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Gloria Driessnack Sclar

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Growing up in Tajikistan:  
Students' Perceptions of the Pubertal Transition to Inform  
Culturally Appropriate Puberty Books

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By

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B.S.  
The College of William & Mary  
2012

Thesis Committee Chair: Matthew Freeman, PhD

An abstract of  
A thesis submitted to the Faculty of the  
Rollins School of Public Health of Emory University  
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2015

## **Abstract**

Growing up in Tajikistan:  
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By Gloria Driessnack Sclar

Puberty is a momentous period in any adolescent's life as it marks the biological transition from childhood to adulthood. In order for adolescents to grow into healthy and productive adults they must successfully navigate this pubertal transition and its associated challenges, both the health and social dimensions. Yet, there is a dearth of literature on the pubertal experience for adolescents growing up in various parts of the world, such as the Central Asian context, which is necessary to construct effective interventions that address their specific challenges. We conducted qualitative research with Tajik schoolgirls and boys to explore their experiences, knowledge and perceptions of puberty in order to design culturally appropriate puberty books. We uncovered the different challenges and societal expectations that Tajik girls and boys face as they undergo the pubertal transition. These voiced concerns and shared lived experiences were then used to create relevant messaging for the puberty book program. Few academic articles detail the process of translating such important findings into evidence-based programs. Moreover, it is rare to find articles that discuss formative research – that is, research for the specific purpose of informing programmatic design. However, public health is a unique field shared by researchers and practitioners alike – a field that not only pursues invaluable research but pushes for the application of their findings. Here we provide an example of the research to program translation process through a descriptive case study set in Tajikistan. The goal of this paper is thus two-fold: (1) to present novel qualitative findings on the pubertal transition for Tajik adolescents and (2) to outline the process of how this qualitative data was used to construct the content for the puberty books.

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## Chapter 1: Introduction

### Research Context

Puberty is a momentous period in any adolescent's life as it marks the biological transition from childhood to adulthood. During this transition, which starts around age 11, girls undergo breast development and have their first period, known as menarche, while boys experience testicular growth and both genders develop pubic hair (endocrine paper). Yet, the pubertal transition goes beyond physical changes – it extends to cognitive, psychological and social development as well [1]. Adolescent girls and boys acquire a capacity for abstract and moral thinking, develop a sense of personal and sexual identity, experience a range of new emotions including sexual desires, strive for independence, and struggle with their parental relationships while becoming more influenced by peers [2].

This dynamic period of development is associated with a number of health challenges that adolescents must face before reaching adulthood. Substance abuse, violence, and risky sexual behavior, often initiated in adolescence, are linked to the onset of pubertal changes rather than chronological age [3]. For example, many studies show that girls who enter puberty early are more likely to drink alcohol and use tobacco [4]. Suicide and mental disorders, like depression, are also connected to puberty as the shift in hormone concentrations effect brain development [3]. Major causes of death and disability among adolescents mirror these puberty-related health issues. Globally, the top causes of mortality among adolescents include road injuries, HIV, suicide, lower respiratory infections and interpersonal violence [5]. In addition to these, the top causes



of morbidity include depression and iron deficient anemia; the latter can result in women and girls when they have heavy periods. Finally, many adolescents will face these health issues their entire lives as high-risk behaviors and psychosocial disorders that develop in adolescence often persist in adulthood [2].

As adolescents transition into adulthood, they must also navigate a new realm of social expectations. The pubertal transition is embedded in the early years of adolescence, a life stage defined by the WHO as ages 10 to 19 [5]. Although this life stage is a Western construct not often recognized by other societies, the physical changes of puberty often signal a shift in social roles and gender differences for young people [1]. In many cultures, when girls enter puberty this leads to an increase in household responsibilities, expectations of obedience and modesty, enforced restrictions on mobility, and greater risk for sexual coercion [1, 6, 7]. Meanwhile, adolescent boys experience greater independence and begin to adopt masculinity norms that emphasize dominance and sexual ability [1, 7].

In order for adolescents to grow into healthy and productive adults they must successfully navigate the pubertal transition and its associated challenges, both the health and social dimensions. School-based programs, such as puberty curricula, are one way to prepare adolescents for these challenges. Not only are more and more adolescents attending school but the school environment also provides a mix of social interaction among peers and adults [1]. In fact, school connectedness, a measure of how much students feel someone at their school cares about them, is negatively associated with risky behaviors like substance abuse and early sexual initiation, as well

as educational impacts like school drop-out and poor performance [8]. Puberty education equips students with the necessary knowledge, attitudes and skills so they can understand and manage the complex changes of puberty [9]. Puberty curricula can also normalize bodily changes that are stigmatized, such as menstruation for girls, and challenge gender norms like the sexual prowess associated with masculinity [9]. By teaching puberty in school, adolescents can share their experiences with peers and build self-efficacy by practicing their skills in a supportive environment.

Yet, in order for any puberty education program to be effective it must be culturally relevant. The field of adolescent health has repeatedly called on researchers to explore the pubertal transition of young people living in different local contexts and especially the pubertal experience of boys who are often absent from the research [2, 10-13]. Moreover, many articles encourage researchers to actively involve adolescents, to give young boys and girls voice in identifying the challenges that they face while growing up [2, 10, 13] – an approach that lends itself to qualitative methods.

Save the Children International (SCI) in Tajikistan works with hundreds of students in over 150 schools and recognized the need for puberty education, as it is absent from the national curricula. After discussions with parent-teacher committees and SCI staff members, the organization chose to design culturally appropriate puberty books, one for girls and one for boys. However, there is no published literature on the pubertal experience for Tajik adolescents. SCI's School Health and Nutrition (SHN) team could not design effective puberty books without understanding the specific pubertal challenges that Tajik girls and boys face. As a result, SHN staff decided to

conduct their own qualitative research on Tajik adolescents' pubertal experience. Gloria Driessnack Sclar, the author of this thesis, was hired as a summer fellow with SCI to design the research activities, oversee data collection, and analyze the results.

### **Research Objective**

The overarching objective of the research was to explore Tajik adolescents' experiences, knowledge and perceptions of puberty in order to design culturally appropriate puberty books. The main research activity designed to meet this objective was activity-based focus groups with adolescent schoolgirls and boys, conducted separately by gender. The specific research aims for the focus groups were as follows:

- To understand how Tajik adolescents perceive the puberty process, both the physical and social transitions, and to identify gaps in knowledge
- To explore what Tajik adolescents look forward to and worry about in adulthood
- To identify typical menstruation practices, experiences and main challenges that girls face, with a focus on the school setting
- To uncover boys' perceptions of gender roles and their reaction to concepts of gender equality

### **Purpose Statement**

The purpose of this thesis is two-fold: (1) to present novel qualitative findings on the pubertal transition for Tajik adolescents and (2) to outline the process of how this qualitative data was used to inform the content for the puberty books.

