which enabled both co-construction and contextualisation of support priorities for return to school, and identification of design considerations, in partnership with young research advisors.

The case for meaningful participation of adolescents and young people in intervention design is well-documented in theory (Cahill & Dadvand, 2018), policy (South African Schools Act, 1996; DBE, 2013), evidence (Ozer, 2017) and practice (Gavin et al., 2010) as a key strategy for achieving adolescent health and development. Recent literature also demonstrates that participation of adolescents in the design of health programmes increases the likelihood of acceptability and scalability of programmes, by addressing potential barriers that might prevent adolescents from using the intervention (Mannell et al., 2019; Somefun et al., 2021).

6.1 Methods

6.1.1 Study design

The design incubators applied participatory qualitative methods to understand the multi-level influences that enable or constrain adolescent mothers' ability to stay in school, keep up with school, and go back to school during and soon after pregnancy.

To collaboratively explore the individual-, relationship-, and community-level factors and lived experiences that influence adolescent mothers' schooling and learning journey during pregnancy and early motherhood, this participatory methodology drew on two conceptual frameworks, which were used for study design and thematic analysis: an ecological framework oriented towards building enabling environments for adolescent sexual and reproductive health and development (Svanemyr et al., 2015), and socio-ecology theory specific to the multi-level factors and longer-term trajectories that influence adolescent mothers' school return after birth, as adapted by Jochim et al., 2021. One to one phone calls with TAG young mothers were also held to elicit their preferences about how methods would be applied remotely and in-person.

6.1.2 Young research advisors

Participants for the design incubators were recruited from a cohort, established in the Eastern Cape province in 2019, of TAG advisors (n=17) who were originally recruited from two existing observational cohort studies based in the Eastern Cape (Toska et al., 2020). The objective of TAG is to co-generate empirical research questions and data, and co-develop participatory and arts-based methods that are tested and applied with young people as co-leaders of the research process (Cluver et al., 2021). The study team recruited young research advisors through cell phone calls and, with consent, through the establishment of a private, closed Facebook group (n=7) for introductions, development of a safe space for discussion, participatory engagement, and data collection, in preparation for the in-person participatory workshop (n=13).

6.1.3 Data collection procedures

Engagement and communication strategies were similar to those that have been applied historically with TAG research advisors, including the use of social media (Cluver et al., 2021; Gittings, Medley et al., 2022; Gittings, Ralayo et al., 2022). We used a phased, iterative approach, starting with remote participation focused on rapport-building, participatory and critical interpretation of our data analysis, and establishing groundwork for in-person design. We transitioned to an in-person workshop which encouraged participatory policy engagement, and explored package design features and considerations – i.e., barriers and enablers, role-players and key stakeholders – across each level of the theorized social ecological 'system' (Singh & Mukherjee, 2018 as adapted by Jochim et al., 2021).

6.1.3.1 Remote methods

After consultation with young research advisors, Facebook was identified as a feasible and preferred medium for consistent engagement. Evidence from our past work has shown that the use of closed Facebook groups with young people has proved to be acceptable, with young research advisors expressing comfort, safety and ease with expressing themselves (Gittings, Medley et al., 2022). At the beginning of each week over six weeks, participatory activities with instructions and prompts were posted for young research advisors. The research team made weekly check-in phone calls to Facebook group members, to answer questions, assist with referrals if needed, and to encourage them to participate in the posted activities in their own time. Remote activities included interpersonal rapport-building activities and also prompted critical reflection and discussion of our quantitative data analysis and evidence review. These activities were guided by illustrations developed by a local artist with input from young mothers, and an accompanying series of vignettes entitled "Anathi's Story" (see Figure 3 below).

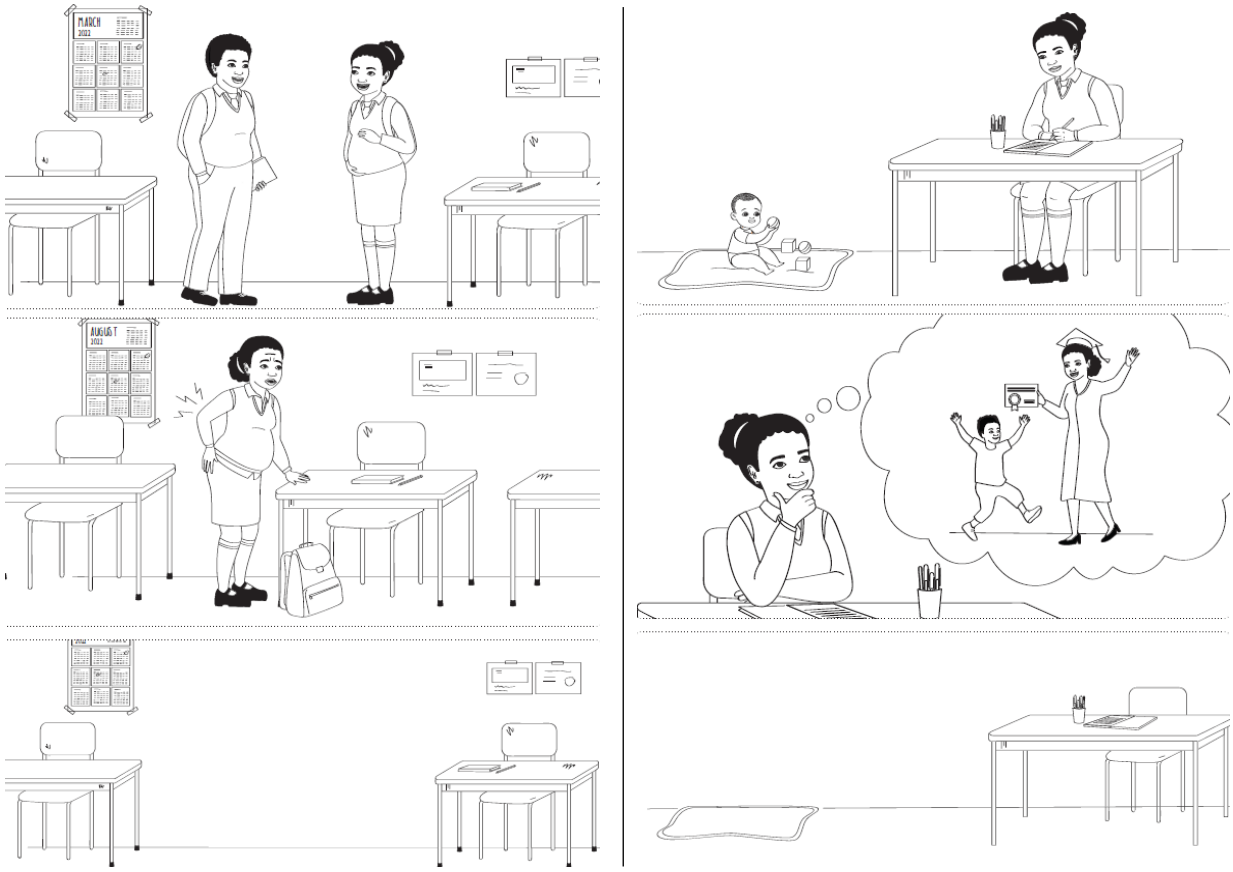

Figure 3: Anathi's story: Example illustrations developed by Orli Setton, visual knowledge translator. These were informed by findings from Prong 2 (Quantitative Data Analysis). The first aimed to capture schooling access during pregnancy, and the second building confidence.

