

Environment matters: The social determinants of child and adolescent mental health

Crick Lund,^{i,iii} Zulfa Abrahamsⁱ, Emily Garmanⁱ, Claire van der Westhuizenⁱ and Katherine Sorsdahlⁱ

The circumstances in which children and adolescents live have a profound impact on their mental health, both in the present and across the life course. In recent years there has been growing awareness of these social determinants of child and adolescent mental health, including from low and middle-income countries (LMICs).¹ If we are to prevent mental health problems and promote child and adolescent mental health, it is vital that we understand more about the social causes of mental health problems and develop interventions to address these social determinants. Needless to say, this is not a straightforward task.

This chapter will begin by presenting key concepts and a framework for the social determinants of child and adolescent mental health, with relevant evidence across five domains. This will be followed by a consideration of the evidence for interventions, together with implications for policy, research, teaching and advocacy. The focus is on South Africa, with consideration of relevant evidence from other LMICs. While the situation in South Africa is similar to many other LMICs, our particularly brutal history of colonialism and apartheid have created a context where a number of social adversities and injustices collide to shape the mental health of children and adolescents.

What are the social determinants of mental health?

Social determinants of child and adolescent mental health refer to the social and economic conditions that have a direct influence on the prevalence and severity of mental health conditions across the life course.¹ Social determinants include a wide array of factors such as poverty, food insecurity, inequality, discrimination, violence, orphanhood, climate change, forced migration and other humanitarian emergencies. These social determinants include both the structural, social and economic arrangements of a society, which lead to disparities in living conditions and access to opportunities and services, as well as young people's exposure to adverse life events.

Importantly, social determinants frequently co-occur, leading to cumulative risks among vulnerable children who face multiple adversities. For example, children and adolescents who live in poverty not only face scarcity of material resources, but are also at increased risk of other adversities, including violence and maltreatment. Cumulatively this increases their risk for a range of mental health difficulties, often in an interaction with other health conditions. In the context of cumulative risk, the concept of intersectionality is particularly important in highlighting the ways in which social categories such as race, class, gender and ability give rise to intersecting patterns of privilege and discrimination that then influence the mental health and well-being of children and adolescents. In recent years, syndemic approaches have highlighted the cumulative effects of co-occurring social determinants and co-morbid health conditions.²

How do these social determinants impact on child and adolescent mental health?

There is a growing body of evidence from South Africa and other LMICs on the way in which social determinants influence the mental health of children and adolescents.^{1,3} Here we present a framework for the social determinants of mental health (see Figure 8) which highlights the influence of demographic, economic, neighbourhood, environmental events and social/cultural domains. In each of these five domains, young people's mental health is shaped both by their immediate environment (proximal factors) as well as broader socio-economic, political and environmental forces (distal factors). For example, the effect of an economic recession during a pandemic (distal factor) on mental health is experienced through reduced household income, increased debt, erosion of assets and financial strain.⁴ These in turn may result in a child having less access to educational opportunities and being exposed to increased conflict in the home as a result of adults' responses to stress (proximal factors). It should be conceded that the evidence for proximal determinants is more robust than that for more distal

i Alan J. Flisher Centre for Public Mental Health, Department of Psychiatry and Mental Health, University of Cape Town

ii Centre for Global Mental Health, Health Service and Population Research Department, Institute of Psychiatry, Psychology and Neuroscience, King's College London

Figure 8: The social determinants of child and adolescent mental health and the Sustainable Development Goals



Adapted from: Lund C, Brooke-Sumner C, Baingana F, Baron EC, Breuer E, Chandra P, et al. Social determinants of mental disorders and the Sustainable Development Goals: A systematic review of reviews. *Lancet Psychiatry*. 2018;5(4):357-69.

determinants of child and adolescent mental health – mainly due to the nascence of the field and the methodological challenges involved in demonstrating the effects of distal determinants. It is also possible that different mechanisms come into play in the case of children and adolescents.

The role of the family or household is particularly important in mitigating or exacerbating the impact of distal factors, such as economic recession or violence in communities. The household context may increase risk or resilience in young people and influence the way in which these factors get

'under the skin' or, more specifically, into the neural pathways of the developing child or adolescent's brain. For example, children growing up in violent communities may experience a number of difficulties regarding mental health and day-to-day functioning (e.g., difficulty making or keeping friends, or difficulty concentrating in the classroom).⁵⁻⁷ Young people who feel supported and accepted by their families and who have loving relationships with adult caregivers are less likely to experience significant mental health problems due to social determinants such as community violence.^{8,9}

These social determinants interact with genetic and biological risk factors across the life course – meaning that early exposure to adversity or deprivation in childhood has a significant impact on subsequent lifelong mental health.¹ The United Nations' Sustainable Development Goals (SDGs) have developed specific targets for many of these social determinants, and for this reason, the SDGs that are most relevant to each domain are included in the framework. Further research is required to identify the mechanisms by which specific SDGs might yield improvements in child and adolescent mental health.

In the section that follows, we unpack the evidence, according to each of these five domains.

Demographic determinants

Childhood and adolescence constitute a vulnerable time during which social determinants can have particularly adverse effects on cognitive and emotional development. For this reason, mental disorders and self-harm often manifest during adolescence, with long-term impact later in adulthood.¹⁰ Even then, sex differences are evident: adolescent girls tend to suffer from depression,^{11,12} anxiety¹³ and eating disorders¹⁴ more than boys, while adolescent boys are more likely to develop behavioural disorders, such as conduct disorder and attention deficit/hyperactivity disorder, and early onset schizophrenia,^{15,16} and are more likely to commit suicide^{17,18}. Further, sexual minority youth and young people who identify as gender-nonconforming, also known as lesbian, gay, bisexual, transgender, queer and intersex (LGBTQI+) youth are at higher risk of mental health difficulties than heterosexual, cisgender young people.¹⁹ SDG 5 (gender equality) is particularly relevant for the demographic domain.

Age and sex differences are also apparent in how other proximal and distal socio-demographic determinants affect young people's mental health. For example, young girls' socio-emotional development is more susceptible than boys' development to racism and discrimination,²⁰ and there are stronger associations between discrimination

and depression, anxiety, behavioural problems, lower self-esteem and poorer resilience in adolescents, than in younger children²¹. However, the literature suggests that even children as young as five years old are at increased risk of depression if they are among minority ethnic groups within their communities, who are at higher risk of experiencing racism and discrimination.²² These findings are pertinent in South Africa, where racism and discrimination are still rife 25 years after the end of apartheid.

Economic determinants

There is extensive evidence that certain dimensions of poverty, such as food insecurity and household unemployment, are associated with poorer mental health among children and adolescents.²³ Children of families of lower socio-economic status are at increased risk of mental, emotional and behavioural health problems, independent of other factors associated with poverty, such as parental education or race.⁵ Studies which have investigated perceived rather than absolute socio-economic status have shown that adolescents with higher subjective socio-economic status were more likely to report improved psychological well-being and self-esteem, and were less likely to be depressed.³ In fact, relative poverty, rather than absolute poverty, is often reported as a risk factor for poor mental health among children.²⁴

In South Africa, this means that young people's mental health and well-being continue to be impacted by high levels of income inequality brought about by our history of colonialism and apartheid. The COVID-19 pandemic and policy measures to reduce transmission are also likely to have exacerbated income inequality in the country, by depriving children of nutrition and protection, and by increasing risk of education delay or school dropout.²⁵ In turn, young people who disengage with education or who do not complete secondary school are more likely to use alcohol and other drugs and to report poor mental health,²⁶ and are less likely to be economically active in adulthood,²⁷ thus perpetuating the cycle of poverty and poor mental health.