## **Significance Statement**

The significance of this work goes beyond the qualitative findings. Certainly those findings are crucial to adolescent health as they add to the body of literature on the pubertal transition. The Central Asian context in particular remains largely unexplored – Tajik adolescents living in this part of the world no less deserve to have their voices heard. But it would be an injustice to not actually listen to those voices, to not make use of their words. As such, in addition to the novel qualitative research, the significance of this thesis lies in the structured process used to translate each main thematic finding into sections of the puberty books. The approach described is both rigorous and replicable in hopes of increasing the capacity of practitioners working in any country setting to apply qualitative findings to programmatic design so their participants' voices translate into action. This MPH thesis embodies the nature of public health work: the combination of research and practice to create evidence-based programs.

## Chapter 2: Literature Review

### Introduction

Adolescence is a life stage that encapsulates the transition from childhood to adulthood. Defined by the WHO and United Nations as those between ages 10 to 19 years old [5, 7], adolescents face a number of health challenges specific to their age group. Many of these health challenges are connected to the pubertal transition, the physical, psychological and emotional changes that take place as young girls and boys become sexually mature [3]. School-based programs, such as puberty education, are one way to equip adolescents with the knowledge and skill sets they need to successfully navigate the pubertal transition and its associated health challenges [9]. However, the majority of puberty research revolves around the experiences and health needs of adolescent girls with little focus on adolescent boys, leaving a significant gap in the literature. In addition, specific cultural settings have yet to be studied. The focus of this thesis is on qualitative research that explored the pubertal transition for Tajik adolescents and the application of findings to inform the content of culturally appropriate puberty books. As a result, this literature review will take a funnel structure approach to assess what is currently known around the following key topics with a focus on qualitative studies: adolescent health in the world today, health impacts of the pubertal transition, puberty education and school-based interventions, and the Tajikistan context.

## **Adolescents in the World Today & Their Health Challenges**

### *Describing the World's Adolescent Population*

Adolescents comprise a unique population with its own distinctive demographics around education, marriage, parenthood and workforce that emulate the transition into adulthood. There are more young people living in the world today than ever before making up over 25 percent of the world's population, or about 1.8 billion people between the ages of 10 to 24 years old [14]. The majority of these young people, roughly 89 percent, reside in developing countries [14]. In some countries like Timor-Leste, Afghanistan, and many countries in Sub-Saharan Africa, 50 percent of the population is below the age of 18 [14]. While over 60 developing countries have almost reached universal primary education, the number of adolescents attending secondary education is much lower [15]. A report by the UNESCO Institute of Statistics found that 71 million lower secondary school-aged adolescents are not enrolled in school with 70% residing in South and West Asia and sub-Saharan Africa [16]. Based on DHS data collected in the 1990s, school attendance dramatically drops off over time most likely due to adolescents' transition into adult roles. In early adolescence, ages 10 to 14 years old, 75 percent of girls and 80 percent of boys on average worldwide attend school but by late adolescence, ages 15 to 19 years old, these numbers almost reduce by half with 41 percent of girls and 50 percent of boys attending school [17]. Still, gender parity in the education sector is steadily rising across the globe with a 20 percent increase in girls' enrollment rates over the past two decades [17]. On the other hand, child marriage continues to be a relatively common practice as one in three girls in the developing

world marries before the age of 18 [7]. Subsequently, on average worldwide 15 percent of adolescent girls have had their first child by age 15 to 19 and 60 percent by age 20 to 24 [17]. Age at first parenthood is vastly different for adolescent boys, as only 2 percent have had their first child by age 15 to 19 and still only 21 percent by age 20 to 24. Lastly, the literature on time use of adolescents highlights the shift from participation in school to a participation in work. As girls and boys grow older they spend more time doing work activities than studying, defined as both economic labor and noneconomic household activities. In general across the globe, gender differences exist for time use with boys spending more hours working for pay or some form of economic gain while girls spend more hours on noneconomic household activities. Girls also work longer hours in a week compared to boys, insinuating that boys have more leisure time [17]. However, one confounder to boys' leisure time may be the inability to enter the workforce. Everywhere in the world, no matter what the economic status of a given country, youth have the highest rates of unemployment compared to all other working age groups due to the difficulty in "breaking into" the labor market [18].

### *Adolescent Health: Mortality, Morbidity & Social Determinants*

Along with distinct demographics, the world's adolescent population also faces specific health challenges that reflect the epidemiological transition from childhood infectious diseases to the more non-communicable diseases of adulthood. Based on the WHO mortality database records for 2012, the leading causes of mortality among adolescents were lower respiratory infections, HIV, road injuries, suicide, and

interpersonal violence [5]. In addition to these, the major causes of morbidity also included depression and iron-deficient anemia, the latter being connected to a lack of iron intake from poor nutrition and reduction of iron through blood loss from heavy menstruation [5]. Young girls living in areas with a high prevalence of anemia often suffer complications in their pregnancy and are more likely to die [7].

Many adolescent health issues stem from the introduction of new behaviors that are often connected to gender. Adolescents start to engage in sexual relations at this time. Based on household survey data from developing countries, 11 percent of girls and 6 percent of boys have had sex before the age of 15 [7]. Girls in particular are at greater risk for sexual and reproductive health problems due to their lack of control over sexual situations in many country contexts; unable to negotiate condom use, subject to sexual violence, at greater risk for sexually transmitted infections especially HIV, and prone to early pregnancy that results in maternal health complications including unsafe abortion [1, 5, 7]. Adolescent boys, on the other hand, are more likely to initiate in high-risk behaviors like alcohol consumption, drug use and interpersonal violence – the second major cause of morbidity worldwide among boys aged 15 to 19 [2, 5]. Both genders experience mental health issues with intentional self-harm being one of the top 10 causes of morbidity globally for adolescents aged 15 to 19 [5].

Determinants of adolescent health include a number of structural and social factors. Viner et al. (2012) were the first to systematically assess structural factors that affect adolescent health on a *global* scale. Based on data from 70 to 179 countries, they found that greater national wealth - determined by gross domestic product (GDP) - is



strongly associated with lower levels of bullying, teenage births, and HIV prevalence for both adolescent girls and boys [19]. Similarly, countries with greater income inequality – determined by Gini coefficient - were strongly associated with higher levels of the same adolescent health indicators. Higher secondary school participation rates were also associated with lower HIV prevalence, injury, and teenage births and lower adolescent mortality in general. However, the authors also found that low-income countries with similar GDPs greatly varied in their male mortality rates and teenage birth rates – suggesting that cultural, religious and social factors also play a role in adolescent health besides structural factors [19]. Many studies have shown that social support, or lack there of, in the form of relationships with family, peers and school, are important determinants of adolescent health. Results from the U.S. National Longitudinal Study of Adolescent Health showed that family and school connectedness were protective against a number of adolescent health outcomes that addressed emotional health, substance use, violence, and sexuality [20]. While the study is based on the U.S. context, similar findings have been shown in several other contexts including Europe and the Caribbean [19]. Influence from peers is also connected to risky health behaviors for adolescents like substance abuse, unsafe sex, reckless driving and participation in illegal activities [2]. Negative peer interactions, like bullying, are also known determinants of adolescent mental health. A prospective study of over 2500 secondary school students in Australia found that victimization by peers, or bullying, was significantly associated with self reported symptoms of depression or anxiety [21].