6.1.3.2 In-person methods:

During the 6-week remote activities, young research advisors made suggestions about activities for the in-person weekend workshop and two young mother advisors provided initial feedback on participatory research activities. In conjunction with facilitated discussions and silent reflection sessions focused on DBE Policy provisions and preferred implementation features, the research team facilitated creative priority-setting and collaborative design activities entitled "Dreamy Care Package", where school- and community-based sites and pathways of support were visualised, discussed and constructed using arts-based materials and methods. This concluding method draws on the established utility of participatory visual methodologies in health research with young people (Hodes et al., 2018) (see Figure 4 below for photographs from our in-person session).

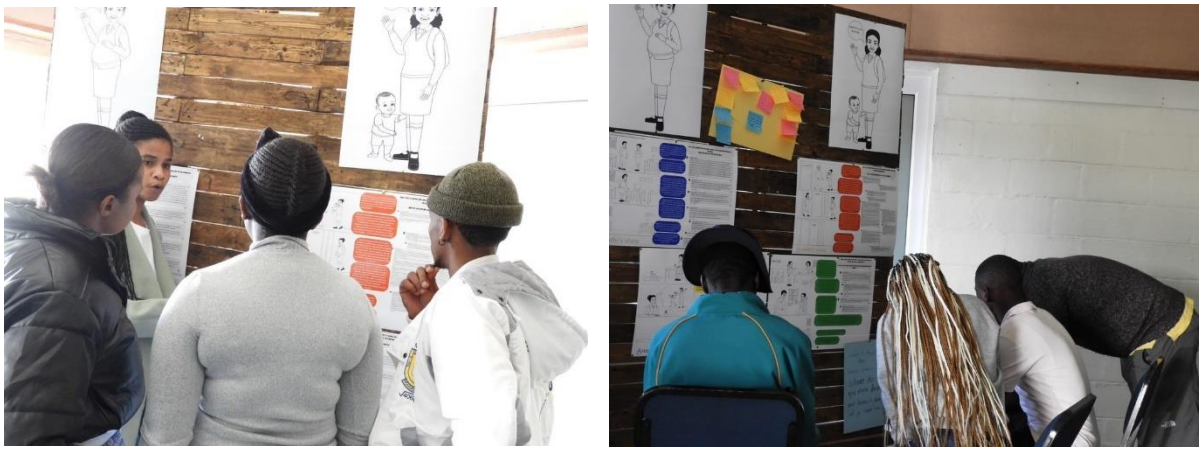

Figure 4: Young research advisors from TAG participating in a Gallery Walk, where they are reviewing and commenting on the remote participatory activity about a young pregnant and mother learner: Anathi's Story.

6.2 Key takeaway findings

6.2.1 Pregnancy is a stressor

6.2.1.1 Fear, judgment and social scrutiny

Young research advisors described an emotional process of being socially scrutinized by people at various sites in their lives: by parents, community members, peers, and educators. Advisors further described the way those involved influence each other, and how they feel as if they are the central focus of this process. They described different circumstances, both from personal experience and speculatively, about what these people do when they judge, the ramifications felt by young people, and what is considered good treatment. Feeling judged or judgemental treatment was described in the form of gossip, explicit rejection, and strong influences of morality on pregnant learners.

6.2.1.2 Community influence

A lot of emphasis was put on the community and the power of influence it has over learners' parents, for example. In addition to gossip about pregnant learners, parents are also subject to gossip and, as a result, the learner potentially has another level of scrutiny to deal with inside the home. Young research advisors described a tacit process where judgement that circulates in the community upsets the household- and family-dynamic, and eventually affects their schooling experience. The power of the community demonstrated how deeply embedded the societal norms are in the process of judgment, and how judgment is passed through and onto other individuals and settings.

> When the community is looking at you in that way like that you've disappointed your parents and then like so ever if you're walking in the street like they judge you they do funny things to you…like they gossip and stuff, and you also feel small firstly…And then the image from home, they won't look at you the same way…and also at home, your parents, they will turn they will have anger towards you…even if they've forgiven you they must also have attitudes because you've…made people look down on them. Yes! You've made people look down on them now, their dignity is no longer there…at school it could also affect you. Your schoolwork ends up being interrupted and you become a dropout, you see?...The community is strong because they change the way they act. Your home also starts being looked down on, your parents become disappointed in you…And they also end up treating you another way then immediately at school as well so it all links, the community. [Male, 22 years old; Male, 21 years old; Male, 25 years old, Group interview]

6.2.1.3 Disclosure to family

Young research advisors expressed concern about how their family would handle the news of pregnancy at a young age, making it difficult to report the pregnancy to parents; they expressed shame over the experience and prospect of disclosure. These advisors felt that it would be better to seek help from social workers, teachers and neighbours. When advisors did disclose pregnancy, they did so with fear and caution. Some advisors described family members as unsupportive and judgmental, while others had neutral or positive experiences at home. Support was expressed as a critical component of their journey towards the goal of keeping up with and returning to school.

> At home they knew that I was pregnant before I even I knew it myself. They knew, so there was not much spoken about it, there was no arguing, you see? Yes, they were excited. [Young mother, 20 years old]

> Something that can make them pass is if their parents are supportive and encourage them that school is important, I think they would feel better and be more focused on their schoolwork… [Male, 22 years old, Anathi's story]

6.2.1.4 Self-care and resilience strategies

Young research advisors shared their own experience with being young and pregnant, or young parents, and how they were able to turn adversity into motivation to strive for a better future.

> There was no one that I would chat with and make remarks that I am pregnant and all that at school. With the community, even the people in the community, maybe it is because I don't like talking, there is no one who has judged me or asked me questions, such as why things are like this. No! I was alright and I was happy throughout my whole pregnancy. [Young mother, 20 years old]

> So the one who already knows is supposed to be teaching the one who doesn't know but now unfortunately I didn't received that luck because I learned everything myself and then I saw how strong I am and that also helped me because now I can, even though I haven't had a second child, I still can. Like, those mistakes that I made… During that experience maybe I made mistakes …Maybe I can correct them better this time. [Male, 25 years old, Group interview]

When faced with difficult scenarios, young research advisors often self-motivated to take action, or recommended learning and adaptation strategies as part of Anathi's Story.

> Hey guys, I really like how motivated Anathi is. And hope she will remain strong when those days of feeling alone and full of doubt come creeping every time her things don't go as planned, so realistically speaking for her story to go as she plans she needs to implement little steps that will help her achieve her goals and stick with them. For an example she needs to set an achievement mark for each and every assignment and test she writes at school to get the highest mark every time so for that to happen she needs to have a study table set around her baby's time must be realistic maybe 2-3 hours after school studying then rest everything else she must do within her school hours.... If you fail to plan you plan to fail easy. [Male, 23 years old, Facebook]

6.2.1.5 Vulnerability necessitates government support

Young research advisors identified the necessity of government support for those who struggle to make ends meet. Within their communities, family and extended support network, unemployment or incomplete schooling hinders young learners' ability to draw on people close to them for financial and resource support, including support to advisors' identified potential cycles of vulnerability that

pregnant learners or young mothers can fall into, like dropping out of school. While social grants help, advisors identified additional means of support that government can fulfil, including programmes that encourage previous dropouts to return to school, and ensuring support for both young mothers and their children.