The cycle of poverty and mental ill-health (see Figure 9) is characterised by a *social causation* pathway, by which circumstances of poverty increase risk for mental ill-health through social exclusion, high stress, reduced access to a social safety net, malnutrition, violence, obstetric risks, trauma, poor parenting and family fragmentation. Conversely, living with a mental disorder increases the risk of drifting into or remaining in poverty. This *social drift* pathway is characterised by stigma, poor educational attainment, school dropout and unemployment. SDG 1 (no poverty),

Figure 9: Cycle of poverty and mental illness in children and adolescents



Adapted from: Flisher, A.J., Lund, C., Funk, M., Banda, M., Bhana, A., Doku, V., Drew, N., Kigozi, F., Knapp, M., Omar, M., Petersen, I., & Green A. (2007). Mental health policy development and implementation in four African countries. *Journal of Health Psychology* 12: 505-516.

SDG 2 (zero hunger), SDG8 (decent work and economic growth), SDG9 (industry, innovation and infrastructure) and SDG10 (reduced inequalities) are particularly relevant for the economic domain.

Neighbourhood determinants

Neighbourhoods beyond the family setting should provide an environment in which children and adolescents can develop safely and thrive. The neighbourhood domain refers to the social and environmental characteristics of the neighbourhood or area in which a child or adolescent lives, which confer risk or resilience over and above the individual

characteristics of the people who live in that neighbourhood. Although most available evidence has focused on physical health or adult populations,^{28, 29} various characteristics of neighbourhoods have been shown to impact mental health in young people.

Diverse measures of neighbourhood deprivation have been associated with psychosocial difficulties, including increased externalising behaviour problems such as delinquency and aggressive behaviour.^{30, 31} Additionally, features of neighbourhoods such as access to nature and public open spaces, often associated with wealthier communities, are generally protective against mental health

problems in children and adolescents.^{32, 33} At the household level, overcrowding, poor quality housing and poor air quality have also been associated with poor mental health,^{34, 35} such as increased depressive symptoms,³⁶ although data are scarce for children and adolescents.

Exposure to violence in communities has a well-documented association with mental health problems, whereby witnessing violence and violence victimization are consistently linked to adverse mental health outcomes, such as depression, anxiety, post-traumatic stress symptoms and externalising behaviours.³⁷⁻³⁹ Further, reactions to community violence from parents and young people may result in decreased opportunities for young people to engage in physical activity (including transport such as cycling or walking and play),⁴⁰ which may negatively impact their mental health.⁴¹ SDG6 (clean water and sanitation), SDG7 (affordable and clean energy), SDG11 (sustainable cities and communities) and SDG12 (responsible consumption and production) are particularly relevant for the neighbourhood domain. SDGs that are linked to violence prevention, including SDG5 and SDG16, are also relevant for the neighbourhood domain.

Environmental events

Environmental events are defined as significant disruptions in community functioning that surpass the available community resources to cope. As seen in Figure 8, environmental events can include: natural disasters, industrial disasters, war or conflict, climate change and forced migration. SDG 13 (climate change action) and SDG 16 (peace, justice, and strong institutions) are particularly relevant for this domain.

Several meta-analyses and systematic reviews reveal that children exposed to environmental events report significantly higher levels of post-traumatic stress disorder (PTSD), depression, and anxiety compared to the general population. These outcomes have been documented after exposure to nuclear disasters,^{42, 43} war, terrorism and conflict⁴⁴ and the displacement of refugees and asylum seekers.⁴⁵ More recently, studies have investigated the impact of climate change on child and adolescent mental health, as outlined in Case 34 on p135.⁴⁶ The frequency and severity of extreme weather events, such as droughts,⁴⁷ seem to be increasing in Africa, which may be further impact on the mental health of children and adolescents⁴⁸.

Social and cultural determinants

The social and cultural factors that impact child and adolescent mental health include low levels of education, poor social cohesion, and detrimental peer and family relationships.¹ In

South Africa, educational success is particularly challenging for Black adolescents, as they are more likely to attend under-resourced schools in communities with high levels of violence and poverty.⁴⁹ This is rooted in structural racism and a deeply inequitable education system. Studies suggest that mental health problems are associated with poor grades and school adjustment, resulting in poor academic achievement in young adulthood. Young people who drop out of school and students struggling to perform academically are at greater risk of depression^{50, 51} and suicidal ideation⁵². Further, children with behaviour problems are more likely to struggle academically, and experience lower graduation rates.⁵³ SDG4 (quality education) is particularly relevant for the social and cultural domain.

Being part of a social group is especially important to adolescents as they strive for emotional autonomy from their parents and search for their unique identity.⁵⁴ While their reliance on peer relationships may provide them with the opportunity to develop strong social connections and give and receive support, it also makes them susceptible to peer pressure and bullying. Poor social cohesion is associated with low self-esteem and can result in depression, anxiety and behavioural problems in children and adolescents.^{55, 56} Conversely, highly cohesive neighbourhoods protect young people who are experiencing stressful life events from depression and anxiety.⁵⁷

What does the evidence mean for interventions?

From the above evidence regarding key social determinants and the mechanisms by which they influence the mental health of young people, several potential targets for interventions can be identified. However, a number of challenges arise when developing interventions to tackle these social determinants of mental health. First, social determinants are often quite distal to the mental health outcome. Second, some social determinants may be more amenable to change than others (for example, it is extremely difficult to address structural challenges such as income inequality or global economic recessions). Third, the mechanisms by which social determinants influence child and adolescent mental health are poorly understood. For example, we know very little about exactly how experiences of poverty shape the neural pathways of the developing adolescent brain and lead to specific mental health problems, such as depression, anxiety or conduct disorder. Fourth, the complex nature of these challenges requires an interdisciplinary approach and collaboration of researchers from social sciences, mental health, economics and epidemiology. And finally, given these

Case 4: Culture and mental health – ways of seeing

Leslie Swartzⁱ and Siyabulela Mkhaleⁱⁱ

What does it mean to be ‘culturally sensitive’ in mental health practice and research? There are differing assumptions about what the relationship is between culture and mental health.

Although things are more complex, it is useful to distinguish between those who believe that mental disorder is universal but expressed differently in different contexts. Relativists, by contrast, would argue that we need to attend very carefully to a person’s context to understand mental disorder, and that making comparisons across different contexts is always problematic. If we take, for example, the phenomenon of *kufungisisa* in Zimbabwe (translated approximately as ‘thinking too much’), a universalist may say that *kufungisisa* in Zimbabwe is anxiety expressed in a particular local way, but a relativist would want to understand what ‘thinking too much’ means locally, what the symptoms imply for family and social relationships.

A further layer of understanding culture and mental health relates to problematic ideas about the relative qualities of different groups of people. In the history of psychiatry, Social Darwinism contributed to a situation in which people linked certain disorders to qualities valued in dominant western culture. In what is sometimes termed an evolutionist view, it was once thought that African people were not as developed cognitively as Europeans (clearly a racist view), and for this reason, they did not have the finer feelings which would enable them to experience depression. Depression was seen as a disorder or a state of being which required a level of introspection which only ‘sophisticated’ people could have. This view is clearly absurd, and in fact, in multiple epidemiological studies in Africa, we find very high rates of depression.

