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# A SOCIO-ECOLOGICAL APPROACH TO UNDERSTANDING THE GENDERED DRIVERS OF POOR ADOLESCENT MENTAL HEALTH IN LOW- AND MIDDLE-INCOME COUNTRIES

March 5, 2018

This report is made possible by the support of the American People through the United States Agency for International Development (USAID), under the terms of YouthPower: Evidence and Evaluation Task Order 1 (YouthPower Learning) AID Contract # AID-OAA-I-15-00034/AID-OAA-TO-15-00011. The contents are the sole responsibility of Making Cents International and do not necessarily reflect the views of USAID or the United States Government.

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## ACKNOWLEDGEMENTS

This conceptual framework builds on an expert consultation that the International Center for Research on Women (ICRW) and United Nations Children’s Fund (UNICEF) jointly convened in April, 2017 to discuss the influence of gender on mental health in adolescence. It also augments a related summary paper, *Understanding and Tackling the Gendered Drivers of Poor Adolescent Mental Health* by Chisina Kapungu and Suzanne Petroni.

The team acknowledges valuable input and support from USAID. In particular, the authors appreciate feedback and support from Mr. Michal Avni, Ms. Elizabeth Berard, Ms. Laurel Bradley, Ms. Sylvia Cabus, Ms. Catherine Lane, Mr. Michael McCabe, Ms. Diana Prieto, Ms. Laurel Rushton, Ms. Chaitra Shenoy, and Ms. Amy Uccello.

The authors also acknowledge and give thanks to our YouthPower Learning team colleagues who contributed to this framework. They include Dr. Christy Olenik, Dr. Suzanne Petroni, Ms. Meroji Sebany, Ms. Jessica Wallach, and Ms. Christina Zola.

Recommended Citation: Kapungu, C., Juan, C., Jessee, C. L. & Edmeades, J.E. (2018). *Socio-Ecological Approach to Understanding the Gendered Drivers of Poor Adolescent Mental Health in Low-and Middle-Income Countries*. Washington, DC: YouthPower Learning, Making Cents International.

## CONTEXT

It is estimated that around 20% of the world's adolescents have a mental health or behavioral problem (UNICEF, 2012). Depressive disorders, anxiety, behavioral problems, and self-harm are among the greatest contributors to young people's burden of disease, and suicide consistently ranks among the leading causes of death for older adolescent girls and boys (ages 15-19) globally (WHO, 2017a). Poor mental health is strongly associated with other negative health and development outcomes including higher rates of substance use, early pregnancy, school dropout, delinquent behaviors and suicide, and can contribute to mental disorders and poor health later in life, with an estimated three-quarters of adult mental health disorders starting before the age of 24 (WHO, 2017b; Kessler et al., 2005). Poor mental health also impacts economic development through lost production and consumption opportunities at both the individual and societal levels. It is estimated that the lost economic output caused by untreated mental disorders as a result of diminished productivity at work, reduced rates of labor participation, and increased welfare payments amounts to more than 10 billion days of lost work annually – the equivalent of US\$1 trillion per year (Chisholm et al, 2016). Meta-analyses of gender differences in mental health indicate that gender difference in depression emerges as early as age 12, and that diagnosing and noticing symptoms of depression at that age have important implications for the timing of preventive interventions (Salk, Hyde & Abramson, 2017).

Mental health is “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (WHO, 2005). Mental health or psychological well-being is influenced not only by individual characteristics or attributes, but also by the socioeconomic circumstances in which persons find themselves and the broader environment in which they live. Depression-related illnesses begin and peak in early adolescence, just as gender norms frequently begin to consolidate (Whiteford et al., 2013). Adolescent girls are particularly at risk, manifesting clinical depression between 1.5 to 2 times as likely as males (Patel, 2013). While very little is known about the drivers of depression, self-harm and suicide among adolescents in low- and middle-income countries (LMICs), evidence from neuroscience and social science suggests that the experience of pervasive gender-based discrimination may be a significant contributor to poor mental health, depression and suicide among adolescents (Petroni, Patel, & Patton, 2015). Gender norms can profoundly and negatively affect both adolescent girls and boys, but particularly constrain girls' aspirations and opportunities (Kapungu & Petroni, 2017). This report attempts to provide a conceptual framework on the gendered drivers of adolescent mental health.<sup>1,2</sup> Annex A provides key terms and definitions. Annex B provides a brief summary of mental health data sources and measures taken specifically in low- and middle-income countries.

## MENTAL HEALTH AND DEVELOPMENT

Mental health issues cannot be considered in isolation from other areas of development, such as education, employment, sexual and reproductive health, HIV, emergency responses and human rights. Figure 1 illustrates that poor mental health is a factor that can lead to poor international development outcomes and contextual factors, including stigma and discrimination, poor access to health care, lack of