> And also, I think government can have a helping program for young or teen that are still in school by bring them support for baby needs. [Talking wall, Anathi's story]

> I think government can encourage students to return to school by including sponsors at schools, then students with babies can also make use of them and when there is a sponsor at those schools the pass rate may rise as well. Secondly, Government can advertise ABET[1] schools to dropouts because for some it is difficult to return to school because of age they say they are old and are embarrassed to wear a school uniform so they advertise and release Posts for registration and call people for explaining how it works, to give the students a guide, everything they do must be clear to them so that they are not lost when they are going to study and also to explain how to study and when the time to study will be; I think the students will be eager to study again. [Male, 22 years old, Facebook]

6.2.2 School-centred systems of support and pregnant learner monitoring

Young research advisors described support figures, services and a system of multiple influential stakeholders that pregnant and mothering learners rely on, confide in, report pregnancy to and turn to for support throughout pregnancy and early motherhood. These are people at school, or central to their schooling journey, who can help lessen the burden of pregnancy and motherhood so that the learner can focus on school and manage fatigue, and physical or mental illness, which advisors said could lead to premature dropout.

6.2.2.1 Social workers know about those who struggle

Social support by social workers were described consistently by young research advisors as a central part of support structures, and as links between school and home, from identifying and reporting a learner pregnancy to supporting the

[1] Adult basic education and training is the general conceptual foundation towards lifelong learning and development, comprising knowledge, skills and attitudes required for social, economic and political participation and transformation applicable to a range of contexts. ABET is flexible, developmental and targeted at the specific needs of particular audiences and, ideally, provides access to nationally recognised certificates. (https://abet.co.za/about-abet/)

learner throughout pregnancy into early motherhood. Social work was described as a process that can influence the mental well-being of pregnant learners, by providing a safe space for self-expression. Some of the advisors shared high expectations of social workers and describe multiple services that they already do or should provide; sometimes these services are accessed in coordination with school. Other advisors describe social workers as a proxy for family, where family support is not available.

> Where would we find/receive this things/how would we like to receive it...social worker from department. Someone like a social worker who I can talk to. [Young women, 23, 21, 21 and 19 years old, Dreamy Care Package]

> … support from a social worker because a social worker can help her with someone who can look after her baby in the community while she is at school and can help her find counselling so she can express her-self and be free around other children [Male, 22 years old, Facebook]

> There should be a link between social worker at clinic and school. [Talking wall].

6.2.2.2 Peer networks – friends, but fickle

Young research advisors described friends as those who will not get tired of helping you. Friends were given different attributes – they are there to help and have a closeness to their peers because of age, life phase and the like. Being able to confide in a friend is invaluable as they are seen to have less reason to judge you than family or community. However, there is no guarantee friends are nearby or willing to actively support pregnant learners. An advisor described school friends that distanced themselves from her and ridiculed her for falling pregnant. Friends play an important role in learner disclosure and support, but they are not necessarily a consistent factor in learner support.

> Yes, I continued with school…I was not too behind at school, because, because I…, I left for two weeks only. Two weeks only, so I went back and I catched up because my friend...would bring me homeworks and things they were doing at school. So, I was not too behind. [Female, 20 years old, Group interview]

> *Prompt: Who is responsible for supporting a pregnant learner while she is at school?*

> Young research advisor 1: A friend that you trust at school, someone who won't make fun of you.

> Young research advisor 2: A close friend that won't get tired of you or someone you trust that will not get tired to help you. [Talking Wall]

6.2.2.3 School leadership and teachers

Teachers were mentioned by most young research advisors as important sources of support during pregnancy, while one young mother shared a negative formative experience. Some advisors held gendered expectations of care and support at school: they believed that female teachers would understand and be able to assist a pregnant or mother learner at school, mainly because they are thought to be parents themselves and can therefore relate to pregnancy.

> There are teachers that approachable, then you can go tell your problem to her and then she, as a parent, because she is a parent [Male, 22 years old, Group interview]

> No one is judging anyone, we are always chatting, even with the teacher, there was no teacher that ever judged me. [Young mother, 20 years old, Group interview]

> *Young research advisor 1: When you were pregnant who was your supporter, at school, in the house and from the community?*
>
> Young research advisor 2: ...at school at was my teacher, my class teacher, this other one Xhosa teacher [inaudible background voice] and life science class teacher, I don't want to lie shame. And then from the community there was no one because they are gossipers only… [Young mother, Group Interview]

However, similar to peer networks, experiences of support differed between respondents. One young mother described a paucity of support from teachers that led her to leave school during pregnancy.

> Ok at school...I did not get any support at school. I didn't get any, because they used to make fun of me, that I got pregnant, even the female teachers. So, I was forced to drop out of school, and I quit. So, I did not get any support. [Young mother, Group interview]

6.2.2.4 Mothers and other caregivers

Young research advisors described many female figures: a mother, a sister and an aunt, who provided psychosocial and financial support during pregnancy and in early parenthood, and who sometimes provided childcare and maintained connection with their schools. In development of their Dreamy Care Packages

(see Figure 5 below for an example), young mothers included parental support with the qualification ‘mostly mom’.

> The person who was supporting me, was my mother at home, she used to do everything for me, accompany me to the clinic and everything else. [Young mother, 20 years old, Group interview]

Figure 5: Young mothers, 24, 23, 21 and 20 years old, Dreamy Care Package activity

The only male figure identified was the father of the child who, if willing, would fit within that support network. Advisors further described having the expectation of support from parents, but were also met with refusal to acknowledge their need for help.

Care and support, at times, came from unlikely places like a neighbour or a friend’s parent. This demonstrates the unique composition of care and support constellations in young learners’ lives and the gaps that may exist within family networks.

> It’s...it’s my neighbor...Because I trust them so much and my family doesn’t care, especially my father. So, I would ask my neighbor. [Female, Group interview]

6.2.3 Childcare access and return to school

6.2.3.1 Burdensome but essential expense

Young research advisors expressed the importance of using childcare, but said that the current level of the child support grant would not be sufficient for them to cover basic needs in addition to childcare. Advisors described the need for increased financial and psychosocial support from government, in order for pregnant learners to thrive. Social grants and government sponsored childcare and support administered by social workers were consistently included in their Dreamy Care Packages. In combination, advisors felt these services would enable a young mother to return to school after the birth of her child. This would further enable her to realise personal ambitions in future, so that she can better provide for herself and her child.

> I think Anathi will end up staying at home and looking after the baby if she does not get the right person for staying with the child while she is at school. [Young mother, 25 years old, Anathi's story]

> Where would we find/receive this things/how would we like to receive it...ECD voucher for taking child to school from department of education. [Young women aged 23, 21, 21, 19, Dreamy Care Package]

> What needs will we have. That is where the issue regarding children who go to creche will become apparent; that, no, the child has food, the grant that I receive from the government is not enough because I buy food, I buy nappies, I even buy the child's clothes. Again, I must pay where? The child's fees at creche. And I am also studying, there is nowhere I get money from; my parents are unemployed. [Male, 25 years old, Interview]

> Anathi will continue schooling and Hlumisa side she will be in need of government support towards Hlumisa's care guidance while she is at school. [Anathi's story]

6.2.3.2 Securing future visions and dreams

While the burden of expenses compounding the stress of pregnancy and employment emerged strongly, it was clear that young research advisors felt that childcare access would enable learners to return to and progress with school. Childcare was an important solution proposed for young mothers: in response to Anathi's story, advisors were able to share coping strategies and encouragement for the pregnant learner by drawing on their own life experience. The confidence conveyed in this support service was coupled with a sentiment of great optimism about learner mothers still being able to achieve their aspirations and goals.