Partly in response to the clear political problems associated with evolutionism, researchers in the culture and mental health field have become interested in exploring ways in which practices labelled as cultural may be affected by social and economic conditions. Studies on the relationship between different emotional styles in families and the course and outcomes of mental disorders now try to look not just at different family emotional styles, but also at how these styles may relate to the economic demands of a particular context. For example, there is some evidence that harsh parenting styles may be

associated with the development of anxiety in children. Parenting styles are culturally patterned, but a contextual view would also look at issues such as access to resources, which may contribute to different patterns of parenting. For instance, where people have the money to buy disposable nappies, and have reliable washing machines at home, they may be more relaxed about toilet training than where resources are scarce, and people do not have running water. It is always important to look at the ways in which the material context interacts with, and may even to an extent determine, styles within families which are seen as cultural. Where people live in violent contexts, to use another example, they may be much more restrictive about the movements of people with mental disorders or others whom they view as vulnerable.

More fundamentally, cultural issues need to be considered in global and historical context. For example, our country has an ongoing history of extractive and dangerous labour practices, where families have been broken up by internal migration and men have lived in single-sex hostels and done dangerous work on the mines. These factors profoundly affect how families interact, what happens to migrant workers who develop mental health problems or physical disabilities, and what then becomes a cultural norm around care.

There are no neat distinctions between cultural groups, and culture changes over time and context. Nobody, especially in the complex context we live in, is a ‘member’ of a single culture. What is more important is in all cases to inquire as to how people, in different contexts, understand and deal with relationships, mental health and ill health, and the challenges of life. A useful starting point is to begin with what the psychiatrist-anthropologist Arthur Kleinman called ‘explanatory models’.⁷⁹ We all have different understandings of what causes a disorder, what it is, what will make it better, and whether anything can be done about it and by whom, for example. And each individual may have different sets of understandings for what is happening to them and their family members, colleagues and friends and acquaintances at different times. All these beliefs shape the experience of mental health and illness, and all are useful to consider in developing appropriate interventions. Simply put, we need to consider the world .

i Department of Psychology, Stellenbosch University

ii Department of Psychology, University of Cape Town

Case 5: Reducing child abuse through a parenting and economic strengthening programme in Tanzania

Child abuse is highly prevalent in LMICs, and most commonly perpetrated by parents and older relatives.⁷³ Victims of child abuse may experience physical and mental health problems, and difficulty at school and in relationships. The effects are intergenerational, with victims of abuse being more likely to abuse their own children and engage in intimate partner violence.⁷⁴ Parenting programmes may reduce child abuse by strengthening the relationship between parents and children by helping caregivers better manage child behaviour problems.⁷⁵ As poverty is a major risk factor for child abuse, economic strengthening programmes may reduce child abuse, especially in low resource settings.

The Skilful Parenting and Agribusiness Child Abuse Prevention Study⁷⁶ investigated the effect of an economic strengthening and parenting programme on child abuse outcomes using a cluster randomised control trial in rural Tanzania. The economic strengthening component consisted of farmers getting access to drought-resistant

seeds, credit for farm inputs, advice for improve farming techniques and market connections. The parenting component consisted of group-based sessions on parenting skills, child protection and family budgeting. Eight villages were randomised to three treatment arms (only the parenting component, only the economic component, and a combination of the two) and a control arm. Both parents and children who received the combined intervention reported a significant reduction in child abuse. Parents in the groups that only received one of the interventions also reported a reduction in child abuse, though the levels were not significant in the child reports. In all arms, parents reported significant reductions in child behaviour problems, and borderline reductions in adult depression. Results suggest that while a combination of parenting and economic strengthening is most effective at reducing child maltreatment outcomes, parenting programmes delivered alone may also be effective.

complexities, interventions may require collaboration across different sectors and government departments.

What works?

Table 1 provides a series of illustrative examples of interventions targeting social determinants of child and adolescent mental health that have been shown to yield improved mental health outcomes, particularly from LMICs. There is some evidence of interventions that have been shown to be effective in addressing social determinants of child and adolescent mental health. In Tanzania, Lachman and colleagues have shown how a agribusiness and skillful parenting programme led to a reduction in child abuse (see Case 5), while in South Africa Sherr and colleagues have shown how a combination of parental praise, parental supervision, food security, safe communities and support from community-based organisations can accelerate improvements mental health outcomes (see Case 7).

Few interventions implemented at the neighbourhood level have been specifically evaluated for their effect on child and adolescent mental health. However, we can hypothesise that interventions such as urban upgrading or community violence prevention projects, which have shown some promise amongst adult populations⁵⁸ in improving psychosocial or health outcomes,^{59, 60} may have a positive

impact on young people, either directly or indirectly through their caregivers' improved well-being. Evidence is available regarding the positive mental health effects of recreational programmes, including sport,⁶¹ and after-school programmes. Yet, evidence is scarce globally regarding mental health outcomes and upgrading of urban areas for improved safety, including for walking or cycling, or for increased recreation or nature exposure opportunities.⁶²

What are the policy implications?

Although the South African National Mental Health Policy Framework and Strategic Plan (2013-2020)⁶⁸ included specific mention of the social determinants of mental health and the need for intersectoral action to address them, this policy has now lapsed, and at the time of writing, the Department of Health was yet to renew it. A very useful review of national and provincial child and adolescent mental health policy in South Africa, published by Mokitimi et al. in 2018, found no specific reference to social determinants of child and adolescent mental health in the content of current policy.⁶⁹

If policies are going to have a substantial impact on the powerful social and economic drivers of child and adolescent mental health, then governments need to adopt a 'whole of society', integrated approach that links mental health and social interventions. For example, policies related to child

Table 1: Examples of interventions that target key social determinants of mental health, per domain

Domain	Intervention	Mental health outcomes	Gaps
Demographic	School-based mental health promotion interventions ⁶³	Improved social and emotional competence and resilience	All evidence from high-income countries; limited evidence of long-term impact
Economic	Conditional/unconditional cash transfer programmes ⁶⁴	Reduced depressive and anxiety symptoms; improved behavioural and emotional development	Few studies among children or younger adolescents. Evidence from Africa mainly for unconditional cash transfers. Limited evidence on long-term impact.
Neighbourhood	After-school programmes, ^{60, 65} Recreational activity programmes, including sport ^{61, 66}	Increased self-esteem/self-confidence; improved prosocial behaviours, decreased problem behaviours	Few LMIC studies and few studies evaluating mental health outcomes
Environmental events	Focused psychosocial support interventions for children exposed to traumatic events in humanitarian settings in LMIC ⁶⁷	Reduced symptoms of PTSD and functional impairment; increased hope, coping and social support	Results indicate these interventions are not as effective in children under 15 and for displaced children, possibly due to most interventions employing cognitive behavioural techniques, not accessible to younger children
Social and cultural	Higher educational attainment ⁵¹	Reduced depression in adolescence	Most evidence from high-income countries

protection, social protection (such as the Child Support Grant (CSG)), food security and housing need to ensure that they are coordinated to maximise mental health benefits for children – in keeping with the approach of the SDGs. More specifically, policies need to be informed by the evidence, particularly on the mechanisms by which social determinants interventions yield specific mental health improvements. For example, there is some evidence that poverty affects child and adolescent mental health both directly and through its influence on self-regulation.⁷⁰ Self-regulation refers to the ability to develop and sustain goal-directed behaviour, despite emotionally salient and challenging environments. Therefore, poverty reduction policies, such as the CSG should ideally be accompanied by evidence-based mental health promotion and mental illness prevention interventions (delivered either through community-based organisations, schools or after-school programmes) to help vulnerable children, adolescents and their caregivers strengthen self-regulation skills to better cope with adversity. Strategies taught could include emotional regulation, problem-solving skills and planning for the future. Developing a sense of agency and activism are vital on the pathway to transformation, inclusion and healing. Key vulnerable populations, as identified in the above framework on social determinants, should be prioritised in South Africa to promote more equitable and inclusive development and ensure no-one is left behind. This is particularly important for children and adolescents exposed to intersectional and

cumulative risks, such as those related to poverty, violence and discrimination on the basis of race, gender or ability.