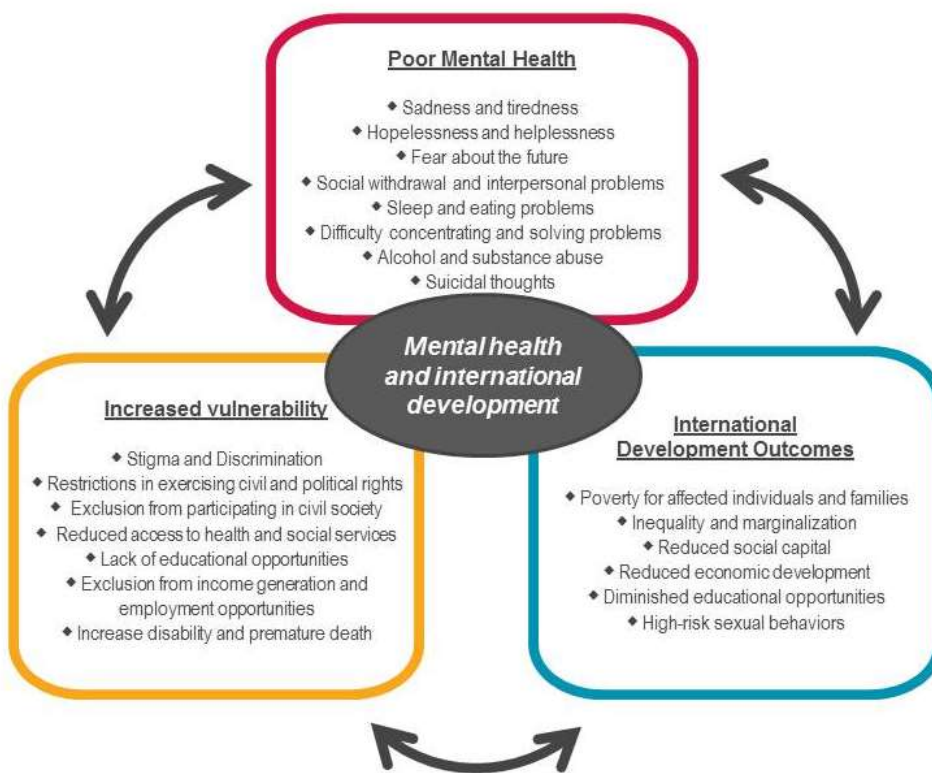
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<sup>1</sup> Refer to a background paper on the gendered drivers of poor adolescent mental health for more detail: [https://www.icrw.org/wp-content/uploads/2017/09/ICRW\\_Unicef\\_MentalHealth\\_WhitePaper\\_FINAL.pdf](https://www.icrw.org/wp-content/uploads/2017/09/ICRW_Unicef_MentalHealth_WhitePaper_FINAL.pdf)

<sup>2</sup> Refer to recommendations outlined in a comment to review a summary of identified priorities for adolescent-focused and gender-responsive mental health research; Kapungu et al. (2017.) Gendered influences on adolescent mental health in low-income and middle-income countries: Recommendations from an expert convening, *Lancet Child and Adolescent Health*, Comment

educational opportunities, exclusion from income generation and employment opportunities serve to increase vulnerability to mental health problems (Votruba, Eaton, Prince & Thornicroft, 2014; WHO, 2010). Good mental health is critical to ensuring healthy transitions to adulthood, with implications for overall well-being, growth and development, self-esteem, positive education outcomes, social cohesion and resilience in the face of future health and life changes (UNICEF, 2012). Understanding adolescent girls' and boys' unique and common vulnerabilities to mental health risks, including the impacts of harmful gender norms and the factors that can protect and enhance their mental health and wellbeing, are crucial when considering appropriate policies and interventions. The gendered influences associated with mental health problems need to be better understood, particularly in low- and middle-income countries (LMICs), where both evidence and interventions are scarce.

Figure 1: Mental health connected to development outcomes (adapted from World Health Organization)



## GENDER AND MENTAL HEALTH

Sex and gender are both important determinants of health. Biological sex and socially constructed gender interact to produce differential risks and vulnerabilities to poor mental health, as well as differences in health-seeking behavior and health outcomes for young women and men.

According to the World Health Organization:

Gender is a critical determinant of mental health and mental illness. The morbidity associated with mental illness has received substantially more attention than the gender-specific determinants and mechanisms that promote and protect mental health and foster resilience to stress and adversity. Gender also determines the differential power and control men and

women have over the socioeconomic determinants of their mental health and lives, their social position, status and treatment in society, and their susceptibility and exposure to specific mental health risks (WHO, 2014).

During adolescence, young people learn to navigate relationships with parents, teachers, and romantic partners while at the same time navigating expectations about appropriate gender roles. **Gender role differentiation** increases during adolescence, and discrimination based on gender also intensifies during this critical phase of development (Petroni, Patel, & Patton, 2015). Mothers and fathers may interact differently with their children depending on the gender of their child. **Rigid gender norms** can profoundly and negatively affect both girls and boys and can particularly constrain girls' aspirations and opportunities. They can influence girls' abilities to travel or attend school, the places they can and cannot go in the community, and the nature and types of social interactions they are permitted to engage in. Boys are able to move about more freely and thus have greater opportunities than girls to participate in society and in income-generating activities (Lundgren, Beckman, Chaurasiya, Subhedi & Kerner, 2013).

**Gender intensification** – the increased pressure for adolescents to conform to culturally sanctioned gender roles – has been posited as an explanation for gender differences in depression (Hill & Lynch, 1983). These pressures come from a variety of sources, such as parents, peers, educators and the media. While gender socialization starts at birth, early adolescence (age 10–14) is a critical time, as puberty intensifies social expectations from family members and peers related to gender. **Gender role conflict** evolves whereby adolescents have difficulty with the gender roles that have been traditionally ascribed to their sex. For example, a girl may conform to the traditional expectations of her family to get married even if she has other aspirations, such as completing her education. Girls are often among the most socially and economically marginalized members of communities, and evidence suggests that such marginalization can contribute to greater risk of suicide (Pinhas, Weaver, Bryden, Ghabbour & Toner, 2002). While the evidence base in LMICs is scant, data from high-income countries suggest that **gender role conflict** serves as a potential risk factor for suicidal behavior in adolescents (Pinhas et al., 2002).