> Anathi she has to keep on focus on school yes we understand that it's difficult cause she is a single parent but ...bear in mind...if she can use that as a drive that she strive for best to become successful in life and give her child a beautiful life she wish she can give to her child and have a good bond together. [Male, 25 years old, Facebook]

7. Synthesis of findings: supporting pregnant and mother learners' return to school

Drawing on findings from our evidence review, quantitative data analysis and design incubators, supporting pregnant and mother learners' return to school should incorporate four interrelated intervention components: (1) actively supporting pregnant and mother learners in the school system, (2) case management, (3) peer-based support, and (4) strong partnerships and referral mechanisms. While these intervention components are targeted at the pregnant and mother learner, we draw on an ecological model (Svanemyr et al., 2015) in our framing of recommendations, recognising that the pregnant and mother learner falls within an interdependent network of relationships and systems. This includes (for example) relationships with her caregivers, family members, peers, partner, and broader community. It also includes schooling, social services, and health systems. An intervention's success is contingent on these key relationships and interlinking systems being taken into consideration. Testing whether an intervention consisting of one or several of these components is effective in improving return to school among adolescent mothers is critical. However, in order to support scale-up, where possible we make suggestions for how our recommendations can be integrated into already existing structures and services.

7.1 Actively supporting pregnant and mother learners in the school system

The DBE Policy assigns School-Based Support Teams (SBSTs) responsibility for managing the care and support response for learner pregnancy. The school principal is responsible for the establishment of the SBST, and its core members include a representative from the School Management Team (SMT), the SBST coordinator, representatives from each Grade or Phase, and learning support teachers, where appropriate (Inclusive Education South Africa, 2018). SBSTs oversee health promotion and inclusive education activities to ensure comprehensive healthcare, and psychosocial and educational support, for pregnant and mother learners. Within the context of the DBE Policy, the Learner Support Agent (LSA) works directly with the Life Orientation (LO) teacher to provide individualised support to pregnant and mother learners. The LO teacher functions as the overall coordinator, and facilitates referral to the social worker

and the school-based nurse (if there is one available). The social worker is responsible for onward referrals and linkages to social and health services.

As our quantitative data analysis findings show, mother learners who attended school while they were pregnant were more likely to return to school after giving birth, and had higher odds of grade progression. In addition, some young research advisors saw female teachers at school as a relatable source of support, mainly because they were thought to be parents themselves and would therefore be able to have a sympathetic relationship with a young mother; however, the negative experience of one young mother advisor highlighted the risk posed to pregnant learners by unsupportive teachers. This emphasises the importance of fostering an environment in which pregnant and mother learners feel supported to return to school. Members of the SBSTs and SMTs have a crucial role to play here, especially in creating an environment that is free of stigma and discrimination, and that is supportive, positive and enabling.

There are several ways in which members of SBSTs and SMTs can support pregnant and mother learners, including ensuring their members or school staff are actively listening to and engaging with these learners, being empathic and compassionate to the challenges they may be facing, taking responsibility for their educational outcomes, advocating for them, addressing potential bullying, and promoting prosocial bonding (Jefferis & Theron, 2017).

7.2 Case management

While all members of SBSTs and SMTs have a role to play in supporting pregnant and mother learners, it is also important for this support to be anchored, initiated and facilitated by a central individual within the school staff. This should be a permanent system driven by a relatable individual with sufficient responsibility and autonomy, but supervised by existing school governance and management structures, with well-established referral protocols and a supervision structure in place to support them. In many schools, this may well be the LSA or LO teacher.

Our design incubator findings highlight a constellation of multiple actors who perform different kinds of identification and monitoring of learner pregnancy, and are located in the school, community and at home. We recommend that monitoring strategies be bi-directional in that they should clarify how learners will receive support from school and other support services, but also require feedback from the learner's home while the learner is away from school. The family should ideally be involved in the case management process, and be empowered to support the learner, especially in light of the stigma they may face from fellow community members. Importantly, learner monitoring can create a mechanism for school stakeholders to respond to markers of possible dropout.

The DBE Policy implementation guidelines provide flexibility with respect to maternity leave, noting that in the case of a healthy pregnancy and birth, a learner mother may need to miss three months of school (one month prior to birth delivery and two months post-delivery). However, it recognises that health complications or circumstances at home may further delay return to school. Thus, capacity for learning and management of schoolwork will vary significantly during late pregnancy and early motherhood. It is also important to allow the learner mother enough recovery and bonding time postpartum, and provide a supportive environment for breastfeeding and making childcare arrangements (Hunter-Adams et al., 2022).

Our young research advisors had several solutions for educators to adapt teaching and learning, including the use of online learning, a tutor, and engaging peer networks to receive lessons, homework and other school materials in order to stay current and to ease the return to school. LSAs may be well-positioned to manage this process while being directed by a teacher, given their similarity to social workers, their involvement in peer networks, and their mandate to provide teaching, learning, care and psychosocial support for learners experiencing social, health and behavioural barriers (Chinyama et al., 2020).

7.3 Peer-based support

The effectiveness of peer-based support programmes – if properly designed and implemented – is well-established in the literature: Peer education programmes have been found to contribute to an increase in self-efficacy, improved communication skills, higher levels of HIV and SRH knowledge, and changes in sexual behaviour, including increased use of sexual and reproductive health services, condom use, and delaying sexual activity (Aninanya et al., 2015; Cowan et al., 2010; DBE, 2011; Hallman & Roca, 2011).

The implementation of peer-based support programmes in South Africa is supported by a sound policy framework including the South African Schools Act, the Education White Paper 6 (Department of Education, 2001), the Integrated School Health Policy, and the national policy for a Representative Council of Learners (RCL). Peer education is a process whereby trained supervisors support a group of suitable learners to educate their peers in a structured way, role-model health behaviour informally, recognise youth in need of additional help and refer them for assistance, and advocate for resources and services needed by young people (DBE, 2011).

According to the Programme Managers Guide for Peer Education Programmes for Learners in South African Schools (DBE, 2011), peer-based support should be institutionalised as part of the learner leadership development programme, which often falls under the auspices of the RCL. With RCL support and under the

supervision of the LO educator, peer educators can organise needs assessments, decide on what programmes should address, select peer educators, and organise peer education sessions in schools. Peer education programmes can play an important role in supporting pregnant and mother learners – and learner fathers – by creating a safe space for candid and genuine exploration of issues and challenges they may be facing. The effectiveness of this approach lies in the notion that people often learn best when taught and supported by others similar to themselves (DBE, 2011). However, the selection, training and supervision of peer educators needs to be undertaken carefully following well-thought-out protocols for recruitment, training, supervision, mentorship and graduation.

7.4 Strong partnerships and referral mechanisms

As is made clear in the DBE Policy, pregnant and mother learners will require support that goes beyond the school setting – including access to health and social services. Findings from our evidence review, quantitative data analyses and design incubators highlight the crucial role that having access to childcare and other forms of social assistance plays in a successful return to school. Indeed, South African data show that the likelihood of re-entering the education system decreases when childcare support is not available in the home, and for every year that teen mothers remain outside the education system (Lamb & Markussen, 2011). Our quantitative data analysis also highlights the role that accessing friendly health services plays in supporting a learner's return to school and grade progression. Further, adolescent-friendly health services play an important role in fostering positive health outcomes. For example, South African young people's perception of healthcare providers who had time for them and who were kind to them was associated with 2.5 times the odds of retention in HIV care (Cluver et al., 2018).