An interesting example of the need to coordinate policy across different sectors is that of alcohol use in adolescence. The prevalence of alcohol use climbs significantly during adolescence, with a number of adverse outcomes related to mental health, sexual risk taking, and injuries. In responding, policies need to not only support interventions that address individual adolescents' drinking behaviour, but also address the commercial determinants of alcohol consumption. For example, aggressive marketing of alcohol by the industry requires urgent regulation and change.⁷¹ The Western Cape Alcohol-Related Harms Reduction White Paper⁷² is an example of a multi-pronged policy, including a range of interventions to reduce alcohol related harms (see Case 6).

It is important to distinguish longer-term and shorter-term political processes that are required to address social determinants, recognising some social determinants may be more difficult to address than others. For example, broader structural arrangements which support the enormous racial and income inequalities in South Africa will take longer to address. But short-term gains for child and adolescent mental health can be obtained through addressing pressing social challenges, such as child hunger and maltreatment. Adversities precipitated by COVID-19 are particularly pressing,²⁵ as they require a rapid response to mitigate immediate and long-term harm.

Case 6: Structural interventions to address adolescent alcohol use in South Africa

Charles Parry and Jason Bantjesⁱⁱ

Alcohol use was identified as the leading risk factor for death and disability in sub-Saharan Africa, and globally for adolescents aged 15 – 19 years.⁸⁰ In South Africa, a 2011 national survey of learners in Grades 8 – 11 found that 37% of males and 28% of females reported drinking in the past 30 days, with an alarming 30% of male and 20% of female learners reporting binge drinking during the same period.⁸¹

Direct and indirect consequences of drinking among children and adolescents in South Africa include rape, interpersonal violence, absenteeism, school failure, unwanted pregnancies, sexually transmitted infections, HIV, and foetal alcohol spectrum disorders (FASD).⁸²

Drinking during pregnancy at any age can damage the unborn child, and rates of FASD in South Africa are among the highest in the world, with a recent study reporting population prevalence rates of 14% – 21% in certain, mainly rural, communities of the Western Cape.⁸³ FASD causes intellectual and behavioural problems, which create considerable obstacles to children's social development and educational outcomes in addition to developmental delays, hyperactivity, attention deficits, learning disabilities, intellectual deficits, and sometimes seizures.^{84, 85}

Adolescents with alcohol use problems often also experience mental health problems, including mood disorders, anxiety disorders, conduct disorders, and suicidal behaviour.^{86, 87} These mental health problems can be both a precipitant and consequence of alcohol use.

Impulsivity and risk taking are both hallmarks of

adolescence.⁸⁸ Alcohol use exacerbates impulsivity and impairs judgement, thus increasing risk-taking behaviour during adolescence and increasing the likelihood of adverse outcomes, including injury and death.⁸⁹

Young people are prolific consumers of media, and they are frequently exposed to alcohol advertising and marketing.^{90, 91} Furthermore, adolescents are vulnerable to the harmful influence of alcohol advertising,⁹² and may be disproportionately exposed to marketing by alcohol producers.⁹⁰ Voluntary advertising industry guidelines are not adequate to protect young people,⁹⁰ highlighting the importance of – and urgent need for – more government oversight in this area.

The South African government has attempted to address these problems by proposing to ban the advertising of alcohol, raise the legal drinking age, limit hours for alcohol sales, and lower the legal alcohol limit for drivers. While government has taken concrete action in a few areas, progress has been slow. There is a lot more the government could and should be doing: equipping parents to be good role models and to set appropriate boundaries for their children, banning packaging that appeals to young people, increasing excise taxes on products that appeal to young people such as fruit flavoured alcoholic drinks, dealing firmly with venues that sell alcohol to underage drinkers, accrediting school-based prevention programmes to improve the quality of such programmes, and ensuring that there are appropriate and high-quality treatment programmes available for young persons who need such an intervention.

i Alcohol, Tobacco and Other Drug Research Unit, South African Medical Research Council & Department of Psychiatry, Stellenbosch University.

ii Alcohol, Tobacco and Other Drug Research Unit, South African Medical Research Council & Institute for Life Course Health Research, Department of Global Health, Stellenbosch University

What are the priorities for research, teaching and advocacy?

South Africa already has relatively high coverage of the CSG, providing a platform for developing cash + care or cash + parenting programmes to address social determinants of child and adolescent mental health. There is also promising preliminary evidence of the potential benefits of 'cash-plus' programmes for child health outcomes, although the evidence of mental health benefits is currently limited.⁷⁷ Such interventions need to make use of existing infrastructure

through schools, early child development programmes, after-school programmes and parenting support, and there are encouraging local examples, such as the Western Cape government's Enriched after-school programme⁷⁸ and the suite of combined approaches developed by Sherr and colleagues (Case 7). For many, basic infrastructure support for clean and safe communities, including basic sanitation, housing, transport and access to good quality education, are important priorities. Active participation of children,

Case 7: Combinations of interventions to boost child well-being

Lorraine Sherrⁱ

Child mental health and well-being is the key to many pathways of happiness, achievement, productive relationships and agency. Feelings and emotions are core to everyone's existence. However, extreme emotions or burdensome experiences can cause misery and it is important that interventions are available to support children, prevent burdensome experiences in the first place, promote positive emotional experiences and provide care pathways for those in distress.

In the past, help for different aspects of a child's life was often compartmentalised. This narrow approach was not helpful to overall well-being. Today we use a more holistic approach and understand that there is no health without good mental health⁹³ – an idea that is true for children of all ages and adults alike.

There is good evidence that a number of interventions can have a beneficial effect. Cash transfers, or forms of monetary support, have been shown to have a significant effect on reducing mental health burden in adolescents in a recent systematic review.⁹⁴ This comprehensive review cautioned that cash support alone could be insufficient in extreme risk settings and that the practice of linking such cash transfers to eligibility conditions may be counterproductive. This clearly opens the door to looking at combination interventions. An exciting current development sets out good evidence that combinations of these interventions can boost or accelerate beneficial effects. This sounds fairly straightforward, perhaps even obvious, when looked at simply. But it is important to understand which interventions are most useful, which combinations give the best results, and whether these interventions and combinations can affect mental health outcomes.

Social protection and financial support measures in the form of social grants such as child support grants or old age pensions into the household have been shown to be effective for many child and adolescent outcomes.⁹⁵ A set of South African studies have provided good evidence on how cash plus care can be of benefit.⁹⁶ Early studies showed that cash together with good parenting had a number of positive impacts on adolescents – such as reducing their risk behaviour, increasing their adaptive

behaviour such as treatment adherence for those with HIV, clinic attendance for those with chronic conditions, and sexual risk behaviours. So, the next step was to find out whether these findings applied to younger children as well. One way to go about this is to understand what childhood measures predict later risk. The next step is to examine interventions that were effective in helping improve these predictors. With this understanding we can then test whether such provision in real life settings actually impacts a host of outcomes for young children.

The Community Care study in South Africa provided such an opportunity.⁹⁷ This study examined the effects of cash plus various forms of care on a set of mental health and cognitive outcomes for young children. The study gathered children supported by community-based organisations (CBOs)ⁱⁱ and monitored mental and cognitive measures for these children. It also used a group of children not attending community-based organisations as a comparison group. Cash included any type of cash grant to the family and care included good parenting, adequate food or access to support from a CBO. It is important to note that these children resided in environments typified by poverty, high HIV rates and social challenge. The study showed that children attending CBOs had lower rates of suicidal ideation, fewer depressive symptoms, less perceived stigma, fewer peer problems, fewer conduct problems, and lower odds of experiencing weekly domestic conflict, domestic violence or abuse at 18-month follow-up compared to children without CBO contact.