### *Epidemiological Shift and Globalization: Effects on Adolescent Health*

The literature coming out of the adolescent health field is emphasizing more and more how pertinent this age group is to global health. While the world has seen lower mortality rates for adolescents over the past 50 years, the decline is becoming less and less dramatic. A 50-country study that assessed youth mortality trends showed that starting in the 1970s the world began to see a reversal in historical mortality patterns [22]. Child mortality rates are now *lower* than adolescent mortality rates for both genders – emulating the global epidemiological shift from communicable to non-communicable diseases [22]. Moreover, health in adolescence impacts future health as an adult. High-risk behaviors like alcohol consumption, tobacco use and illicit drug use, which are often initiated in adolescence, cause 12.6 percent of deaths worldwide [23]. This affect extends to the next generation as well. Gakidou et al. (2010) analyzed census data from 175 countries and found that the increased educational attainment of women from 2 to 7 years of schooling accounts for 50 percent of the lower mortality rates of children under 5 [24]. In other words, the secondary education that girls receive in adolescence can positively affect the health of their future children.

The world today is rapidly changing with the rise of urbanization in low and middle-income countries, widespread use of the Internet and social media, and increased educational demands in the workforce. In this shifting global context, adolescents are facing new health challenges but the field of adolescent health has yet to address these issues of the 21<sup>st</sup> century [10]. Furthermore, there remains a lack of national-level reporting on adolescent health outcomes, especially in low and middle-

income countries, making global studies on adolescent health trends difficult and rare [4, 5].

## **Health Implications of the Pubertal Transition**

### *Physiological, Cognitive, and Emotional Changes of Puberty*

Puberty is a biological process that takes place during adolescence and results in the development of secondary sexual characteristics where young girls and boys grow into their adult bodies [25]. This physical maturation is the result of three main endocrine events where new hormones are produced in the body [3]. In the first stage of puberty, adolescent girls experience breast budding, pubic hair growth, and accelerated height [3, 25, 26]. Then in late puberty, although often used as the mark of puberty, girls have their first menstruation known as menarche [3, 26]. Mirroring these developments, the start of puberty for adolescent boys is determined by testicular growth followed by the appearance of facial and pubic hair and a height spurt. Boys then experience a deepening of the voice and their first ejaculation, known as spermarche [25]. Both adolescent girls and boys also start to grow hair under the arms, develop acne, and undergo certain body changes [25]. Boys gain weight mostly due to muscle growth while girls gain more weight with twice as much body fat as boys. Some studies suggest that women and girls require a certain amount of body fat in order to initiate menstruation – an adaptive response that ensures reproductive ability [27]. However, this ‘critical weight’ hypothesis is not widely accepted [28].

The pubertal transition encompasses more than just physical changes – this production of new hormones results in cognitive, emotional and behavioral changes as well that affect adolescent health. While most research on adolescent brain development link changes to chronological age, emerging studies suggest that the pubertal process plays a specific role in cognitive and emotional development [29]. Several MRI studies found a relationship between gray and white matter volume and pubertal measures, such as sex hormone levels [29]. These brain image studies correspond with the observed higher-level thinking that arises in puberty as adolescents gain the ability for abstract and moral thinking, focus on intellectual interests, and begin to set goals [2]. Puberty is also linked to emotional and behavioral developments that impact adolescent health and are often gender associated. Increased concentrations of gonadal hormones released during puberty mirror the rise of depressive symptoms in early adolescence [3]. Girls in particular experience higher rates of depression as they enter late adolescence with rates two-fold higher compared to depression rates in adolescent boys [30]. Pubertal stage is also a better indicator for panic attacks and eating disorders in adolescent girls rather than chronological age [3]. In a study of over 200 adolescent girls and boys, sensation-seeking was linked to pubertal developments when controlling for age and was also higher among adolescents who used drugs [31]. For adolescent boys, a strong positive relationship has been shown between pubertal development and different forms of delinquency - violence, drug use, property damage and precocious sexual behavior [32].

Although these dynamic developments of puberty are well documented and evidently link back to the health issues specific to adolescence, the majority of [1] experimental and observational puberty studies have been based on the Western context [33, 34]. Study populations are usually from the United States, United Kingdom, Australia, Europe, and other developed countries and are racially homogenous with white adolescents being the most commonly selected. This may be partly due to the lack of country-level data collection on adolescent health outcomes, which are present in some Western countries like the National Longitudinal Study of Adolescent Health in the United States. However, it may also stem from many societies in developing countries not recognizing adolescence as a life stage in itself, as it is historically a Western construct [1].

#### *Pubertal Impact on Social Health and Gender Roles: Qualitative Studies*

Over the past 15 years, however, a new wave of studies have arisen that explore the pubertal transition experience for adolescents living in various country settings [34]. These studies showcase how the physiological changes of puberty impact social health and do so differently for girls compared to boys, introducing the development of gender roles and norms. While adolescence may not be recognized as a life stage in many African societies, researchers working in sub-Saharan Africa have documented the shift in social expectations placed on adolescent girls and boys as they undergo the very visible signs of sexual maturation [11]. Girls are expected to take on more household responsibilities, face increased sexual coercion, and experience new restrictions on

their mobility, especially around boys and men. Boys on the other hand are subjected to masculinity norms and social pressure to engage in risky sexual behavior. They are also expected to contribute to family income, exposing them to occupational health concerns like injury [11]. The World Bank in 2012 conducted a series of focus groups with adolescents living in urban and rural communities in eight different countries from various regions - Africa, the Americas, Eastern Mediterranean, and South-East Asia [6]. The qualitative assessment found similar social expectations brought on by puberty but also uncovered how adolescents begin to assume their expected gender roles as well. The adolescents in the study readily defined “good girls” as those who were obedient, respectful and helpful at home while “good boys” were defined as those who were respectful and did not partake in ‘vices’ such as drinking and smoking [6].

While these multi-country studies help identify more global social impacts of puberty, it is necessary to explore specific country settings in order to understand surrounding religious and cultural factors that also influence the pubertal transition. In this way, culturally appropriate health interventions can be identified. Several qualitative studies in Iran that utilized in-depth interviews and focus groups uncovered that both Iranian girls and boys view puberty as an unpleasant and stressful experience [35-37]. For Iranian girls, the thematic challenges that arose included nervousness and shame towards body changes, the appearance of mood swings and other psychological changes, difficulties in communicating with parents, interest in the opposite sex but lack of sexual health knowledge, poor performance in school, concern towards following religious rules around menstruation, and frightful experiences with menarche [36]. Two

qualitative studies with Iranian boys found similar themes with religious concerns, lack of knowledge about sex and the puberty process, parental conflict, and shame and embarrassment towards body changes and even talking about these changes [35, 37]. However, Iranian boys also experienced stress over family economic conditions and expressed anxiety and fear towards the physical and mental changes of puberty – wanting to be ‘normal’ and have the same changes as their peers but also wanting this period of transition to pass [35, 37]. These studies highlighted specific pubertal issues in the Iranian context for adolescent girls and boys, such as new religious considerations during puberty and the taboo nature of the topic itself, leading to a lack of knowledge around sexual health and anxiety over pubertal changes.