Forming strategic partnerships with the social and health sector and instituting strong referral mechanisms are thus critical. The pregnant or mother learners' case management team should work closely with the SBST social worker, who is responsible for onward referrals and linkages to social and health services. The case management team should establish whether the mother learner has access to proper childcare support (for example, through their own caregiver or family member) and, if they do not, the case management team should facilitate referral to a childcare facility through the social worker.

Given the financial implications associated with having a child and the strain this may cause a young mother in her return to school (as recognised in our design incubator findings), the case management team should also facilitate referral to SASSA (South African Social Security Agency) for the child support grant. Case management (and referrals) should begin early in the pregnancy as delayed applications for things like the child support grant may prevent the learner mother

from accessing childcare and other resources. It is important to note that many interventions identified through our evidence review include a financial incentive component. Further, young research advisors discussed how the child support grant alone is not enough to support themselves and their children, especially in cases where other family members are not employed.

The case management team should also play an active role in facilitating referrals to health services, including to prenatal and antenatal care, HIV testing and counselling services, and any other maternity-related care. As acknowledged in the DBE Policy Implementation Guidelines, where there is a positive relationship between the learner mother and the biological father, inclusion of the father in these health-related visits should be encouraged.

8. Conclusion

This paper has brought together findings from an evidence review, quantitative analysis of a longitudinal cohort study with adolescent mothers, and participatory activities with young research advisors to propose a support package for pregnant and mother learners' successful return to school, which should encompass: (1) strengthening multi-stakeholder school structures, (2) case management, (3) peer-based support, and (4) strong partnerships and referral mechanisms. These recommendations are evidence-informed, data-driven and speak to the needs of adolescents and young people themselves. They are also in line with the DBE's Policy on the Prevention and Management of Learner Pregnancy in Schools, as well as the Integrated School Health Plan, both of which are designed to achieve national-level policy impact on good health and well-being, quality education, and gender equality.

Implementing these recommendations at a school level – especially in resource-constrained settings – is urgently needed but may be difficult due to a series of reasons. While many of our suggestions can be integrated into existing services and support structures, their feasibility and acceptability – both for education stakeholders and learners themselves – should be explored, ideally across different school settings. These integration opportunities should be identified – and where not possible to implement all, prioritised – through stakeholder engagements which span pre-, during and post-rollout and include adolescent mothers as active co-designers. To assess effectiveness and identify ways to refine the interventions, each adaptation should involve strong monitoring and evaluation mechanisms, implementation-science research, as well as costing analysis to support scale-up. Finally, this work needs to centre on the overall well-being of adolescent mothers to help them develop and thrive, and on the intergenerational impacts on the lives of their children.

References

Amoateng, A.Y., Ewemooje, O.S. & Biney, E. 2022. Prevalence and determinants of adolescent pregnancy among women of reproductive age in South Africa. *African Journal of Reproductive Health*, 26(1), 82-91. Available: https://www.ajrh.info/index.php/ajrh/article/view/3087/pdf [2022, December 08].

Amongin, D., Kågesten, A., Tunçalp, Ö., Nakimuli, A., Nakafeero, M., Atuyambe, L., Hanson, C. & Benova, L. 2021. Later life outcomes of women by adolescent birth history: analysis of the 2016 Uganda Demographic and Health Survey. *BMJ Open*, 11(2). DOI: https://doi.org/10.1136/bmjopen-2020-041545

Aninanya, G.A., Debpuur, C.Y., Awine, T., Williams, J.E., Hodgson, A. & Howard, N. 2015. Effects of an adolescent sexual and reproductive health intervention on health service usage by young people in northern Ghana: a community-randomised trial. *PLoS ONE*, 10(4). DOI: https://doi.org/10.1371/journal.pone.0125267

Barron, P., Subedar, H., Letsoko, M., Makua, M. & Pillay, Y. 2022. Teenage births and pregnancies in South Africa, 2017-2021 – a reflection of a troubled country: analysis of public sector data. *South African Medical Journal*, 112(4), 252–258. DOI: https://doi.org/10.7196/SAMJ.2022.v112i4.16327

Bekker, L., Herman, C., Ahmed, N., Pike, C., Naledi, T., Robbertze, D. & Smith, P. 2019. *Zimele project APPRAISAL: 2016-2019*. 2020 Report. Desmond Tutu HIV Foundation. Available: https://desmondtutuhealthfoundation.org.za/wp-content/uploads/2020/12/Zimele-16.11.pdf [2022, November 24].

Bos, J.M. & Fellerath, V. 1997. LEAP: *Ohio's welfare initiative to improve school attendance among teenage parents. Ohio's learning, earning, and parenting program*. Final report. New York: Manpower Demonstration Research Corp. Available: https://files.eric.ed.gov/fulltext/ED411579.pdf [2022, November 24].

Branson, N., Ardington, C. & Leibbrandt, M. 2015. Health outcomes for children born to teen mothers in Cape Town, South Africa. *Economic Development and Cultural Change*, 63(3), 589-616.

Cahill, H. & Dadvand, B. 2018. Re-conceptualising youth participation: a framework to inform action. *Children and Youth Services Review*, 95, 243-253. DOI: https://doi.org/10.1016/j.childyouth.2018.11.001

Chen, X.K., Wen, S.W., Fleming, N., Demissie, K., Rhoads, G.G. & Walker, M. 2007. Teenage pregnancy and adverse birth outcomes: a large population based retrospective cohort study. *International Journal of Epidemiology*, 36(2), 368-373. DOI: https://doi.org/10.1093/ije/dyl284

Chinyama, N., Rembe, S. & Sibanda, O. 2020. Strategies used by peer-led groups in the provision of psychosocial social support in schools. *The Independent Journal of Teaching and Learning*, 15(2).

Cluver, L., Doubt, J., Wessels, I., Asnong, C., Malunga, S., Mauchline, K., Vale, B., Medley, S. et al. 2021. Power to participants: methodological and ethical reflections from a decade of adolescent advisory groups in South Africa. *AIDS Care - Psychological and Socio-Medical Aspects of AIDS/HIV*, 33(7), 858-866. DOI: https://doi.org/10.1080/09540121.2020.1845289

Cluver, L., Pantelic, M., Toska, E., Orkin, M., Casale, M., Bungane, N. & Sherr, L. 2018. STACKing the odds for adolescent survival: health service factors associated with full retention in care and adherence amongst adolescents living with HIV in South Africa. *Journal of the International AIDS Society*, 21(9), e25176. DOI: https://doi.org/10.1002/jia2.25176

Cowan, F.M., Pascoe, S.J.S., Langhaug, L.F., Mavhu, W., Chidiya, S., Jaffar, S., Mbizvo, M.T., Stephenson, J.M., Johnson, A.M., Power, R.M., Woelk, G. & Hayes, R. J. 2010. The Regai Dzive Shiri project: results of a randomized trial of an HIV prevention intervention for youth. *AIDS*, 24(16), 2541–2552. DOI: https://doi.org/10.1097/QAD.0b013e32833e77c9

Department of Basic Education [DBE]. 2011. *Guidelines for the implementation of peer education programmes for learners in South African schools. A guide for programme managers*. Pretoria: Department of Basic Education.