Both girls and boys are affected by social norms and expectations based on their gender and sexuality. A mixed-method systematic review suggests that young adolescents in a variety of cultural settings commonly endorse norms that perpetuate gender inequalities, and that parents and peers are central in shaping such attitudes (Kagesten et al., 2016). For example, findings from the systematic review indicate that gender attitudes of girls seem to be shaped by how parents, siblings, peers and teachers overtly and covertly monitor their appearances and sexual behavior, and how those actors restrict their mobility and freedom. In contrast, gender attitudes of boys are strongly shaped by peer sanctions reinforcing stereotypically masculine attributes and behaviors (Kagesten et al., 2016). Similarly, the Global Early Adolescent Study (GEAS) also showed that gender norms reinforce different expectations for boys and girls (Chandra-Mouli et al., 2017). For example, across all study sites, boys were encouraged to be tough, strong, and brave and to demonstrate heterosexual prowess. Girls were taught to be polite and submissive and to emphasize their physical beauty while maintaining their modesty. Across all sites, adolescence brought more freedom and autonomy for boys, whereas girls' experiences were increasingly controlled and restricted. Another common finding across sites was that peers monitor each other's behavior and pressure each other to conform to prevailing gender norms through teasing, bullying, and social exclusion. Both GEAS formative research and Kagesten's review highlight the importance of peer relationships in shaping gender norms and attitudes.

Gender-specific risk factors for girls can include unequal access to resources and information, decision-making power and education; restrictions to movement; gender-based violence; and discriminatory practices such as child marriage (Le Strat, Dubertret, & Le Foll, 2011; Rhodes et al., 2014; Wodon et al., 2017). These risk factors interact with culture and socioeconomic circumstances to elevate exposure

and vulnerability to health risks, such as depression, self-harm and suicide. For boys, endorsement of stereotypical masculine norms has been associated with substance abuse, delinquency, the perpetuation of interpersonal violence, and reduced help-seeking, all of which may also contribute to poor mental health and wellbeing (Rhodes et al., 2014). Further, boys and girls have different likelihoods of being exposed to conflict, such as experiencing gender-based violence, being recruited as a child soldier or being subject to conflict-related sexual violence. There are also gender differences in family and societal responses to distress in boys and girls (Mels, Derluyn, Broekaert, & Rosseel, 2010). Findings show that depression is more prevalent in girls than in boys, and at the same time that boys are more vulnerable to externalizing disorders (e.g., attention-deficit/hyperactivity disorder, oppositional defiant disorder, and conduct disorder), especially with cumulative exposure to potentially traumatic events.

Evidence from diverse countries demonstrates that exposure to gender discrimination, physical and emotional abuse, violence, poverty, social exclusion, educational disadvantage, harmful gender norms and the psychological stress that accompanies humanitarian crises can all increase mental health problems, including depression (Landstedt, Asplund, & Gillander, 2009; Reiss, 2013; Aggarwal & Berk, 2014; Rhodes et al., 2014; Kagesten et al., 2016). In most countries, girls are at greater risk than boys for all these precursors. Indeed, while gender inequality affects the lives of both boys and girls, the above factors disproportionately disadvantage girls.

## SOCIO-ECOLOGICAL MODEL OF THE GENDERED DRIVERS OF MENTAL HEALTH

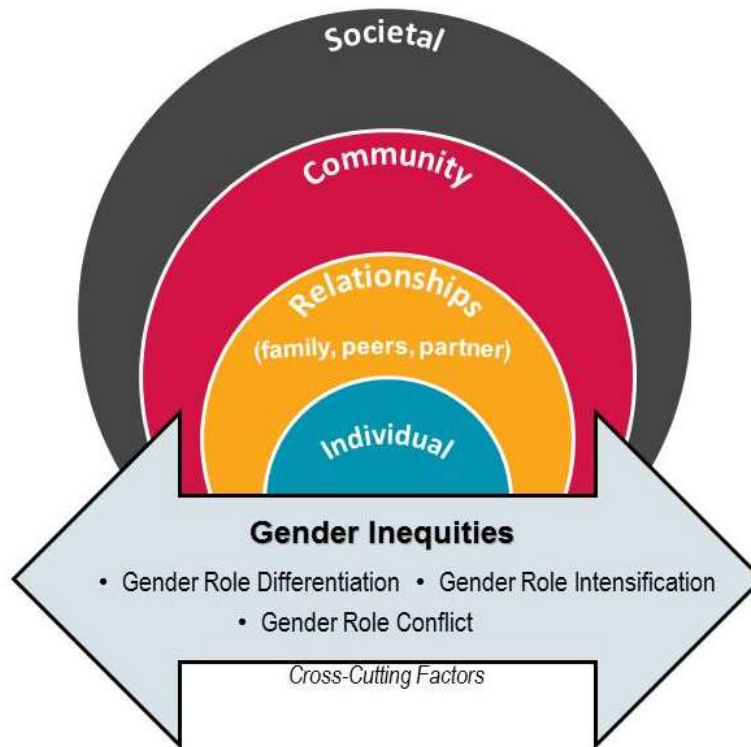
A wide range of factors shape boys' and girls' risks of poor mental health. Key risk factors for mental health problems include biological, psychosocial, socio-cultural and economic factors. The Socio-Ecological Model, which looks at the interrelationships between individual, relationship, community, and societal-level factors, allows for a deep examination of the multiple effects and interrelatedness of social elements in an environment (Brofrenbrenner, 1979; Bronfrenbrenner, 1999; Heise, 1998). Table 1 outlines the model with a focus on adolescence.