Another qualitative study in Thailand highlights the need for context-specific puberty research as countries undergo economic prosperity with subsequent shifts in cultural and religious values. As part of a larger exploratory study, 20 focus groups were conducted with adolescent Thai girls and boys from six different secondary schools to understand their attitudes and behaviors towards sex [38]. In general, the Thai students experienced a lot of conflict and stress as they struggled to live in a “dual value” society with both traditional and contemporary beliefs. Thai girls still valued modesty and obedience but at the same time were feeling pressure to accept a modern concept of dating with greater exposure to sexual coercion. Meanwhile, Thai boys had to manage their own opposing values of respect and protection towards girls and desire to be sexually proficient and dominating [38]. The results of this study suggested several different approaches to improve the content and delivery of sex education in Thailand;

again showcasing the need for specific qualitative research in order to inform the design of adolescent health interventions.

Finally, even within a country it is important to understand the differences and similarities in the pubertal experience of dimorphic demographics such as urban versus rural and in-school versus out-of-school. Sommer et al. (2014) examined how masculinity norms that develop in puberty affect health behaviors in urban versus rural Tanzanian adolescent boys. The study found that while there were almost no differences between urban and rural boys, sexuality guidance varied between ethnic groups. Some ethnic groups still practiced pubertal rites where adolescent boys are sequestered for a period of time and heavily exposed to concepts of masculinity but lack information about the necessity of condom use to prevent HIV and pregnancy. Similar to the Thailand study, the researchers also found that the economic development of Tanzania is exposing adolescent boys to more Western mass media images of sexuality, enforcing masculinity concepts of virility and power [39]. Another study by Sommer et al. (2009) used participatory qualitative methods to understand challenges of the pubertal transition for Tanzanian adolescent girls. In this study there was a difference between urban and rural girls where rural girls were much more likely to hide the onset of their menses for fear of being accused of sexual promiscuity [40]. In addition, the study found that both in-school girls and out-of-school girls lack knowledge and guidance on body changes, HIV/AIDS, and other sexual health issues that arise during puberty [40].



### *Menstrual Hygiene Management: Health Challenges for Adolescent Girls*

The past decade has seen a dramatic influx of puberty research in developing countries that focuses on girls' experiences with menstruation, specifically in regards to menstrual hygiene management (MHM). Although menstruation is a normal biological process, it is a taboo topic that is stigmatized almost everywhere in the world to varying degrees [41-43]. This stigmatization of menstruation has led to a number of mental, physical, social, and educational impacts that adolescent girls across the globe have voiced in both qualitative and mixed methods studies.

Countless studies have documented the fear and shock that girls experience when they have their first period and its resultant psychological impact. A qualitative study in Freetown, Sierra Leone, reported that girls were fearful at the time of menarche, thinking they had a wound or that they were pregnant and would get in trouble [44]. Confusion, fear, embarrassment, shock, and mixed feelings around menarche have been documented for girls living in Tanzania, Kenya, Nepal, Bolivia, Pakistan and many other country settings including the United States and Europe [40, 45-49]. These studies showcase how at the time of menarche girls do not have a clear understanding of the biological process of menstruation. A cross-sectional study of 453 schoolgirls post-menarche, who were studying in the Uttarakhand district of India, found that while almost 70 percent of the girls knew about menstruation before menarche, only 29 percent understood that the reproductive system (i.e. uterus) is the source of bleeding during menstruation [50]. In addition, early pubertal timing exacerbates these mental health issues surrounding menarche. A study from Mexico showed that adolescent girls

who matured early, meaning they menarched before age 11, were significantly more likely to feel sad, worried, and scared at the time of menarche, to have not known what to do and to feel that they should keep their menstruation secret compared to girls who menarched after age 11 [51]. Finally, a study out of rural Western Kenya documented the continued negative feelings girls associate with menstruation even post-menarche including shame, confusion and powerlessness [52].

The stigma that girls themselves associate with menstruation is compounded by the social restrictions placed on them during this period. These restrictions, which are well documented in multiple countries, include inhibiting girls from participating in religious activities, preparing food or cooking, taking part in physical activity, engaging in sex and eating certain foods [42, 53]. Social restrictions often evolve from menstrual taboos that have severe health implications. In many religions and cultural contexts, menstrual blood is considered 'dirty' and women and girls are thus 'polluted' and should not bathe [54]. This is a common belief in many rural areas of India and Southeast Asia [48]. For instance, out of 200 girls interviewed in the Jammu district of India, 98 percent believed that they should not regularly bathe during their menstrual cycle [55]. This social restriction placed on bathing could lead to reproductive tract infections (RTIs) for women and girls [56]. Other social restrictions with health implications include those surrounding food. In Pakistan, women and girls are not supposed to eat certain 'hot' and 'cold' foods when they are menstruating such as dry fruits and green leafy vegetables [46]. However, these foods are rich in iron and their avoidance during the menstrual cycle could lead to anemia - a major health issue for girls as previously noted [5].

Girls growing up in developing countries often have unhygienic menstrual practices as they lack information and resources to properly manage their menstruation. While it is difficult to assess the connection between MHM and RTIs, poor menstrual hygiene practices are a major concern for the health of adolescent girls. A large survey study from Mansoura Egypt found that 30 percent of girls did not bathe when menstruating and girls did not change their sanitary pads regularly with only 57 percent using one or two pads a day [57]. The majority of girls at 83 percent also stated that they wanted more information about menstrual hygiene [57]. Another large survey study in the Nagpur district of India documented the MHM practices of adolescent girls [58]. The study found that almost half of the girls used old cloth as their menstrual material and about 40 percent did not use soap when cleaning their genitalia during menstruation. One of the major reasons that girls did not use sanitary pads was because of their high cost [58].