Department of Basic Education [DBE]. 2013. Representative Council of Learners Policy. (Unpublished.)

Department of Basic Education [DBE]. 2019. *Standard Operating Procedures for the provision of sexual and reproductive health, rights, and social services in secondary schools*. Department of Basic Education. Available [for Eastern Cape province]: https://www.eccurriculum.co.za/Circulars/2019_Circulars/Circular%2018%20of%202019%20SOPs%20Sexual%20and%20Reproductive%20Health%20Rights%20and%20Social%20Sservices.pdf [2022, December 08].

Department of Basic Education [DBE]. 2021. Policy on the Prevention and Management of Learner Pregnancy in Schools. Available: https://www.gov.za/sites/default/files/gcis_document/202112/45580gen704.pdf [2022, December 08].

Department of Education. 2001. *Education White Paper 6. Special Needs Education. Building an Inclusive Education and Training System*. Pretoria: Department of Education. Available: https://www.vvob.org/files/publicaties/rsa_education_white_paper_6.pdf [2022, December 08].

Departments of Health and Basic Education. 2012. *Integrated School Health Policy*. Available: https://serve.mg.co.za/content/documents/2017/06/14/integratedschoolhealthpolicydbeanddoh.pdf [2022, December 08].

DG Murray Trust. 2019. *Zero dropout. School dropout: what's the catch?* Cape Town: DGMT. Available: https://dgmt.co.za/wp-content/uploads/2020/01/ZERO-DROPOUT-PUBLICATION-FINAL2-30.01.pdf [2022, November 24].

Erasmus, M.O., Knight, L. & Dutton, J. 2020. Barriers to accessing maternal health care amongst pregnant adolescents in South Africa: a qualitative study. *International Journal of Public Health*, 65(4), 469-476.

Gavin, L.E., Catalano, R.F., David-Ferdon, C., Gloppen, K.M. & Markham, C.M. 2010. A review of positive youth development programs that promote adolescent sexual and reproductive health. *Journal of Adolescent Health*, 46(3, Supplement), S75-S91. DOI: https://doi.org/10.1016/j.jadohealth.2009.11.215

Gittings, L., Medley, S., Logie, C.H., Ralayo, N., Cluver, L., Petersen, N., Chen-Charles, J. & Toska, E. 2022. Art-based reflections from 12 years of adolescent health and development-related research in South Africa. *Health Promotion International*, 37, II83-II96. DOI: https://doi.org/10.1093/heapro/daac020

Gittings, L., Ralayo, N., Kelly, J., Coakley, C., Peterson, N., Medley, S., Price, Y., Thomas, A., Kannemeyer, N., Chen-Charles, J., Bray, S., Toska, E. & adolescent advisors of South Africa and Kenya. 2022. *Remote methods for engaging adolescents and young people in research: lessons from adolescent advisors in Kenya and South Africa during COVID-19. Executive summary*. Cape Town, South Africa and Oxford, United Kingdom: Accelerate Hub.

Govender, D., Naidoo, S. & Taylor, M. 2019. Prevalence and risk factors of repeat pregnancy among South African adolescent females. *African Journal of Reproductive Health*, 23(1), 73-87. Available:

https://pubmed.ncbi.nlm.nih.gov/31034174/ [2022, December 08].

Groves, A.K., Gebrekristos, L.T., McNaughton Reyes, L., Moodley, D., Raziano, V. & Maman, S. 2022. A mixed-methods study of resilience and return to school among adolescent mothers in South Africa. *Global Public Health*, 17(9), 2111-2124. DOI: https://doi.org/10.1080/17441692.2021.1970208

Hallman, K. & Roca, E. 2011. Siyakha Nentsha: building economic, health, and social capabilities among highly vulnerable adolescents in KwaZulu-Natal, South Africa. *Promoting Healthy, Safe, and Productive Transitions to Adulthood Brief no. 4.* New York: Population Council. Available: https://knowledgecommons.popcouncil.org/departments_sbsr-pgy/802/ [2022, November 25].

Harding, J.F., Knab, J., Zief, S., Kelly, K. & McCallum, D. 2020. A systematic review of programs to promote aspects of teen parents' self-sufficiency: supporting educational outcomes and healthy birth spacing. *Maternal and Child Health Journal*, 24, 84-104. DOI: https://doi.org/10.1007/s10995-019-02854-w

Harris, M.B. & Franklin, C. 2011. Taking Charge: a solution-focused intervention for pregnant and parenting adolescents. In Franklin, C., Trepper, T.S., McCollum, E.E. & Gingerich, W.J. (eds), *Solution-focused brief therapy: a handbook of evidence-based practice*. Oxford University Press. 247-263. DOI: https://doi.org/10.1093/acprof:oso/9780195385724.003.0094

Hodes, R., Doubt, J., Toska, E., Vale, B., Zungu, N. & Cluver, L. 2018. The stuff that dreams are made of: HIV-positive adolescents' aspirations for development. *Journal of the International AIDS Society*, 21(S1). DOI: https://doi.org/10.1002/jia2.25057

Huda, M.M., O'Flaherty, M., Finlay, J.E. & al Mamun, A. 2021. Time trends and sociodemographic inequalities in the prevalence of adolescent motherhood in 74 low-income and middle-income countries: a population-based study. *The Lancet Child & Adolescent Health*, 5(1), 26-36. DOI: https://doi.org/10.1016/S2352-4642(20)30311-4

Huebener, M. 2019. Life expectancy and parental education. *IZA Discussion Paper No. 12316.* Available: https://www.iza.org/en/publications/dp/12316/life-expectancy-and-parental-education [2022, November 25].

Human Rights Watch. 2021. *Submission to the United Nations Committee on the Elimination of Discrimination Against Women on the fifth periodic report of South Africa 80th Session*. Human Rights Watch. Available: https://www.hrw.org/sites/default/files/media_2021/09/CEDAW%20submission%20South%20Africa_final.pdf [2022, November 28].

Hunter-Adams, J., Strebel, A., Corrigall, J. & Zweigenthal, V. 2022. Investigating the disjoint between education and health policy for infant feeding among teenage mothers in South Africa: a case for intersectoral work. *BMC Public Health*, 22(1). DOI: https://doi.org/10.1186/s12889-021-12435-8

Ickovics, J.R., Earnshaw, V., Lewis, J.B., Kershaw, T.S., Magriples, U., Stasko, E., Rising, S.S., Cassells, A., Cunningham, S., Bernstein, P. & Tobin, J.N. 2016. Cluster randomized controlled trial of group prenatal care: perinatal outcomes among adolescents in New York city health centers. *American Journal of Public Health*, 106(2), 359–365. DOI: https://doi.org/10.2105/AJPH.2015.302960

Inclusive Education South Africa. 2018. *Inclusion in education: perspectives on inclusive education in South Africa*. Johannesburg, Cape Town, Bloemfontein: Inclusive Education South Africa. Available: http://www.included.org.za/wp-content/uploads/2018/07/2657_IESA-Quarterly-Periodical_WEB.pdf [2022, November 24].