A series of analyses showed the specific advantages of cash grants plus good parenting, and cash grants plus food security⁹⁸ on children's cognitive functioning. We found that cash transfers are associated with improved cognitive outcomes, and that cash plus good parenting enhances the effects. This holds true for memory, overall cognition, learning and recall. A detailed look at the findings also suggested that fragile groups may need multiple support avenues. This provides a clear motivation for parenting programmes to be made available in conjunction with cash transfers to enhance the effects and improve cognitive development outcomes for young children – especially in high HIV affected areas.

i Institute of Global Health, University College London

ii Community-based organisations included any grassroots organisation providing child support services to children and/or their caregivers or both, with a specific remit for HIV – such as ECD programmes, randomly selected from a full list of all organisations supported by a selection of 11 international funders (n=580; 28 selected).

This opened the idea of studying various combinations to see if they had beneficial outcomes. All children lived in poverty-stricken households and were eligible for – or in need of – cash grants and multiple supports. Three groups were created: The first group (20%) received neither a cash grant nor food support. The second group (32.4%) received one of these measures (either cash or food) and the third group (47.9%) received both cash grants and food support. Receiving either form of support was linked to the child being in the correct class for age, higher scores of non-verbal cognition and higher working memory scores. Receiving both reduced educational risk and improved odds of being in the correct class for age, attending school regularly, missing less than a week of school in the previous two weeks, scoring higher on aspects of cognition and working memory, and learning new things more easily. Benefits are enhanced when social protection is received in combination.

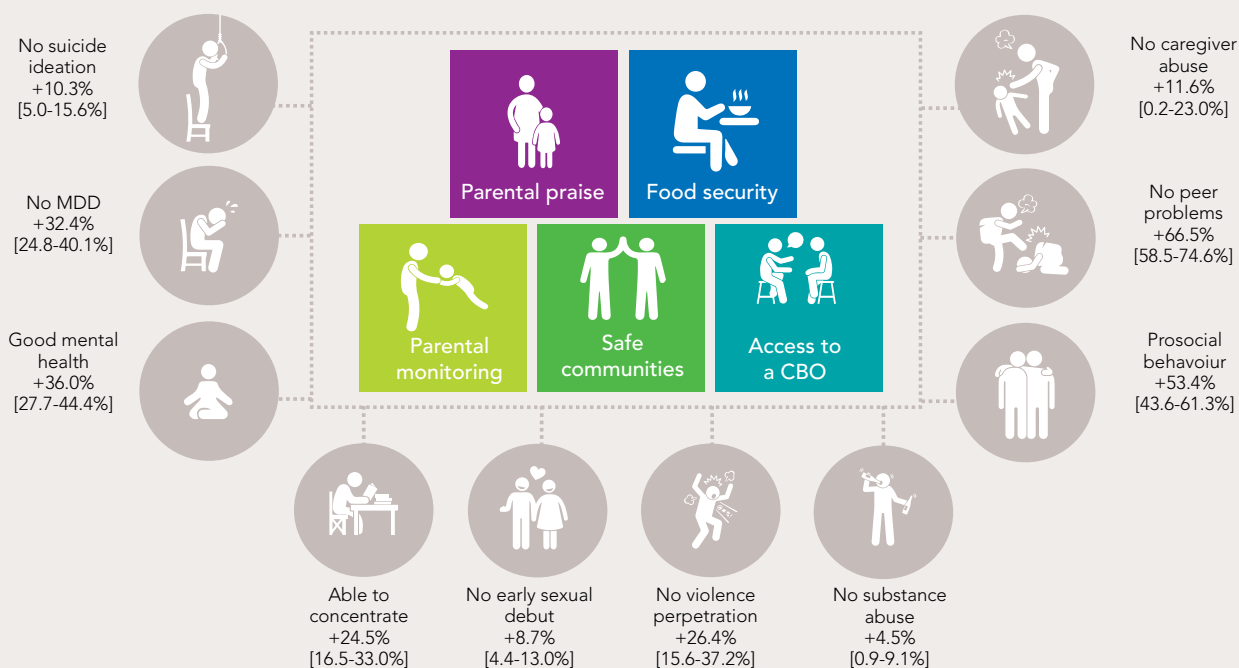
Finally, this accelerator idea was tested out over time – at baseline and 18-month follow-up – to examine associations between access to five accelerating services and 12 child outcomes.⁹⁹ The five were food security, cash grants, positive parenting, safe communities and community support, all derived from detailed measures from well tested measurement inventories. This showed that food security is associated with positive child education

and cognitive development outcomes. Cash grants were positively associated with nutrition and cognitive development outcomes, and living in a safe community was positively associated with all mental health outcomes. Experiencing a combination of two of these protective factors was associated with a higher probability of positive child outcomes. However, experiencing all three was associated with better child outcomes, compared with any of the individual factors by themselves, with substantial improvements noted in child education outcomes.

A second accelerator analysis provided specific insight into the role of accelerated provision and mental health outcomes.¹⁰⁰ Significant additive effects of combining interventions were present for five out of the six mental health outcomes investigated (no depression, no suicidality, overall mental health, no peer problems, and no substance misuse). The only exception was post-traumatic stress disorder. This suggests that applying a combination approach represents a sound investment for reducing the mental health burden in children and adolescents.

The figure below shows how combinations of interventions affect a range of mental health outcomes. Such findings support the notion of synergistic social protection responses for children and suggest that careful choice and combinations can maximise the benefits for children.

Figure 10: Impact of combined interventions on mental health outcomes



Source: Haag K, Du Toit S, Rudgard WE, Skeen S, Meinck F, Gordon SL, Mebrahtu H, Roberts KJ, Cluver L, Tomlinson M, & Sherr L. Accelerators for achieving the sustainable development goals in sub-Saharan-African children and young adolescents - a longitudinal study. *World Development*. 2021; 151 [105739].
 Note: No MDD refers to No Depression above the cut-off point of the measure.

adolescents and caregivers as agents of change is vital in this process as their agency is integrally linked to their mental health and a vital mechanism for addressing the social determinants.

Within this overall approach, a number of key priorities can be identified:

- In relation to *research priorities*, first, we need to know more about how social determinants impact on the mental health of children and adolescents. The current evidence base would be strengthened by a nationally representative epidemiological study of child and adolescent mental health, including risk and protective factors; and by large, longitudinal studies, exploring the intergenerational transmission of poverty, responses to adverse life circumstances (such as inequality, discrimination, violence or trauma in communities) and mental health conditions. We also need to explore what works, for whom and under what circumstances. This requires the design and testing of interventions, including analysis of the mechanisms by which social interventions might yield improvements in child and adolescent mental health. In all research, we must hear child and adolescent perspectives on and priorities for their needs and well-being, and this requires active participation by children and adolescents in research programmes.

- The emerging evidence base needs to inform *priorities for teaching*. This means teaching mental health professionals (psychologists, psychiatrists) about public mental health approaches, and the benefits of delivering social interventions alongside clinical interventions. Currently the education of psychologists and psychiatrists focusses narrowly on clinical care, with limited focus on interventions to address social determinants. It is therefore essential to broaden the curriculum to include a greater focus on public mental health, in order to raise awareness of the social determinants of mental health. This is vital to equip mental health professionals with the knowledge and skills to link children and families with a range of support services and to advocate on behalf of children in their care. This also requires teaching child policy makers about the potential to improve child and adolescent mental health by addressing its social determinants.
- Finally, in relation to *advocacy priorities*, we need to link a variety of stakeholders around a common agenda of improving child and adolescent mental health by addressing its social determinants. This requires advocating to sectors of government aligned to health (housing, transport, community safety, education, social development) about the importance of addressing social drivers of child and adolescent mental health.