Finally, menstruation affects girls' ability to perform well at school due to the lack of appropriate water, sanitation and hygiene (WASH) facilities. A four-country MHM study conducted in partnership between UNICEF and Emory University documented the challenges girls face in the school environment when menstruating [44, 47, 59]. Study participants living in the Philippines, Bolivia, and Sierra Leone all reported that it was difficult for them to manage their menstruation at school because of the inadequate latrines. Their school latrines were often in poor condition with many nonfunctional and unclean, they lacked privacy and disposal systems for menstrual materials, and had an inconsistent supply of water. School latrines were also often locked and hand-washing

facilities were far away [44, 47, 59]. These inadequate and inappropriate water and sanitation conditions act as barriers for girls in their ability to safely and comfortably manage their menstruation while at school. Many other studies have found similar connections between school WASH conditions and MHM. Adolescent girls in Ethiopia reported having access to water and sanitation facilities at school but because of the lack of privacy with these facilities, the girls felt uncomfortable at school when they were menstruating [60]. A rigorous qualitative study from Uganda conducted 40 focus groups with schoolgirls and asked them what they needed at school in order to successfully manage their menstruation [61]. The study uncovered similar themes – girls wanted a discrete place to clean themselves, sanitation facilities where they can change their pad, a private space for washing and drying their reusable pads, and a safe location to dispose non-reusable pads [61].

Girls also behave differently at school when they are menstruating due to the social stigma and this also leads to educational impacts. The same four-country study by UNICEF and Emory University found that girls are very anxious when they are menstruating at school for fear of their fellow classmates or teachers finding out their menstrual status [44, 47, 59]. Girls worry about menstrual odor and leaks and bloodstains on their school clothes as these indicators incite teasing from their male classmates. This anxiety over their menstruation also affects their behavior and leads to self-isolation from their peers, less participation during class, and their inability to stay focused [44, 47, 59]. A qualitative study from rural Western Kenya uncovered similar themes – schoolgirls were deeply concerned about being stigmatized by their fellow

classmates and many girls reported that the most effective way of dealing with their menstruation while at school was to simply “go home” [52]. In fact, many studies have linked menstruation to girls’ absenteeism from school [62]. A study in Ghana also found that when girls are provided sanitary pads and puberty education their school attendance significantly improves [63].

### *Where are the Boys? & Precocious Puberty: Gaps in the Literature*

Compared to the surge of studies that have appeared on MHM for girls, puberty research around specific health issues for adolescent boys is much less explored especially in the developing world context. The previously discussed qualitative studies from Thailand, Tanzania, and Iran showcase some of the few examples that explore the pubertal transition experience for boys. These studies highlighted the ‘dominant’ role that masculinity norms play, stressors that adolescent boys face, and the lack of guidance and support boys receive during this transition [35, 37-39]. The Tanzanian study in particular uncovered that boys had many unanswered questions about wet dreams, erections, and sexual desires. A study in Taiwan explored masturbatory knowledge and attitudes of 17 to 18 year olds and also found that adolescents, both high school boys and girls, had insufficient knowledge around masturbation even while 95 percent of boys and 30 percent of girls practiced it and had positive attitudes towards masturbation [64]. Although Taiwan is a developed country, it represents the non-Western context that is still largely unstudied in regards to boys’ pubertal health.

This handful of studies clearly indicates that boys face their own puberty challenges but the majority of studies come from the Western context. Western countries since the mid-1900s have identified numerous pubertal issues for boys such as short stature, bullying, attention deficit hyperactivity disorder, risk-taking behaviors, changing relationships with parents and their female peers, and more [65]. However, qualitative studies are also rare in the United States and Europe with only a few exploring the psychological and emotional impact of these issues. A qualitative study among schoolboys in grade 7 and 10 living in Iowa State found that boys who matured early experienced greater external hostility and internal distress [66]. A grounded theory study with Canadian 15 year olds uncovered that the boys were very in tuned to the physical maturation of their male peers and became distressed if their physical changes were different because being abnormal meant embarrassment and stigmatization [67]. This led boys to develop several 'minimizing embarrassment' strategies such as avoidance of discussing emotions or being seen naked, using humor to deflect embarrassment, and pretending to have already matured so they could be 'normal' [67]. These psychological and emotional issues may also affect boys residing in non-Western countries but the possible similarities and differences remain unknown due to the lack of research.

Another major gap in the literature on boys is the lack of information around sexual and reproductive health (SRH) issues, which are closely associated with the pubertal transition. Many studies exist that research SRH issues for both adolescent girls and boys but few focus on boys and young men alone [12]. Sexual behavior and

sexual abuse, reproduction and fertility are all topics that center on girls and women but both genders can face these issues. Little research has explored the sexual abuse that young boys might face or health issues around sexual dysfunction [12]. Even clinicians state that they are lacking evidence around men's SRH issues and men in return experience a number of internal and external barriers of shame, embarrassment and disrespect when trying to access SRH care [68, 69].

Another reason why the dearth of literature around boys SRH issues is so vital for addressing adolescent health is that boys are often linked to the SRH issues of girls, especially those prevalent in developing countries and that revolve around gender norms. Boys play a substantial role in teenage pregnancy, transmission of STIs, and intimate-partner violence [14]. And as previously noted, boys contribute to the stigmatization of menstruation as they tease their fellow female classmates. A study from Taiwan is one of the few, if only, studies that actually attempts to understand boys' perceptions and attitudes towards menstruation in order to inform sexual health education. The study found through focus group discussions that boys view menstruation as 'a silent topic' since no one talked to them about it [70]. Boys also had a lot of misinformation and developed the same social stigma perception which led to negative attitudes towards menstruation - hence the boys teasing girls and causing them anxiety over a natural bodily process [70]. HIV is another important SRH issue in developing countries that must include boys. Nevertheless, boys are the "forgotten fifty percent" as one literature review on SRH research and programs in sub-Saharan Africa points out [71].

In addition to the gaps in the research around adolescent boys, new studies are documenting the shift in pubertal timing where girls and boys are maturing earlier than before with unknown implications for the field of adolescent health. However, again, the majority of studies only assess pubertal timing indicators in the developing world context with a predominant focus on age at menarche for girls. Many studies from Europe and the United States have shown that girls now menarche before age 9 as opposed to around age 12 or later [72]. One meta-analysis study actually examined determinants for age at menarche by assessing data from 67 different countries [73]. The analysis uncovered that a number of extrinsic factors, such as higher adult literacy rates and higher vegetable calorie consumption, are linked to younger age at menarche – suggesting that girls living in developed countries or areas with healthier living conditions are more likely to experience precocious puberty [73]. Few studies examine the occurrence of precocious puberty among boys but the Western literature thus far suggests this shift in pubertal timing is happening for adolescent boys as well [74]. There is no literature to date that examines if precocious puberty is taking place in developing countries. However, the data thus far suggests that as developing countries become healthier we can expect this pubertal shift to happen more globally.

While there is a current dramatic shift in the onset of puberty, a gradual drop in age of menarche has been documented over the past century and is an established secular trend [2]. In addition to the gradual drop in the onset of puberty, many developing countries are also experiencing a shift in traditional views placed on the transition to adulthood due to industrialization, urbanization, and this new age of mass



media and globalization [2, 10]. The physical signs of puberty no longer signal the time for marriage, childrearing and employment as they historically once did. As a result, adolescence is becoming a more established life stage in developing countries as the age gap between biological maturation and psychosocial maturation has expanded [2, 5]. Yet very few studies to date have researched how this societal restructuring due to early puberty has affected adolescent health and, more specifically, how adolescent girls and boys residing in developing countries navigate their transition into adulthood in such a fluctuating social environment. The studies from Tanzania and Thailand are the rare examples that have begun to answer these relevant questions [38, 39].