Jefferis, T.C. & Theron, L.C. 2017. Promoting resilience among Sesotho-speaking adolescent girls: lessons for South African teachers. *South African Journal of Education*, 37(3). DOI: https://doi.org/10.15700/saje.v37n3a1391

Jochim, J., Cluver, L.D. & Meinck, F. 2021. Learner pregnancy in South Africa's Eastern Cape: the factors affecting adolescent girls' school withdrawal during pregnancy. *International Journal of Educational Development*, 87. DOI: https://doi.org/10.1016/j.ijedudev.2021.102484

Jochim, J., Cluver, L.D., Sidloyi, L., Kelly, J., Ornellas, A., Mangqalaza, H., Coakley, C., Pillay, M., Nogoduka, C., George, G., Nokama, B. & Toska, E. (submitted for publication). Improving educational and reproductive outcomes for adolescent mothers in South Africa: A cross-sectional analysis towards realizing policy goals.

Jochim, J., Groves, A.K. & Cluver, L.D. 2020. When do adolescent mothers return to school? Timing across rural and urban South Africa. *South African Medical Journal*, 110(9), 850–854. DOI: https://doi.org/10.7196/SAMJ.2020.v110i9.14664

Jochim, J., Meinck, F., Toska, E., Roberts, K., Wittesaele, C., Langwenya, N. & Cluver, L. 2022. Who goes back to school after birth? Factors associated with postpartum school return among adolescent mothers in the Eastern Cape, South Africa. *Global Public Health*. DOI: https://doi.org/10.1080/17441692.2022.2049846

Kassa, G.M., Arowojolu, A.O., Odukogbe, A.A. & Yalew, A.W. 2018. Prevalence and determinants of adolescent pregnancy in Africa: a systematic review and meta-analysis. *Reproductive Health*, 15(1), 195. DOI: https://doi.org/10.1186/s12978-018-0640-2

Kershaw, T.S., Magriples, U., Westdahl, C., Rising, S.S. & Ickovics, J. 2009. Pregnancy as a window of opportunity for HIV prevention: effects of an HIV intervention delivered within prenatal care. *American Journal of Public Health*, 99(11), 2079-2086. DOI: https://doi.org/10.2105/AJPH.2008.154476

Koniak-Griffin, D., Anderson, N.L.R., Verzemnieks, I. & Brecht, M.-L. 2000. A public health nursing early intervention program for adolescent mothers: outcomes from pregnancy through 6 weeks postpartum. *Nursing Research*, 49(3), 130-138.

Lamb, S. & Markussen, E. 2011. *School dropout and completion: an international perspective*. New York, NY: Springer Science and Business Media.

Laurenzi, C.A., Gordon, S., Abrahams, N., du Toit, S., Bradshaw, M., Brand, A., Melendez-Torres, G.J., Tomlinson, M., Ross, D.A., Servili, C., Carvajal-Aguirre, L., Lai, J., Dua, T., Fleischmann, A. & Skeen, S. 2020. Psychosocial interventions targeting mental health in pregnant adolescents and adolescent parents: a systematic review. *Reproductive Health*, 17(1), 65. DOI: https://doi.org/10.1186/s12978-020-00913-y

Mannell, J., Willan, S., Shahmanesh, M., Seeley, J., Sherr, L. & Gibbs, A. 2019. Why interventions to prevent intimate partner violence and HIV have failed young women in southern Africa. *Journal of the International AIDS Society*, 22(8), e25380. DOI: https://doi.org/10.1002/jia2.25380

Martinez, E. & Odhiambo, A. 2018. *Leave no girl behind in Africa: discrimination in education against pregnant girls and adolescent mothers.* USA: Human Rights Watch. Available: https://www.hrw.org/sites/default/files/report_pdf/au0618_web.pdf [2022, November 24].

McDonell, J.R., Limber, S.P. & Connor-Godbey, J. 2007. Pathways Teen Mother Support Project: longitudinal findings. *Children and Youth Services Review*, 27(7), 840–855.

Mensch, B.S., Chuang, E.K., Melnikas, A.J. & Psaki, S.R. 2019. Evidence for causal links between education and maternal and child health: systematic review. *Tropical Medicine and International Health*, 24(5), 504-522. DOI: https://doi.org/10.1111/tmi.13218

Moodley, S. 2021. Hidden realities: lived experiences with teenage pregnancy, motherhood, and HIV in Botshabelo, South Africa. PhD dissertation. University of Oxford.

Ngabaza, S. & Shefer, T. 2013. Policy commitments vs. lived realities of young pregnant women and mothers in school, Western Cape, South Africa. *Reproductive Health Matters*, 21(41), 106-113. DOI: https://doi.org/10.1016/S0968-8080(13)41683-X

Noori, N., Proctor, J.L., Efevbera, Y. & Oron, A.P. 2022. Effect of adolescent pregnancy on child mortality in 46 low- and middle-income countries. *BMJ Global Health*, 7(5). DOI: https://doi.org/10.1136/bmjgh-2021-007681

Olds, D.L., Kitzman, H., Hanks, C., Cole, R., Anson, E., Sidora-Arcoleo, K., Luckey, D.W., Henderson, C.R., Holmberg, J., Tutt, R.A., Stevenson, A.J. & Bondy, J. 2007. Effects of nurse home visiting on maternal and child functioning: age-9 follow-up of a randomized trial. *Pediatrics*, 120(4). DOI: https://doi.org/10.1542/peds.2006-2111

Ozer, E.J. 2017. Youth-led participatory action research: overview and potential for enhancing adolescent development. *Child Development Perspectives*, 11(3), 173-177. DOI: https://doi.org/10.1111/cdep.12228

Promotion of Equality and Prevention of Unfair Discrimination Act, No. 4 of 2000, as amended. 2008. Available: https://www.justice.gov.za/legislation/acts/2000-004.pdf [2022, December 08].

Quint, J.C., Bos, J.M. & Polit, D.F. 1997. *New Chance. Final report on a comprehensive program for young mothers in poverty and their children*. Available: https://files.eric.ed.gov/fulltext/ED419864.pdf [2022, November 24].

Riley, T., Sully, E., Ahmed, Z. & Biddlecom, A. 2020. Estimates of the potential impact of the COVID-19 Pandemic on sexual and reproductive health in low- and middle-income countries. *International Perspectives on Sexual and Reproductive Health*, 16(46), 73-76. DOI: https://doi.org/10.1363/46e9020

Roberts, K.J., Smith, C., Cluver, L., Toska, E. & Sherr, L. 2021. Understanding mental health in the context of adolescent pregnancy and HIV in Sub-Saharan Africa: a systematic review identifying a critical evidence gap. *AIDS and Behavior*, 25(7), 2094-2107. DOI: https://doi.org/10.1007/s10461-020-03138-z

Shung-King, M., Lake, L., Sanders, D. & Hendricks, M. 2019. *South African ChildGauge 2019. Child and adolescent health. Leave no one behind*. Cape Town: Children's Institute, University of Cape Town. Available:

http://childrencount.uct.ac.za/uploads/publications/ChildGauge%202019_final.pdf [2022, November 25].