References

1. Lund C, Brooke-Sumner C, Baingana F, Baron EC, Breuer E, Chandra P, Saxena S. Social determinants of mental disorders and the Sustainable Development Goals: a systematic review of reviews. *Lancet Psychiatry*. 2018;5(4):357-369.
2. Mendenhall E, Kohrt BA, Norris SA, Ndeti D, Prabhakaran D. Non-communicable disease syndemics: Poverty, depression, and diabetes among low-income populations. *Lancet*. 2017;389(10072):951-963.
3. Patel V, Burns JK, Dhingra M, Tarver L, Kohrt BA, Lund C. Income inequality and depression: A systematic review and meta-analysis of the association and a scoping review of mechanisms. *World Psychiatry*. 2018;17(1):76-89.
4. COVID-19 Mental Disorders Collaborators. Global prevalence and burden of depression and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. *Lancet*. 2021;398:1700-1712.
5. Fowler PJ, Tompsett CJ, Braciszewski JM, Jacques-Tiura AJ, Baltes BB. Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Development and Psychopathology*. 2009;21(1):227-259.
6. Kuposov R, Isaksson J, Vermeiren R, Schwab-Stone M, Stickley A, Ruchkin V. Community violence exposure and school functioning in youth: Cross-country and gender perspectives. *Front Public Health*. 2021;9:692402.
7. Schneider S. Associations between childhood exposure to community violence, child maltreatment and school outcomes. *Child Abuse & Neglect*. 2020;104:104473.
8. Foster H, Brooks-Gunn J. Children's exposure to community and war violence and mental health in four African countries. *Social Science & Medicine*. 2015;146:292-299.
9. Yule K, Houston J, Grych J. Resilience in children exposed to violence: A meta-analysis of protective factors across ecological contexts. *Clinical Child & Family Psychology Review*. 2019;22(3):406-431.
10. Whiteford HA, Degenhardt L, Rehm J, Baxter AJ, Ferrari AJ, Erskine HE, Johns N. Global burden of disease attributable to mental and substance use disorders: Findings from the Global Burden of Disease Study 2010. *The Lancet*. 2013;382(9904):1575-1586.
11. Petermann F. Common risk factors of depressive and anxiety symptoms in childhood and adolescence: A systematic review from transdiagnostic perspectives. *Fortschritte der Neurologie-psychiatrie*. 2015;83(6):321-333.
12. Luppá M, Sikorski C, Luck T, Ehreke L, Konnopka A, Wiese B, Riedel-Heller SG. Age- and gender-specific prevalence of depression in latest-life-systematic review and meta-analysis. *Journal of Affective Disorders*. 2012;136(3):212-221.
13. Baxter AJ, Scott KM, Vos T, Whiteford HA. Global prevalence of anxiety disorders: A systematic review and meta-regression. *Psychological Medicine*. 2013;43(5):897-910.
14. Qian J, Hu Q, Wan Y, Li T, Wu M, Ren Z, Yu D. Prevalence of eating disorders in the general population: A systematic review. *Shanghai Archives of Psychiatry*. 2013;25(4):212.
15. Bale TL, Epperson CN. Sex differences and stress across the lifespan. *Nature Neuroscience*. 2015;18(10):1413-1420.
16. Merikangas KR, Nakamura EF, Kessler RC. Epidemiology of mental disorders in children and adolescents. *Dialogues in Clinical Neuroscience*. 2009;11(1):7.
17. Hor K, Taylor M. Suicide and schizophrenia: A systematic review of rates and risk factors. *Journal of Psychopharmacology*. 2010;24(4 suppl):81-90.
18. Hawton K, Comabella CC, Haw C, Saunders K. Risk factors for suicide in individuals with depression: A systematic review. *Journal of Affective Disorders*. 2013;147(1-3):17-28.
19. Russell ST, Fish JN. Mental health in lesbian, gay, bisexual, and transgender (LGBT) youth. *Annual Review of Clinical Psychology*. 2016;12:465-487.
20. Berry OO, Tobón AL, Njoroge WF. Social determinants of health: The impact of racism on early childhood mental health. *Current Psychiatry Reports*. 2021;23(5):1-10.
21. Priest N, Paradies Y, Trenerry B, Truong M, Karlsen S, Kelly Y. A systematic