Table 1: Socio-ecological levels, focused on adolescents

ECOLOGICAL LEVEL	
<b>INDIVIDUAL</b>	Biological and personal history factors such as age, education, income and health.
<b>RELATIONSHIPS</b>	A person's closest social circle —family members and children, peers, partners— can influence their behavior and contribute to their range of experiences.
<b>COMMUNITY</b>	Settings, such as schools, workplaces, faith-based organizations, and communities, in which social relationships and interactions occur.
<b>SOCIETAL</b>	The sociocultural environment in which people live can also affect an individual's, household's or community's mental health status, including levels of access to basic services (education, essential health services, etc.), cultural beliefs, attitudes or practices, as well as by social and economic policies formed at the national level.

Many mental disorders emerge during the adolescent years, influenced by the biological, emotional, and cognitive processes associated with puberty and by the social contexts surrounding adolescents as they mature through this important phase of life (Patton et al., 2016). Figure 2 illustrates the dynamic interrelations among various individual, relationship, community and societal factors as they relate to the gendered drivers of poor adolescent mental health.

Figure 2: The Socio-Ecological Model of the Gendered Drivers of Poor Adolescent Mental Health



Individual	Relationships	Community	Societal
<ul style="list-style-type: none"> <li>• Puberty</li> <li>• Biological response to stress</li> <li>• Mental health disorders</li> <li>• Low education</li> <li>• Low income</li> <li>• Lack of employment</li> <li>• Poor sense of self</li> </ul>	<p><b>FAMILY</b></p> <ul style="list-style-type: none"> <li>• Violence</li> <li>• Child maltreatment</li> <li>• Parent-child conflict</li> <li>• Family responsibilities and workload</li> <li>• Lack of parental Support</li> <li>• Restrictions on daily living and social networks</li> </ul> <p><b>PEERS</b></p> <ul style="list-style-type: none"> <li>• Peer stressors</li> <li>• Bullying</li> </ul> <p><b>PARTNER</b></p> <ul style="list-style-type: none"> <li>• Lack of decision-making power</li> <li>• Violence</li> <li>• Partner Communication</li> <li>• Interpersonal stress</li> </ul>	<ul style="list-style-type: none"> <li>• Exposure to violence</li> <li>• War-related stressors</li> <li>• Physical safety</li> <li>• School non-attendance</li> <li>• School transitions</li> <li>• School drop-out</li> </ul>	<ul style="list-style-type: none"> <li>• Perceived stigma and discrimination</li> <li>• Gender inequalities</li> <li>• Cultural and social norms</li> <li>• Child marriage</li> <li>• Restrictions on accessing education</li> <li>• Restrictions on accessing healthcare</li> <li>• Young women’s inability to participate in workforce</li> <li>• Media</li> </ul>



## Individual Factors

The existing literature suggests complex and important links among the adolescent developmental phase, gender norms and mental health. First, we know that adolescence is a period of rapid biological, psychological and social change. Some research has found that **puberty**, especially early puberty, can trigger psychological stress for both girls and boys (Mensah & Patton, 2013). Girls are no more likely than boys to manifest depression in early childhood, but after puberty, the risk of depressive disorders increases drastically. There is a significant gender gap, with females being between 1.5 to 2 times as likely as males to be diagnosed with **clinical depression**, both during adolescence and throughout their life course (Patel, 2013). **Anxiety disorders**, which are a key precursor of risk for depressive disorders, disproportionately affect females even prior to adolescence. For example, studies have shown that by age six, girls are already twice as likely to have experienced an anxiety disorder as are males (Lewinsohn, Gotlib, Lewinsohn, Seeley & Allen, 1998). This increased risk early in life is compounded by the onset of early adolescence, when risk for depression-related illnesses rapidly increases — just as gender norms are also being consolidated (Whiteford et al., 2013). Research has also focused on gender differences in **stress responses** and in exposure to certain stressors (Nolen-Hoeksema, 2001). Adolescent girls and young women often lack a full range of opportunities and are devalued because of gender bias and **low social status**. In many cases adolescent girls are forced to leave school to attend to household responsibilities, or are put to work on the farm or at the market. Thus, they face diminished opportunities for **education** and **paid employment**.

## Relationship Factors

As adolescents' age and their social environments expand, they may face new adverse or threatening environments that vary by gender and developmental context. Societal and familial role expectations about gender roles may be quite limiting for girls in particular due **increased family responsibilities and workload, lack of parental support and restrictions on daily living and social networks**, sometimes resulting in isolation, loneliness, depression and suicidal behavior (Pinhas et al., 2002).