Singh, R. & Mukherjee, P. 2018. Push out, pull out, or opting out? Reasons cited by adolescents for discontinuing education in four low- and middle-income countries. In Lansford, J. & Banati, P. (eds), *Handbook of adolescent development research and its impact on global policy*. Vol. 1. [Online] Oxford University Press. 238-259. DOI: https://doi.org/10.1093/oso/9780190847128.003.0012

Smith, C., de Lannoy, A. & Rosa, S. 2020. *Towards a basic package of support for young people who are not in employment, education or training (NEET) in South Africa.* Policy brief. Cape Town: Southern Africa Labour and Development Research Unit, University of Cape Town; J-PAL Africa; Centre for Social Development in Africa, University of Johannesburg; The Jobs Fund; Capacity Building Programme for Employment Promotion, Government Technical Advisory Centre & DG Murray Trust. Available: https://www.saldru.uct.ac.za/wp-content/uploads/BPS_policy_brief-15_05_2020.pdf [2022, November 28].

SmithBattle, L., Loman, D.G., Chantamit-o-pas, C. & Schneider, J.K. 2017. An umbrella review of meta-analyses of interventions to improve maternal outcomes for teen mothers. *Journal of Adolescence*, 59(1), 97-111. DOI: https://doi.org/10.1016/j.adolescence.2017.05.022

Somefun, O.D., Casale, M., Haupt Ronnie, G., Desmond, C., Cluver, L. & Sherr, L. 2021. Decade of research into the acceptability of interventions aimed at improving adolescent and youth health and social outcomes in Africa: a systematic review and evidence map. *BMJ Open*, 11(12), e055160. DOI: https://doi.org/10.1136/bmjopen-2021-055160

South African Schools Act, No. 84 of 1996. 1996. *Government Gazette*. 377(17579). 15 November. Government notice no. 1867. Cape Town: Government Printer. Available: https://www.gov.za/sites/default/files/gcis_document/201409/act84of1996.pdf [2022, December 08].

Steinka-Fry, K.T., Wilson, S.J. & Tanner-Smith, E.E. 2013. Effects of school dropout prevention programs for pregnant and parenting adolescents: a meta-analytic review. *Journal of the Society for Social Work and Research*, 4(4), 373-389. DOI: https://doi.org/10.5243/jsswr.2013.23

Stevens-Simon, C., Dolgan, J., Kelly, L. & Singer, D. 1997. The effect of monetary incentives and peer support groups on repeat adolescent pregnancies. *Obstetrical & Gynecological Survey*, 52(9), 545–546.

Stoner, M.C.D., Rucinski, K.B., Edwards, J.K., Selin, A., Hughes, J.P., Wang, J., Agyei, Y., Gomez-Olive, F.X., MacPhail, C., Kahn, K. & Pettifor, A. 2019. The relationship between school dropout and pregnancy among adolescent girls and young women in South Africa: a HPTN 068 analysis. *Health Education and Behavior*, 46(4), 559–568. DOI: https://doi.org/10.1177/1090198119831755

Svanemyr, J., Amin, A., Robles, O.J. & Greene, M.E. 2015. Creating an enabling environment for adolescent sexual and reproductive health: a framework and promising approaches. *Journal of Adolescent Health*, 56(1), S7–S14. DOI: https://doi.org/10.1016/j.jadohealth.2014.09.011

Toska, E., Cluver, L., Laurenzi, C.A., Wittesaele, C., Sherr, L., Zhou, S. & Langwenya, N. 2020. Reproductive aspirations, contraception use and dual protection among adolescent girls and young women: the effect of motherhood and HIV status. *Journal of the International AIDS Society*, 23(S5), e25558. DOI: https://doi.org/10.1002/jia2.25558

Toska, E., Saal, W., Chen Charles, J., Wittesaele, C., Langwenya, N., Jochim, J., Steventon Roberts, K.J., Anquandah, J. et al. 2022. Achieving the health and well-being Sustainable Development Goals among adolescent mothers and their children in South Africa: cross-sectional analyses of a community-based mixed HIV-status cohort. *PLoS ONE*, 17(12), e0278163. DOI: https://doi.org/10.1371/journal.pone.0278163

United Nations Children's Fund [UNICEF]. 2022. Are children really learning? Exploring foundational skills in the midst of a learning crisis. Innocenti Research Report. New York: UNICEF. Available: https://data.unicef.org/resources/are-children-really-learning-foundational-skills-report/ [2022, November 25].

United Nations Population Fund [UNFPA]. 2022. Motherhood in childhood: the untold story. New York: UNFPA. Available: https://www.unfpa.org/sites/default/files/pub-pdf/MotherhoodInChildhood_report.pdf [2022, November 25].

Woodward, L., Fergusson, D. M. & Horwood, L.J. 2001. Risk factors and life processes associated with teenage pregnancy: results of a prospective study from birth to 20 years. *Journal of Marriage and the Family*, 63(4). DOI: https://doi.org/10.1111/j.1741-3737.2001.01170.x

World Health Organisation. 2020. *Adolescent pregnancy*. WHO Fact sheet. Available: https://www.who.int/news-room/fact-sheets/detail/adolescent-pregnancy [2022, November 25].

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Conradie, B. & Geyer, A. 2021. *Williston voerstelsel: min ooie met baie lammers*. CSSR Working Paper No. 465.

Nattrass, N. 2021. *Combatting COVID-19: the BRICS in comparative perspective*. CSSR Working Paper No. 464.

Dunkley,Y., Langwenya, N., Malunga, S., Kelly, J. & Toska, E. 2021. *A rapid review of research methodologies for remote research among young people in sub-Saharan Africa*. CSSR Working Paper No. 463.

Banougnin, B.H., Toska, E., Shenderovich,Y. & Zhou, S. 2021. *Sexual practices among adolescents and young people in Eastern Cape, South Africa: the association with HIV status and mode of infection*. CSSR Working Paper No. 462.

The Centre for Social Science Research

The Centre for Social Science Research (CSSR) is an interdisciplinary research centre at the University of Cape Town dedicated to conducting and building capacity for systematic, policy-relevant social science research in South Africa, the region and across Africa. Substantively, the CSSR conducts research in the broad areas of development, poverty, public health, safety and violence, and social relationships and intimacy. The CSSR presently consists of the Adolescent Accelerators Research Hub (AARHub), the Safety and Violence Initiative (SaVI), and the Sustainable Societies Unit (SSU) as well as a small Directorate.

The **Sustainable Societies Unit** (SSU) explores the social and institutional dimensions of economic development and the interaction between human society and the natural world. Its current foci include agricultural practices, human-wildlife conflict, winners and losers in South Africa's growth path, and the impact of the climate crisis. The SSU collaborates with the University of Cape Town's *Khusela Ikamva* Sustainable Campus Project, assisting with research on recycling and integrated pest management. The **Adolescent Accelerators Research Hub** generates evidence on which development accelerators – alone and in synergy with each other – can support adolescents in Africa to reach multiple Sustainable Development Goals. The Accelerate Hub is a partnership between governments, international agencies, NGOs, donors, adolescents and academics in Africa, Europe and North America. The **Safety and Violence Initiative** (SaVI) contributes to understanding and responding to violence and promoting safety. Its current focus is on the roles of parents in promoting the safety of children and adolescents.

Methodologically, our research is empirical and problem-driven. We utilise both quantitative and qualitative strategies of data collection. CSSR projects are usually team-oriented, bringing together multiple local and international researchers, and offering post-graduate students significant opportunities for hands-on training by involving them in all stages of projects. Research findings are presented and discussed at regular weekly seminars and published as CSSR Working Papers. The CSSR works closely with other research institutes at the University of Cape Town – including the Institute for Democracy, Citizenship and Public Policy in Africa (IDCPPA) and the Institute for Communities and Wildlife (iCWild) – and elsewhere.