### **Puberty Education and School-Based Interventions**

#### *Global Agenda on Puberty Education and Benefits of the School Environment*

The school environment is often viewed as an ideal setting for providing adolescents with the knowledge and skill sets they need to successfully navigate the pubertal transition. UNESCO recently published an extensive booklet on “Puberty Education & Menstrual Hygiene Management” that calls upon the education sector, with a focus on the developing world, to provide puberty education in secondary school [9]. Moreover, in 2000 at the World Education Forum in Dakar, Senegal, the WHO, UNICEF, UNESCO, and the World Bank established a framework for implementing effective school health programs called FRESH (Focus Resources on Effective School Health) [75]. One focus of the framework is on skills based health education, which addresses a

number of the challenges adolescents face during puberty such as how to handle peer pressure and ways to prevent high-risk behaviors [75].

The global agenda towards puberty education at school is based off literature that has shown the positive impact the school environment can have on adolescent health. Several studies show that school connectedness – students feeling like someone at their school cares about their well-being – is associated with a myriad of adolescent health issues. Students who experience greater school connectedness are less likely to perform poorly, to skip class, to be involved in vandalism or fights, to get pregnant, and less likely to take part in high-risk behaviors such as substance use [8]. In addition, school puberty education programs can challenge gender roles while providing a supportive environment that upholds gender equality [9, 75].

#### *Puberty Education: School-Based, Media and Booklet Interventions*

Puberty education is not often integrated into secondary school curricula in many parts of the world, most likely due to the taboo nature of puberty topics, but several studies showcase the health benefits of puberty education. However, not many studies focus on puberty education interventions in developing countries and those that do center on puberty and menstrual education for adolescent girls. A study in Bangladesh provided six months of menstrual hygiene education taught by trained research assistants and then compared pre and post knowledge, attitudes and practices (KAP) questionnaires [76]. Findings from the questionnaires included significant reported improvements in menstrual hygiene practices and fewer issues during menstruation

[76]. A similar study from the Mazandaran province in Iran assessed the impact of providing a more comprehensive puberty curricula for adolescent girls with 10 two-hour sessions that addressed a range of puberty topics beyond menstruation [77]. This study included both experimental and control groups with a post questionnaire administered to each. The most significant result from the study was the more prevalent practice of bathing and genital hygiene among the experimental participants compared to the control group [77]. A handful of other studies in Ghana, Tehran, and India have researched the health impacts of school-based puberty education interventions for girls and found similar positive results [63, 78, 79]. However, again, these studies focus on adolescent girls, creating a gap in the literature on how effective school-based puberty education programs would be for adolescent boys. In addition, the study designs are somewhat weak as most utilize pre and post questionnaires for evaluation, which rely on self-reporting of practices and also the assumption that knowledge indicates behavior change. Finally, no studies to date have researched the longitudinal impacts of these school-based puberty education programs and how effective they are at improving health in adulthood.

Although studies indicate the positive impacts of school-based interventions, other documented forms of puberty education interventions in developing countries include media-based and puberty book interventions. Soul City, an NGO based in South Africa, develops a weekly television drama that explores different health issues every episode [80]. Soul City also produces mass media life skills materials for adolescents aged 14 to 18 years old that provide information about puberty changes with a focus on

HIV/AIDS knowledge, preventative practices and safe sexual behaviors. An evaluation study of the life skills program found that adolescents exposed to the materials had more knowledge on puberty body changes, HIV knowledge and risk perception, and used a condom during their last sexual encounter – suggesting that mass media edutainment is another intervention form for effective puberty education [80]. In addition to mass media, there is a recent movement from the practitioner realm around developing evidence-based puberty books for specific cultural contexts. A researcher from Columbia University, named Marni Sommer, has established an NGO called “Grow & Know” that has created puberty books for various developing countries – Ghana, Ethiopia, Tanzania, and Cambodia. The books are created after extensive formative research in the given context using participatory focus groups and in-depth interviews with both adolescent girls and boys in order to create gender-specific books [81]. However, an official evaluation of the books and their impact on adolescent health has yet to be conducted.

### **A Country in Transition - Tajikistan Context**

#### *Tajikistan's Regressive Development Path & Its Impact on Adolescent Health*

The Republic of Tajikistan is often called a “country in transition” as the population continues to deal with the social and economic effects of its civil war, which impacted Tajik adolescent health [82]. A former Soviet republic, Tajikistan gained independence from the Soviet Union in 1991 and a six-year civil war with significant economic collapse soon followed. As a result of the war roughly 100,000 people died

while over 150,000 people fled to nearby countries and almost 700,000 became internally displaced within Tajikistan [82]. A social anthropological analysis has documented the role Tajik young men played in the civil war and the concept of 'maturity' that came with military participation [83]. The analysis comments on how vanguard groups, those seeking social reform for Tajikistan, utilized the attraction of maturity or an adult status to recruit masses of young men who were typically given a subordinate status in Tajik society. In other words, young men became the predominate participants in the civil war because their military activity transitioned their status from child to adult as it allowed them to escape parental control and take on strong expressions of masculinity (i.e. violence) [83]. Adolescent boys and growing young men in today's Tajik society maintain this historical, albeit recent, view of their maturation – violence and the masculinity around military participation is still an aspect of boys transition into adulthood. The literature also shows the long-lasting impact the civil war had on adolescent girls. An analysis of the 1999 Tajik Living Standards Survey found that girls who lived in conflict affected regions and were school aged at the time of the civil war, were much less likely to have completed their mandatory schooling compared to girls who had resided in areas unaffected by conflict [84].

The development relapse after the civil war also had a dramatic influence on the health and social determinants of health for Tajik adolescents. Several analyses have documented the positive impact the Soviet Union had on Tajikistan's development. While a part of the Soviet Union, Tajikistan received social services like free education and healthcare, new infrastructure, and instituted quotas for women's political

participation [82, 85]. Today, however, Tajikistan is ranked the poorest country in Central Asia and one of the most corrupt countries in the world with a rating of 152 out of 182 countries based on the 2011 Transparency International Corruption Index [82]. Yet, the country is home to the largest population of young people in Central Asia, with roughly 35% of its residents between the ages of 10 to 24 years old [86]. The developmental context of Tajikistan no doubt impacts the health of this large adolescent population. The majority of households are poor or extremely poor at 70 percent of the population and 30 percent report not having enough money for food and shelter [82, 85]. The country also struggles with access to water, sanitation and electricity especially in rural areas and during the winter when prolonged freezing temperatures damage infrastructure. Tajiks face high rates of child and maternal mortality, increased rates of TB and HIV/AIDS, and many parts of the country deal with chronic and acute malnutrition. Drug trafficking is also a major aspect of life in Tajikistan with over 100 tons of Afghan heroin being smuggled through the country annually. Despite recent economic growth in Tajikistan the government has invested very little of the budget into social services with a mere 8 percent spent on the social sector and only 1.5 percent of GDP spent on health [82, 85]. Finally, gender inequality is a major issue in Tajikistan that crosses the political, labor and education systems [85, 87]. Women are rarely represented in Parliament or in local district politics. Women are paid much less than men and rarely hold manager positions with the majority of women working in agricultural labor with little access to other jobs in the labor market [85, 87]. In addition, the rate of child marriage for young girls is much more common now at 13 percent