Adolescent romantic relationships have significant implications for mental health (Collins, 2003). Studies examining the associations between romantic relationship quality and mental health outcomes have demonstrated that stressful experiences that occur within a romantic relationship may be associated with depression and/or suicide ideation or behaviors, particularly among adolescent girls (Collins, 2003; Furman & Shaffer, 2003). Adolescent girls involved with married men, older men, or who were married at a very young age can face **intimate partner violence** and other dimensions of **limited relationship power** (Raj, 2010; Akintola, Ngubane, & Makhaba, 2012). **Abuse** during adolescence imparts risk for subsequent health concerns, including depression, suicidal ideation, and substance abuse, and that abuse can set young women on a trajectory for subsequent abuse (Exner-Cortens, Eckenrode & Rothman, 2013; Patel, Rodrigues & de Souza, 2002). Furthermore, women who were sexually abused as children are significantly more likely to suffer depression in adulthood; sexual and other forms of violence in youth are associated with depression in adolescence (Astbury, 2001; Patel & Andrew, 2001). Among youth who died by suicide, **interpersonal stressors**, including abusive romantic relationships, have been associated with suicide and vary with age.

Existing research illustrate that the harmful effects of **bullying** and violence disproportionately impact girls due to the socialization, norms, attitudes, and perceptions of how they should behave within their society. Bullying is intentional peer victimization, either physical or psychological, that can involve teasing, spreading rumors, deliberate exclusion from group activities, and physical violence such as hitting and kicking (Carlyle and Steinman, 2007; Liang, Flisher & Lombard, 2007). Bullying has been associated with elevated risk of symptoms of depression, including feeling sad or hopeless for more than two weeks and experiencing loneliness, sleeplessness and suicidal ideation in LMICs (Fleming & Jacobsen,

2009). Data from the Global School-based Health Survey indicate that the prevalence of bullying victimization in 16 countries ranged from 7.8% in Tajikistan to 60.9% in Zambia (Fleming & Jacobsen, 2010). Multi-country analyses of the Global School-based Student Health Survey have also found that in most countries, boys were more likely than girls to report being bullied, and the prevalence of bullying was lower with increasing age (Fleming & Jacobsen, 2010). Students who reported being bullied in the past month were more likely than non-bullied students to report feelings of sadness and hopelessness, loneliness, insomnia and suicidal ideation. Bullied students also reported higher rates of tobacco use, alcohol use, drug use and sexual intercourse. Bullying also takes gender-differentiated forms, with boys using physical aggression while girls tend to use relational bullying or indirect aggression (Dunne, Sabates, Bosumtwi-Sam & Owusu, 2012).

Disruption in family functioning constitutes a significant risk factor for child and adolescent mental health. Children exposed to emotional and physical violence often develop a wide range of long-lasting internalizing and externalizing disorders, which are shown to be linked to experiences of violence in the household (Bensley, Van Eenwyk, & Simmons, 2003; Sachs-Ericsson et al., 2010). Adolescents who witness **violence in the home** are more likely to endorse violent attitudes and accept those behaviors as the norm. Secure attachment, developmentally appropriate and sensitive parenting, and firm and consistent handling are related to better adjustment in children.

## Community Factors

There is considerable literature documenting the long-lasting and harmful impacts to children of **exposure to physical and emotional violence** (Finkelhor, Turner, Shattuck, & Hamby, 2013). School-related, gender-based violence (SRGBV) takes place within a context of existing social norms and gender inequities. Attitudes and cultural ideas about male and female sexuality and roles underlie and help perpetuate SRGBV. Contextual factors affect the prevalence, severity, and forms of SRGBV. Adolescent girls and young women often lack a full range of opportunities and are devalued because of gender bias and low social status. Violence in schools originates in the imbalance of power between males and females, in society's gendered hierarchy, and in socially accepted views of what constitutes masculine and feminine behavior. Schools also reinforce the unequal gender relations found in the home and perpetuate notions of male superiority and dominance (Dunne, Humphreys & Leach, 2006). Routine practices of schooling often teach children that masculinity is associated with aggression, while femininity requires obedience, acquiescence and making oneself attractive to boys (Leach & Machakanja, 2000; Dunne et al., 2006). Male violence becomes accepted in adolescent relationships and thus perpetuated into adulthood. In Sub-Saharan Africa, studies from at least nine countries reveal a consistent pattern of sexual abuse and/or harassment of girls by both male students and teachers (Wible, 2004; Plan Togo, 2006; USAID, 2013). Both girls and boys repeatedly indicated that some teachers in their school abused their position of authority to demand sexual favors from girls, often in exchange for good grades, preferential treatment in class, or money (Leach, 2008). Despite the attention given to such cases of teachers' sexual misconduct, the evidence points to older students being the main source of violence against girls.

Physical violence in schools is often used as a form of discipline or corporal punishment, and SRGBV is a **barrier to educational participation**, especially for girls (Leach, Dunne & Salvi, 2014). Evidence suggests that the abuse and violence in schools has gender-based differential impacts (Bisika, Ntata, & Konyani, 2009). For example, **dropout rates** in secondary school in Malawi have generally been higher for girls than boys despite there having been a number of attempts over the past decade to increase the participation of girls in education (Ministry of Finance Economic Planning and Development, 2014). While other factors also play a role in **school non-attendance**, evidence from Ghana, Malawi, and Zimbabwe shows that the prevalence of high levels of bullying perpetration and aggressive behavior by boys towards girls, and excessive punishment of girls, both act as barriers to education for girls (Leach, Fiscian, Kadzamira, Lemani, & Machakanja, 2009). It has also been found that women with prior exposure to physical abuse at school,

emotional abuse at home and bullying victimization tend to have violent attitudes towards other women (Ameli, Meinck, Munthali, Ushie & Langhuang, 2017). For example, in boys in Malawi, having violent attitudes towards women was not associated with higher levels of exposure to violence. However, in girls, having violent attitudes towards women was associated with prior exposure to physical or emotional abuse at school. Gender roles also influence how punishment are given out in schools, with boys generally experiencing more corporal punishment and girls experiencing more sexual harassment.