- review of studies examining the relationship between reported racism and health and wellbeing for children and young people. *Social Science & Medicine*. 2013;95:115-127.
22. Stirling K, Toumbourou JW, Rowland B. Community factors influencing child and adolescent depression: A systematic review and meta-analysis. *Australian & New Zealand Journal of Psychiatry*. 2015;49(10):869-886.
 23. Grantham-McGregor S, Cheung YB, Cueto S, Glewwe P, Richter L, Strupp B, Group ICDS. Developmental potential in the first 5 years for children in developing countries. *Lancet*. 2007;369(9555):60-70.
 24. Bouffard L, Dubé M. Mental income inequality: A "virus" which affects health and happiness. *Sante Mentale au Quebec*. 2013;38(2):215-233.
 25. Kola L, Kohrt BA, Hanlon C, Naslund JA, Sikander S, Balaji M, Patel V. COVID-19 mental health impact and responses in low-income and middle-income countries: Reimagining global mental health. *Lancet Psychiatry*. 2021;8(6):535-550.
 26. Lund C, Brooke-Sumner C, Baingana F, Baron EC, Breuer E, Chandra P, Kieling C. Social determinants of mental disorders and the Sustainable Development Goals: A systematic review of reviews. *The Lancet Psychiatry*. 2018;5(4):357-369.
 27. Branson N, De Lannoy A, Kahn A. *Exploring the transitions and well-being of young people who leave school before completing secondary education in South Africa*. Report No.: 192851605X. NIDS Discussion Paper 2019/11. Cape Town: National Income Dynamics Study. 2019.
 28. Salgado M, Madureira J, Mendes AS, Torres A, Teixeira JP, Oliveira MD. Environmental determinants of population health in urban settings: A systematic review. *BMC Public Health*. 2020;20(1):853.
 29. Gascon M, Triguero-Mas M, Martinez D, Dadvand P, Fornis J, Plasencia A, Nieuwenhuijsen MJ. Mental health benefits of long-term exposure to residential green and blue spaces: A systematic review. *International Journal of Environmental Research and Public Health*. 2015;12(4):4354-4379.
 30. Brumley LD, Jaffee SR. Defining and distinguishing promotive and protective effects for childhood externalizing psychopathology: A systematic review. *Social Psychiatry and Psychiatric Epidemiology*. 2016;51(6):803-815.
 31. Visser K, Bolt G, Finkenauer C, Jonker M, Weinberg D, Stevens GWJM. Neighbourhood deprivation effects on young people's mental health and well-being: A systematic review of the literature. *Social Science & Medicine*. 2021;270:113542.
 32. Alderton A, Villanueva K, O'Connor M, Boulangé C, Badland H. Reducing inequities in early childhood mental health: How might the neighborhood built environment help close the gap? A systematic search and critical review. *International Journal of Environmental Research and Public Health*. 2019;16(9).
 33. Fleckney P, Bentley R. The urban public realm and adolescent mental health and wellbeing: A systematic review. *Social Science & Medicine*. 2021;284:114242.
 34. Sharpe RA, Taylor T, Fleming LE, Morrissey K, Morris G, Wigglesworth R. Making the case for "whole system" approaches: Integrating public health and housing. *International Journal of Environmental Research and Public Health*. 2018;15(11):2345.
 35. Weimann A, Oni T. A systematised review of the health impact of urban informal settlements and implications for upgrading interventions in South Africa, a rapidly urbanising middle-income country. *International Journal of Environmental Research and Public Health*. 2019;16(19).
 36. Rautio N, Filatova S, Lehtiniemi H, Miettunen J. Living environment and its relationship to depressive mood: A systematic review. *International Journal of Social Psychiatry*. 2018;64(1):92-103.
 37. Ali-Saleh Darawshy N, Gewirtz A, Marsalis S. Psychological intervention and prevention programs for child and adolescent exposure to community violence: A systematic review. *Clinical Child & Family Psychology Review*. 2020;23(3):365-378.
 38. Shields N, Nadasen K, Pierce L. The effects of community violence on children in Cape Town, South Africa. *Child Abuse & Neglect*. 2008;32(5):589-601.
 39. Wiafe S, Mihan A, Davison CM. Neighborhood-level influences and adolescent health risk behaviors in rural and urban Sub-Saharan Africa: A systematic review. *International Journal of Environmental Research and Public Health*. 2021;18(14).
 40. Zougheibe R, Jepson B, Norman R, Gudes O, Dewan A. Is there a correlation between children's outdoor active mobility behaviour and neighbourhood safety? A systematic review of the evidence. *BMJ Open*. 2021;11(7):e047062.
 41. Hosokawa R, Katsura T. The relationship between neighborhood environment and child mental health in Japanese elementary school students. *International Journal of Environmental Research and Public Health*. 2020;17(15).
 42. Bromet EJ, Goldgaber D, Carlson G, Panina N, Golovakha E, Gluzman SF, Schwartz JE. Children's wellbeing 11 years after the Chernobyl catastrophe. *Archives of General Psychiatry*. 2000;57(6):563-571.
 43. Latif F, Yeatermeyer J, Horne ZD, Beriwai S. Psychological Impact of Nuclear Disasters in Children and Adolescents. *Child and Adolescent Psychiatric Clinics of North America*. 2015;24(4):811-822.
 44. Slone M, Mann S. Effects of war, terrorism and armed conflict on young children: A systematic review. *Child Psychiatry & Human Development*. 2016;47(6):950-965.
 45. Blackmore R, Gray KM, Boyle JA, Fazel M, Ranasinha S, Fitzgerald G, Gibson-Helm M. Systematic review and meta-analysis: The prevalence of mental illness in child and adolescent refugees and asylum seekers. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2020;59(6):705-714.
 46. Cianconi P, Betrò S, Janiri L. The impact of climate change on mental health: A systematic descriptive review. *Front Psychiatry*. 2020;11:74.
 47. Baudoin M-A, Vogel C, Nortje K, Naik M. Living with drought in South Africa: Lessons learnt from the recent El Niño drought period. *International Journal of Disaster Risk Reduction*. 2017;23:128-137.
 48. Vins H, Bell J, Saha S, Hess JJ. The mental health outcomes of drought: A systematic review and causal process diagram. *International Journal of Environmental Research and Public Health*. 2015;12(10):13251-13275.
 49. Rose T, Lindsey MA, Xiao Y, Finigan-Carr NM, Joe S. Mental health and educational experiences among black youth: A latent class analysis. *Journal of Youth and Adolescence*. 2017;46(11):2321-2340.
 50. Gautam P, Dahal M, Ghimire H, Chapagain S, Baral K, Acharya R, Neupane A. Depression among adolescents of rural Nepal: A community-based study. *Depression Research and Treatment*. 2021;2021:7495141.
 51. Esch P, Bocquet V, Pull C, Couffignal S, Lehnert T, Graas M, Anseau M. The downward spiral of mental disorders and educational attainment: A systematic review on early school leaving. *BMC Psychiatry*. 2014;14.
 52. Castellvi P, Miranda-Mendizabal A, Alayo I, Pares-Badell O, Almenara J, Alonso I. Assessing the relationship between school failure and suicidal behavior in adolescents and young adults: A systematic review and meta-analysis of longitudinal studies. *School Mental Health*. 2020.
 53. Rose T, Lindsey MA, Xiao Y, Finigan-Carr NM, Joe S. Mental Health and Educational Experiences Among Black Youth: A Latent Class Analysis. *J Youth Adolesc*. 2017;46(11):2321-2340.
 54. Mitchell JJ. *Adolescent struggle for selfhood and identity*. Bellingham, WA: Temeron Books, Inc; 1992.
 55. Kingsbury M, Kirkbride JB, McMartin SE, Wickham ME, Weeks M, Colman I. Trajectories of childhood neighbourhood cohesion and adolescent mental health: Evidence from a national Canadian cohort. *Psychological Medicine*. 2015;45(15):3239-3248.
 56. Donnelly L, McLanahan S, Brooks-Gunn J, Garfinkel I, Wagner BG, Jacobsen WC, Gaydos L. Cohesive neighborhoods where social expectations are shared may have positive impact on adolescent mental health. *Health Affairs (Millwood)*. 2016;35(11):2083-2091.
 57. Kingsbury M, Clayborne Z, Colman I, Kirkbride JB. The protective effect of neighbourhood social cohesion on adolescent mental health following stressful life events. *Psychological Medicine*. 2020;50(8):1292-1299.
 58. Henson RM, Ortigoza A, Martinez-Folgar K, Baeza F, Caiaffa W, Vives Vergara A, Lovasi G. Evaluating the health effects of place-based slum upgrading physical environment interventions: A systematic review (2012-2018). *Social Science & Medicine*. 2020;261:113102.
 59. Kondo MC, Andreyeva E, South EC, MacDonald JM, Branas CC. Neighborhood interventions to reduce violence. *Annual Review of Public Health*. 2018;39(1):253-271.
 60. D'Agostino EM, Frazier SL, Hansen E, Patel HH, Ahmed Z, Okeke D, Messiah SE. Two-year changes in neighborhood juvenile arrests after implementation of a park-based after-school mental health promotion program in Miami-Dade County, Florida, 2015-2017. *American Journal of Public Health*. 2019;109(S3):S214-s220.
 61. Elsborg P, Nielsen G, Klinker CD, Melby PS, Christensen JH, Bentsen P. Sports-based recreation as a means to address social inequity in health: Why, when, where, who, what, and how. *BMC Public Health*. 2019;19(1):1084.
 62. Audrey S, Batista-Ferrer H. Healthy urban environments for children and young people: A systematic review of intervention studies. *Health Place*. 2015;36:97-117.
 63. O'Reilly M, Svirydzenka N, Adams S, Dogra N. Review of mental health promotion interventions in schools. *Social Psychiatry and Psychiatric Epidemiology*. 2018;53(7):647-662.
 64. Zimmerman A, Garman E, Avendano Pabon M, Araya Baltra R, Evans-Lacko S, McDaid D, Lund C. The impact of cash transfers on mental health in children and young people in low- and middle-income countries: A systematic review and meta-analysis. *BMJ Global Health*. 2021;6(4):e004661.
 65. Durlak JA, Weissberg RP, Pachan M. A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology*. 2010;45(3):294-309.
 66. Eime RM, Young JA, Harvey JT, Charity MJ, Payne WR. A systematic review of the psychological and social benefits of participation in sport for children and adolescents: Informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity*. 2013;10:98.
 67. Purgato M, Gross AL, Betancourt T, Bolton P, Bonetto C, Gastaldon C,