compared to the period under Soviet rule [88]. Lastly, the education sector has seen a dramatic drop since independence in the number of girls attending secondary school with a striking 12 percentage point gap between girls and boys for secondary school enrollment [88]. This gap widens to a 20 percent difference in tertiary education with only 11 percent of girls attending higher schooling compared to 29 percent for boys [88]. While many of these country development indicators – poverty, access to water and sanitation, morbidity and mortality, government spending on health, gender inequality – inevitably impact Tajik adolescent health, little research to date has focused on this particular part of the country’s population and their specific health challenges.

#### *Taboo Nature of Puberty Research and Its Absence in Central Asia*

There is a prominent dearth of puberty research from Central Asia that most likely stems from the cultural taboo placed on puberty topics. For instance, it is not acceptable in many parts of Afghanistan for young girls and boys to attend secondary school together as they enter puberty and become sexually mature [89]. Likewise, in Kyrgyzstan, there was uproar in 2013 over the distribution of sex education pamphlets entitled “Questions of the Youth of Kyrgyzstan about...” that addressed reproductive health, contraception, STDs, sexual relationships and HIV/AIDS [90]. A thesis analysis showcased that the discourse around sexual education is dominantly controlled by the ‘conservative nationalism’ of the Kyrgyz people [90]. Based off these responses from surrounding countries, it is no surprise that only one study to date has remotely assessed pubertal challenges for Tajik adolescents and this study, predictably, looked

at menstruation and attendance for adolescent girls. Conducted by UNICEF in 2002, the goal of the study was actually to assess the water and sanitation conditions in 20 Tajik schools and happened to find through a survey questionnaire that schoolgirls opted to miss class because of their menstruation [91]. The only prominent puberty research study from Central Asia that is known to this author comes from Pakistan. Qualitative researchers conducted 24 focus groups with young men and women to explore their experiences with learning about sexual development [92]. The qualitative study found that while young men access a large range of informational sources on sexual development, young women are much more confined and typically learn about sexual development through events, such as menarche and marriage [92]. It is clearly evident that puberty is a very sensitive topic in the Central Asian context, making it difficult to conduct research particularly with more personal qualitative methods. Still, it is almost even more vital for puberty research to explore this context so that adolescent girls and boys can be provided the knowledge, attitudes and skill sets they need to successfully navigate the pubertal transition in a way that is culturally appropriate to them.

## **Conclusion**

Upon an extensive review of the literature, it is evident that the field of adolescent health faces a number of contextual and biological shifts that introduce new gaps in the literature. Adolescents in the world today are growing up in transitioning countries where western and traditional values are clashing - most likely impacting social and emotional health for adolescents, especially during the pubertal transition. In addition, the



biological age of puberty is taking place earlier and earlier, a precocious phenomenon that has already been documented in many parts of the world with menarche as the main indicator. Finally, on top of these emerging issues, current gaps in the literature still exist around the pubertal transition as boys are rarely focused on and many contexts, such as Central Asia, have yet to be studied. The qualitative research presented in this thesis attempts to address many of these gaps as it explores the pubertal challenges and lived experiences of both adolescent girls *and* boys growing up in Tajikistan – a Central Asian country with its own transitional context.

### **Chapter 3: Manuscript**

**Manuscript Title:** Growing up in Tajikistan: Students' Perceptions of the Pubertal Transition to Inform Culturally Appropriate Puberty Books

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## **Contribution of Student**

Gloria Driessnack Sclar designed the qualitative tools used in this research; including the activity-based focus group guides for Tajik schoolgirls and boys and the in-depth interview guides for teachers, girls' councilors, and school principals. Sclar trained the Save the Children facilitator team, oversaw data collection, and conducted team debriefs in order to modify the qualitative tools and data collection plan as necessary. Sclar also analyzed the qualitative data, wrote the following manuscript, and developed the tables. Bethany Caruso guided Sclar in the early stages of her work and throughout the process by providing a plethora of puberty research resources, invaluable guidance on the qualitative tools and analytical process, and vital comments and edits for the manuscript. Caruso also conceptualized the design for Tables 2 and 3 included in the manuscript. Matthew Freeman provided valuable and rigorous feedback on the manuscript and was the lead reviewer for each round of edits, taking on the bulk of revisions. Lastly, Dawn Comeau met with Sclar every two months since her return from Tajikistan to help foster the concepts behind this manuscript, offer feedback and edits, help Sclar navigate the revision process, and provide endless encouragement.

## **Abstract**

Puberty is a momentous period in any adolescent's life as it marks the biological transition from childhood to adulthood. In order for adolescents to grow into healthy and productive adults they must successfully navigate this pubertal transition and its associated challenges. Yet, there is a dearth of literature on the pubertal experience for adolescents growing up in various parts of the world, such as the Central Asian context. We conducted qualitative research with Tajik schoolgirls and boys to explore their experiences, knowledge and perceptions of puberty in order to design culturally appropriate puberty books. We uncovered the different challenges and societal expectations that Tajik girls and boys face as they undergo the pubertal transition. These voiced concerns and shared lived experiences were then used to create relevant messaging for the puberty book program. Few academic articles detail the process of translating such important findings into evidence-based programs. Moreover, it is rare to find articles that discuss formative research – that is, research for the specific purpose of informing programmatic design. However, public health is a unique field shared by researchers and practitioners alike – a field that not only pursues invaluable research but pushes for the application of their findings. Here we provide an example of the research to program translation process through a descriptive case study set in Tajikistan. The goal of this paper is thus two-fold: (1) to present novel qualitative findings on the pubertal transition for Tajik adolescents and (2) to outline the process of how this qualitative data was used to construct the content for the puberty books.

## Introduction

Health interventions focused on adolescents have the potential for significant and sustained effects due to the intermediate nature of this critical life stage - where behaviors and issues that develop at this time not only impact current health status but also future health as an adult [2]. Adolescence, defined by the WHO as people between 10 to 19 years of age, is a period of acquiring skills and forming attitudes that will allow young boys and girls to be both healthy and economically productive adults in society [1]. There are more young people aged 10 to 24 years old in the world today – about 1.8 billion – than ever before, and 89% reside in low and middle-income countries [14]. This population will soon become the future workforce and will ultimately affect country economies and the life of future generations. For instance, investment in young people’s education and human capital is known to result in a more capable labor force, which prevents future skill shortages - a common occurrence in developing countries that negatively affects their economy [18]. Impacts of intergenerational poverty are also mitigated when youth populations are better educated, as they choose smaller family sizes and invest in the health and education of their own children [18]. Thus in the candid words of Chandra-Mouli et al. (2013) “Invest in adolescents and young people: it pays.”