Harsh social or economic inequalities, conflict, and political unrest often heighten the prevalence of SRGBV. For example, Fleischman (2003) describes a cycle in which girls in conditions of poverty and economic dependency have risky and exploitative relationships in order to ensure access to food, shelter, and schooling. In times of conflict, girls are often targeted sexually through rape and forced prostitution, while boys are disproportionately forced into physical combat and hazardous environments (Mels, Derluyn, Broekaert, & Rosseel, 2010).

## Societal Factors

Girls living in many LMICs face a variety of social and cultural factors that place them at risk of poor health and other development outcomes. Cultural beliefs, expectations, norms, and taboos influence physical and mental health in a complex interplay of factors that vary not only individually but also collectively. **Cultural and social norms** are highly influential in shaping individual behavior, including the use of violence. For instance, cultural acceptance of violence, either as a normal method of resolving conflict or as a common part of raising a child, is a risk factor for interpersonal violence. Social tolerance of violent behavior is likely learned in childhood, through the use of corporal punishment or witnessing violence in the family, in the media, or in other settings. The **media** can also reinforce traditional gender roles and normalize violence against women. Researchers also have taken an interest in the impact of social media on mental health, particularly on adolescents.

**Gender inequities** also impact **women's participation in the workforce, access to education, and access to healthcare** (Littlefield, McLane-Davison & Vakahali, 2015). Girls are more likely than boys to be married as children, to drop out of school and to experience forced sexual initiation (UNICEF, 2012). Girls who marry before age 18, as some 15 million do each year, face diminished opportunities for education and paid employment, reduced agency and decision-making capacity, and increased risk of intimate partner violence. **Child marriage** has been associated in a limited number of studies with increased odds of suicidal ideation (Gage, 2013). Child brides are also exposed to health risks from early pregnancy, greater maternal and infant mortality, and heightened vulnerability to HIV/AIDS and other sexually transmitted diseases (Klugman et al., 2014). Improving adolescent health worldwide requires improving young people's daily lives with families, peers and in schools, addressing risk and protective factors in the social environment at a population level, and focusing on factors that are protective across various health, education and employment outcomes.

## CONCLUSION

The evidence base on the intersection of gender and adolescent mental health problems is still largely limited. Understanding adolescent girls' and boys' unique and common vulnerabilities to mental health risks, particularly including the impacts of harmful gender norms, and identifying the factors that can protect and enhance their mental health and wellbeing are crucial when considering appropriate interventions. Further research is needed to demonstrate the links between gender norms and mental health – not only the existence of the relationship and its impact, but also the mechanisms by which these factors are associated. Evidence that demonstrates how harmful gender norms affect the mental health of girls and boys can inform policies and programs that seek to improve overall wellbeing, and

more rigorous evidence of this kind is greatly needed across LMICs. The risk and protective factors that impact boys' mental health is also under-researched.

To realize the health and wellbeing of adolescents and protect their human rights, countries need to adopt holistic health policies and education programs about prevention of injuries, violence, and self-harm; good sexual and reproductive health outcomes; prevention of non-communicable disease; and other crucial aspects of physical and mental health and development. Such education will help adolescents enhance judgment and learn the skills to maximize their health and wellbeing.

Overall, programs to promote gender equality and tackle harmful stereotypical attitudes need to be tailored to the specific needs and influences of boys and girls. Approaches to empowering girls to overcome the restrictions and disadvantages they face may include improved access to education (completion of primary and secondary school) and informing girls about their rights, as well as other activities (e.g. mentoring, sports) that have been found to promote girls' agency, autonomy, self-esteem and ability to challenge inequitable gender norms. On the other hand, boys demand approaches that enable them to recognize their unearned privileges and power while supporting them to challenge stereotypical norms about masculinities and femininities, and rewarding rather than stigmatizing them when they are able to do so. It is therefore imperative to work toward improving adolescent mental health in order to ensure the healthy development of coming generations. Sustainable development goals provide an opportunity for renewed attention to meeting the health care needs of adolescents through the strengthening of health systems, prioritizing mental health on the global health care agenda, improving organization of and integrating mental health services into general health care, addressing the gendered drivers of mental health and developing policies to inform the design and implementation of gender-transformative interventions in LMICs.

## ANNEX A. KEY TERMS AND RELATED DEFINITIONS

TERM	DEFINITION
Sex	Biologically determined characteristics of men and women in terms of biological differences, chromosomes, and internal and external sex organs. As such, sex is globally understood as male or female.
Gender	Social construct — that is, a society's assumptions about the way a man or woman should look and behave. It refers to the roles, responsibilities, norms and expectations of men and women (and boys and girls), which are created within families, societies and cultures. Gender includes socially derived expectations about the characteristics, aptitudes and likely behaviors of women and men, girls and boys i.e., femininity and masculinity.
Gender role differentiation	Puberty intensifies social expectations from parents and peers as well as within communities. Girls and boys are treated differently, and rigid gender norms can negatively affect both boys and girls. Traditional gender roles are a driving force behind women's lower economic status, low literacy and education, poorer health outcomes, and greater exposure to gender-based violence.
Gender role intensification	Increasing pressure for adolescent girls and boys to conform to these culturally sanctioned gender roles. Gender intensification has been viewed as an explanation for the emergence of the gender differences in depression.
Gender role conflict	Gender role conflict evolves whereby adolescents have difficulty with the gender roles that have been traditionally ascribed to their sex. For example, a girl may conform to the traditional expectations of her family to get married even if she has other aspirations. A gay adolescent boy may engage in heterosexual relationships to demonstrate that he is meeting societal expectations around his masculinity and heteronormativity.