- Barbui C. Focused psychosocial interventions for children in low-resource humanitarian settings: A systematic review and individual participant data meta-analysis. *Lancet Global Health*. 2018;6(4):e390-e400.
68. Department of Health. *National Mental Health Policy Framework and Strategic Plan, 2013-2020*. Pretoria: Department of Health; 2013.
 69. Mokitimi S, Schneider M, De Vries P. Child and adolescent mental health policy in South Africa: History, current policy development and implementation, and policy analysis. *International Journal of Mental Health Systems*. 2018;12(1):36.
 70. Palacios-Barrios EE, Hanson JL. Poverty and self-regulation: Connecting psychosocial processes, neurobiology, and the risk for psychopathology. *Comprehensive Psychiatry*. 2019;90:52-64.
 71. Siegfried N, Parry C. Do alcohol control policies work? An umbrella review and quality assessment of systematic reviews of alcohol control interventions (2006 - 2017). *PLoS One*. 2019;14(4):e0214865.
 72. Department of the Premier. *Western Cape Alcohol-related Harms Reduction Policy White Paper*. Western Cape Government. 2017. [https://www.westerncape.gov.za/text/2017/September/white_paper_alcohol-related_harms_reduction.pdf]
 73. Stoltenborgh M, Bakermans-Kranenburg MJ, van Ijzendoorn MH, Alink LR. Cultural-geographical differences in the occurrence of child physical abuse? A meta-analysis of global prevalence. *International Journal of Psychology*. 2013;48(2):81-94.
 74. Norman RE, Byambaa M, De R, Butchart A, Scott J, Vos T. The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. *PLoS Med*. 2012;9(11):e1001349.
 75. Chen M, Chan KL. Effects of parenting programs on child maltreatment prevention: A meta-analysis. *Trauma Violence Abuse*. 2016;17(1):88-104.
 76. Lachman J, Wamoyi J, Spreckelsen T, Wight D, Maganga J, Gardner F. Combining parenting and economic strengthening programmes to reduce violence against children: A cluster randomised controlled trial with predominantly male caregivers in rural Tanzania. *BMJ Global Health*. 2020;5(7).
 77. Little MT, Roelen K, Lange BCL, Steinert JI, Yakubovich AR, Cluver L, Humphreys DK. Effectiveness of cash-plus programmes on early childhood outcomes compared to cash transfers alone: A systematic review and meta-analysis in low- and middle-income countries. *PLoS Med*. 2021;18(9):e1003698.
 78. See <https://www.enriched.co.za/>.
 79. Kleinman A. *Patients and healers in the context of culture*. Berkeley: University of California press; 1980.
 80. Lim SS, Vos T, Flaxman AD, Danaei G, Shibuya K, Adair-Rohani H, Andrews KG. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: A systematic analysis for the Global Burden of Disease Study 2010. *The Lancet*. 2012;380(9859):2224-2260.
 81. Reddy S, James S, Sewpaul R, Sifunda S, Ellahebokus A, Kambaran NS, Omardien RG. *Umthente uhlaba usamila: The 3rd South African national youth risk behaviour survey 2011*. 2013. [<https://repository.hsric.ac.za/handle/20.500.11910/2487>]
 82. Manu E, Maluleke XT, Douglas M. Knowledge of high school learners regarding substance use within high school premises in the Buffalo Flats of East London, Eastern Cape Province, South Africa. *Journal of Child & Adolescent Substance Abuse*. 2017;26(1):1-10.
 83. May PA, Blankenship J, Marais AS, Gossage JP, Kalberg WO, Barnard R, Buckley D. Approaching the prevalence of the full spectrum of Fetal Alcohol Spectrum Disorders in a South African population-based study. *Alcoholism: Clinical and experimental research*. 2013;37(5):818-830.
 84. Streissguth AP, Bookstein FL, Barr HM, Sampson PD, O'Malley K, Young JK. Risk factors for adverse life outcomes in fetal alcohol syndrome and fetal alcohol effects. *Journal of Developmental & Behavioral Pediatrics*. 2004;25(4):228-238.
 85. Lubbe M, Van Walbeek C, Vellios N. The prevalence of fetal alcohol syndrome and its impact on a child's classroom performance: A case study of a rural South African school. *International Journal of Environmental Research and Public Health*. 2017;14(8):896.
 86. Meque I, Dachev BA, Maravilla JC, Salom C, Alati R. Externalizing and internalizing symptoms in childhood and adolescence and the risk of alcohol use disorders in young adulthood: A meta-analysis of longitudinal studies. *Australian & New Zealand Journal of Psychiatry*. 2019;53(10):965-975.
 87. Clark DB, Bukstein OG. Psychopathology in adolescent alcohol abuse and dependence. *Alcohol Health and Research World*. 1998;22(2):117.
 88. Crone EA, van Duijvenvoorde AC. Multiple pathways of risk taking in adolescence. *Developmental Review*. 2021;62:100996.
 89. Bonomo Y, Coffey C, Wolfe R, Lynskey M, Bowes G, Patton G. Adverse outcomes of alcohol use in adolescents. *Addiction*. 2001;96(10):1485-1496.
 90. King C, Siegel M, Ross CS, Jernigan DH. Alcohol advertising in magazines and underage readership: Are underage youth disproportionately exposed? *Alcoholism: Clinical and experimental research*. 2017;41(10):1775-1782.
 91. Finan LJ, Lipperman-Kreda S, Grube JW, Balassone A, Kaner E. Alcohol marketing and adolescent and young adult alcohol use behaviors: A systematic review of cross-sectional studies. *Journal of Studies on Alcohol and Drugs, Supplement*. 2020(s19):42-56.
 92. Bonnie RJ. Reducing underage drinking: A collective responsibility. *Developments in Mental Health Law*. 2004;23:1.
 93. Prince M, Patel V, Saxena S, Maj M, Maselko J, Phillips MR, Rahman A. No health without mental health. *The Lancet*. 2007;370(9590):859-877.
 94. Zaneva M, Guzman-Holst C, Reeves A, Bowes L. The impact of monetary poverty alleviation programs on children's and adolescents' mental health: A systematic review and meta-analysis across low-, middle-, and high-income countries. *Journal of Adolescent Health*. 2022.
 95. Cluver LD, Orkin FM, Boyes ME, Sherr L. Cash plus care: Social protection cumulatively mitigates HIV-risk behaviour among adolescents in South Africa. *AIDS*. 2014;28:S389-S397.
 96. Sherr L, Macedo A, Tomlinson M, Skeen S, Cluver LD. Could cash and good parenting affect child cognitive development? A cross-sectional study in South Africa and Malawi. *BMC Pediatrics*. 2017;17(1):1-11.
 97. Sherr L, Yakubovich AR, Skeen S, Cluver LD, Hensels IS, Macedo A, Tomlinson M. How effective is help on the doorstep? A longitudinal evaluation of community-based organisation support. *PLoS One*. 2016;11(3):e0151305.
 98. Sherr L, Roberts KJ, Tomlinson M, Skeen S, Mebrahtu H, Gordon S, Cluver LD. Food should not be forgotten: Impacts of combined cash transfer receipt and food security on child education and cognition in South Africa and Malawi. *AIDS and Behavior*. 2021;25(9):2886-2897.
 99. Mebrahtu H, Skeen S, Rudgard WE, Du Toit S, Haag K, Roberts KJ, Tomlinson M. Can a combination of interventions accelerate outcomes to deliver on the Sustainable Development Goals for young children? Evidence from a longitudinal study in South Africa and Malawi. *Child: Care, Health and Development*. 2021.
 100. Haag K, Du Toit S, Rudgard WE, Skeen S, Meinck F, Gordon SL, Tomlinson M. Accelerators for achieving the sustainable development goals in Sub-Saharan-African children and young adolescents – a longitudinal study. *World Development*. 2022;151(C).