## **ANNEX B. MENTAL HEALTH DATA SOURCES AND MEASURES FOR LOW- AND MIDDLE INCOME COUNTRIES**

### **INTRODUCTION**

There is growing recognition within the international community that mental health is a neglected, yet essential, lever for achieving the Sustainable Development Goals (SDGs). Target 3.4 under Goal 3 of the Sustainable Development Agenda explicitly aims to “promote mental health and well-being”, while the World Health Organization (WHO) Comprehensive Mental Health Action Plan for 2013- 2020 emphasizes the importance of children “having a positive sense of identity, the ability to manage thoughts, emotions, and to build social relationships... enabling their full active participation in society” (WHO, 2013). Mental health is defined by the WHO as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community.

Data on the prevalence of mental disorders among children and adolescents is exceedingly limited, particularly those disaggregated by age and sex, and virtually non-existent for many parts of sub-Saharan Africa, Oceania, and Latin America and Asia, despite the fact that these regions are home to the majority of the world’s youth (Erskine et al., 2016). Indicators, measures and frameworks for adolescent mental health have, for the most part, been developed and applied in high-income countries, with very few tested for cross-cultural relevance and utility. More research is thus needed to identify globally applicable or adaptable conceptual frameworks, indicator constructs, indicators and measures.

WHO calls for disaggregation and monitoring of data in five year age bands, specifically: 10-14, 15-19, and 20 – 24 and such disaggregation recognizes the varying challenges, opportunities and gaps in regard to health and wellbeing faced during adolescence. Currently, data collected by UNICEF, through the Multiple Indicator Cluster Surveys (MICS), and by USAID, through the Demographic and Health Surveys (DHS), are insufficiently disaggregated; that is, they tend to capture data on children under 15 years, and 15 years and older. Collecting data disaggregated by these age bands would help to identify the most vulnerable groups of young people, where they are being left behind, and where disparities are most pronounced, as well as to assist in determining what programs and policies might be most useful in addressing young people’s needs. This is the case not only in the health sector, but also in regard to nutrition, agriculture, education, economic participation, and civic engagement.

The following is a brief summary of mental health data sources and measures specifically conducted in low and middle income countries. Most of the resources are publicly available and can be used to assess mental health. This summary is not exhaustive of the mental health indicators and tools currently used, but it contains major sources for mental health data and measures. The focus is on assessment of mental health problems rather than well-being (e.g., life satisfaction, positive affect, psychological well-being) and positive mental health. Positive youth development (PYD) programs are designed to promote the health and well-being of children and adolescents. For information on PYD, please refer to YouthPower Learning’s Positive Youth Development Measurement Toolkit (<http://www.youthpower.org/positive-youth-development-toolkit>).

### **DATA SOURCES**

Below are a brief summary of data sources which can provide information on the prevalence of mental health disorders and the state of mental health services in LMICs.

## The World Mental Health Atlas

The WHO's Mental Health Atlas provides information on the state of mental health services and systems in countries across the world (WHO, 2015). The Mental Health Atlas 2014 questionnaire covers critical areas of mental health system development, including governance and financing, human resources, service delivery, promotion and prevention, and surveillance ([http://www.who.int/mental\\_health/evidence/atlas/questionnaire\\_2014\\_en.pdf?ua=1](http://www.who.int/mental_health/evidence/atlas/questionnaire_2014_en.pdf?ua=1)). The data serve as a baseline for targets agreed by 194 member states of WHO in the Comprehensive Mental Health Action Plan 2013-2020. The World Mental Health Atlas project has become a valuable resource on global information on mental health and an important tool for developing and planning mental health services within countries. Action plan indicators include number of suicide deaths per year and number of persons with a severe mental disorder who received mental health care in the last year.

## The World Mental Health Survey

The World Mental Health Surveys (<https://www.hcp.med.harvard.edu/wmh/>) are mostly nationally representative surveys in 28 countries throughout the world aimed at providing information to mental health policy makers about the prevalence, distribution, burden, and unmet need for treatment of common mental disorders (Kessler et al., 2009). All WMH surveys use the same diagnostic interview, the WHO Composite International Diagnostic Interview (CIDI). The CIDI is a fully-structured research diagnostic interview designed to be used by trained lay interviewers who do not have any clinical experience. Disorders considered include anxiety disorders, mood disorders, disorders that share a feature of problems with impulse control, and substance disorders. Disorders are assessed using the definitions and criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) and the ICD-10 Classification of Mental and Behavioral Disorders (ICD-10).

## Global Burden of Disease

The Global Burden of Disease (GBD) Study considers national and global level morbidity and mortality patterns and trends, and is widely considered the most comprehensive worldwide observational epidemiological study (<http://www.thelancet.com/gbd>). GBD data indicate that, at the global level, the coverage of prevalence data for mental disorders among children and adolescents (ages 5-17 years) was only 6.7 percent, and that two-thirds of countries (124 of 187) had *no* data for any mental disorder (Erskine et al., 2016). There are 20 mental and substance use disorders included in GBD 2010, consisting of all anxiety disorder, eating disorders, childhood behavioral disorders, pervasive developmental disorders, and idiopathic intellectual disability, a residual category capturing intellectual disability not attributed to any of the other diseases and injuries (Whiteford et al., 2013).

## MENTAL HEALTH MEASURES

Below are a brief summary of resources and mental health measures that can be accessed online. Patient-Reported Outcomes Measurement Information System (PROMIS) is a web-based resource to access mental health measures. The Beck Depression Inventory (BDI) and the Center for Epidemiological Studies Depression Scale (CES-D) are among the most commonly employed screening tools for depression.

## Patient-Reported Outcomes Measurement Information System

**PROMIS** (Patient-Reported Outcomes Measurement Information System) is a publicly available system of highly reliable, precise measures of patient-reported health status for physical, mental, and social well-



being (<https://commonfund.nih.gov/promis/index>). This web-based resource can be used to measure health symptoms and health-related quality of life domains such as pain, fatigue, depression, and physical function, which are relevant to a variety of chronic diseases, including cancer. PROMIS was successful in addressing the lack of standardization in patient-reported outcomes (PROs); although many ways to measure PROs existed, there had been little comparability among them.

### **Multiple Indicator Cluster Survey (MICS)**

The Multiple Indicator Cluster Surveys (MICS) are [surveys](#) implemented by countries under the program developed by the [United Nations Children's Fund](#) to provide internationally comparable, [statistically rigorous](#) data on the situation of [children](#) and [women](#) (<http://mics.unicef.org/>). Information for children and adolescents (ages 5-17) include child labor, child discipline, child functioning, parental involvement and learning skills.

### **The K6 and K10 Mental Health Scales**

The K6 is a six-item scale developed to provide a brief valid screen for severe mental illness based on the DSM-IV ([https://www.hcp.med.harvard.edu/ncs/k6\\_scales.php](https://www.hcp.med.harvard.edu/ncs/k6_scales.php)). K6 validation studies have been carried out in a number of other countries throughout the world and is freely available in multiple languages (Fassaert et al., 2009; Furukawa et al., 2003, 2008; Gill, Butterworth, Rodgers & Mackinnon, 2007; Patel et al., 2008). These studies uniformly found the K6 and a larger related scale known as the K10 (which includes the K6 in addition to four other items) to have very good concordance with independent clinical ratings of severe mental illness (SMI). Scales have been used in the WHO World Mental Health (WMH) survey initiative.

### **The Beck Depression Inventory (BDI)**

The Beck Depression Inventory is a 21-item, self-rated scale that evaluates key symptoms of depression including mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido. There are three versions of the BDI—the original BDI, first published in 1961 and later revised in 1978 as the BDI-IA, and the BDI-II, published in 1996. The BDI is widely used as an assessment tool by health care professionals and researchers in a variety of settings. It has been translated into multiple European languages as well as Arabic, Chinese, Japanese, Persian, and Xhosa.

### **The Center for Epidemiologic Studies Depression Scale (CES-D)**

The Center for Epidemiologic Studies Depression Scale (CES-D) is a self-administered questionnaire consisting of 20 items to which the patient indicates the frequency of symptoms associated with depression during the past week. Cognitive, affective, and somatic items are incorporated into this index. It has been widely accepted and translated to multiple languages and its measurement equivalence tested across groups.



## **The Strengths and Difficulties Questionnaire (SDQ)**

The SDQ is a self-report brief behavioral screening questionnaire developed to detect psychosocial problems in children and adolescents ages 2 through 17 years old. The SDQ addresses four dimensions: emotional problems, conduct problems, hyperactivity/inattention problems, peer problems that count up to the total difficulties score, and a fifth dimension; prosocial behavior. The questionnaire can be completed by the child, parent or teacher. The SDQ is available online (<http://www.sdqinfo.com/>) and has been translated into more than 80 languages, including Spanish, Chinese, Russian, and Portuguese.

## **The Achenbach System of Empirically Based Assessment (ASEBA)**

The ASEBA is a comprehensive evidence-based assessment which measures competencies, strengths, adaptive functioning, and behavioral, emotional, and social problems from age 1½ to over 90 years. The Child Behavior Checklist (CBCL) is a parent/caretaker-report questionnaire which has been one of the most widely-used standardized measures for evaluating maladaptive behavioral and emotional problems in preschool subjects aged 2 to 3 or in subjects between the ages of 4 and 18. It assesses internalizing (e.g., anxious, depressive) and externalizing (e.g., aggressive, hyperactive) behaviors. The Youth Self-Report (YSR) and the teacher completed Teacher Report Form (TRF) are parallel forms to the parent/caretaker Child Behavior Checklist (CBCL). The tools have been translated in multiple languages and are available online (<http://www.aseba.org>).

## **Patient Health Questionnaire**

The Patient Health Questionnaire (PHQ) is a multiple-choice self-report inventory copyrighted by Pfizer Inc, that is used as a screening and diagnostic tool for mental health disorders of depression, anxiety, alcohol, eating, and somatoform disorders (<http://www.phqscreeners.com/>). It is the self-report version of the Primary Care Evaluation of Mental Disorders (PRIME-MD), a diagnostic tool developed in the mid-1990s by Pfizer Inc. The PHQ is freely available in over 20 languages and has been primarily used in primary clinic settings. The PHQ-9 specifically contains 9 items assessing all DSM-IV inclusion criteria for major depressive disorder as well as an additional item assessing psychosocial impairment.

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