Adolescents face a number of unique health challenges, with some of the top causes of mortality being road traffic injuries, HIV/AIDS, self-harm, and interpersonal violence [5]. High-risk behaviors such as smoking, alcohol consumption, and drug use, that often

originate in adolescence, are linked to 12.6% of deaths in adults [2]. These health impacts coincide with the emotional, social, and cognitive changes that adolescents experience along with the physical changes of puberty – the biological transition [1].

Adolescence is a Western social construct that many societies do not recognize as a unique life stage, but the physical changes of puberty nevertheless take place [10]. Girls develop breast tissue and begin menstruating while boys experience genital development and growth spurts. Adolescents from both genders also develop pubic and armpit hair [26]. These physical changes can trigger a sudden shift in social dynamics, especially in regard to gender roles. In many cultures and across myriad settings, when girls enter puberty this leads to an increase in household responsibilities, expectations of obedience and modesty, enforced restrictions on mobility, and greater risk for sexual coercion [6, 11]. The social stigma of menstruation introduces new limitations for girls: inability to participate in religious activities, dietary restrictions, personal hygiene restrictions, forbiddance of cooking or fetching water, and educational constraints [42, 46, 53, 77, 93-96]. Meanwhile, adolescent boys are given more privilege and independence and begin to adopt masculinity norms that emphasize dominance and sexual ability [1]. These freedoms often come with the caveat that boys will focus on their education and contribute to family income [1, 6, 11].

Shifts in social dynamics, caused by the pubertal transition, heavily affect adolescent health and well being, yet many gaps remain in puberty research. Research has

predominantly focused on girls and their experiences, particularly with menstruation, while the pubertal experience of adolescent boys is largely unknown or explored [12]. Common health issues that boys struggle with during this life stage, like drug abuse, aggression and risky sexual activity, are well-known but their underlying root causes and surrounding socio-ecological factors are not [7, 11]. In addition, addressing gender inequities and their health impacts cannot be done through girl-focused programs alone. Adolescent boys must also be included as they play a substantial role in girls' health issues such as teenage pregnancy, transmission of STIs, and intimate-partner violence [14]. On top of this, many studies indicate that pubertal timing is happening earlier and earlier, creating new gaps in the literature with unknown implications for the field of adolescent health [26, 73, 74].

Another key area of puberty research that requires greater understanding is context. The cultural beliefs, attitudes and challenges surrounding girls' menstruation have been explored in a multitude of country settings. Studies in Nepal and India show that girls are ill-prepared for their first menses, often not knowing where the blood is coming from and believing it to be 'bad blood' or 'impure' [44, 48, 50]. Schoolgirls in Kenya, Bolivia, and Sierra Leone reported feeling fear and shame about their menstruation because of the associated stigma and teasing from male classmates, which led to girls being less active in class to avoid incidences [44, 47, 52]. In addition, studies from the Philippines, Tanzania and many others have linked girls' absenteeism from school to the lack of private and functional school latrines and access to water for girls to comfortably

manage their menstruation [59, 97]. Finally, new studies are emerging on the pubertal experience for boys in areas like Tanzania, also finding that boys lack support and guidance during this challenging life stage [39].

These studies have pushed for new programs in the school environment to better meet the needs of adolescents. For instance, a sanitary pad and puberty education intervention in Ghana was shown to significantly improve girls' attendance at school [63]. Schools are an ideal setting for puberty programs because they not only equip students with the knowledge and skills for employment but they act as an important social environment where adolescents form supportive relationships with their peers and teachers [1]. Puberty education programs in particular can prepare students for the changes to come, emphasize the normality of this confusing time, provide resources and social support, and even challenge gender norms [9]. Still, the contextual factors affecting adolescents in areas like Central Asia remain largely unexplored. The voiced experiences of these adolescents would add crucial insight into their needs and challenges during puberty, allowing for more effective school programs to be created.

The Republic of Tajikistan, with mixed influence from its Soviet past and Islam tradition, provides a unique context that is unlike any area where research around puberty has taken place. The country is home to the youngest population in Central Asia, with roughly 45% of its residents below the age of 19 [82]. While a part of the Soviet Union, Tajikistan received social services like free education and healthcare, new



infrastructure, and instituted quotas for women's political participation [82, 85]. However, after independence in 1991, the country spent the following decade in civil war with a deteriorating economy and development relapse [82]. Today, Tajikistan remains the poorest country in Central Asia and struggles with high rates of child and maternal mortality, drug trafficking, and gender inequality across employment, government and education [82, 85, 88, 98]. Gender inequality in Tajikistan's education sector is particularly striking, with a 12-point gap between girls and boys for secondary school enrollment [88]. A study by UNICEF in 2002 that documented water and sanitation conditions in 20 Tajik schools, found that schoolgirls opted to miss class because of their menstruation – making it the only study in Tajikistan that addresses pubertal challenges for adolescent girls [91]. In Tajikistan, as in many countries, puberty remains a taboo topic that is rarely addressed at home or in school.

There is intense interest for research that focuses on early adolescence and the pubertal transition, especially for boys and in different local contexts [2, 10-13]. But even more so, many articles implore researchers to actively involve adolescents, to give young boys and girls voice in identifying the challenges that they face while growing up [2, 10, 13]. The purpose of this research was two-fold: (1) to uncover Tajik adolescents' experiences, knowledge and perceptions of puberty by engaging with schoolgirls and boys themselves and (2) to apply our findings to the development of a culturally and context specific resource book that could be used for puberty education. Here we present our findings from qualitative research on puberty in Tajikistan, and we detail

how these results were used for the development of the puberty resource book. Context specific tools for puberty education of both boys and girls is critically needed to ensure a safe, healthy, and positive transition to adulthood, and our approach is both rigorous and replicable for practitioners working in any country setting.

## **Methods**

### *Study Setting*

The study took place in the southwestern region of Tajikistan known as Khatlon Province, which shares a border with Uzbekistan and Afghanistan. Out of the country's four provinces, Khatlon is the poorest, with the majority of households working in the cotton-production industry [99]. Based in the provincial capital of Qurgonteppa, Save the Children International's (SCI) 'School Health and Nutrition' (SHN) team implements school-based health programs in six districts.

Eleven schools were engaged in this study and were selected purposively based on the school administration's relationship with the SHN staff, demographics of the students, and proximity to the Qurgonteppa office. One majority Uzbek school was specifically selected since SCI works with both Tajik and Uzbek students and as a result important to understand the pubertal experience of this particular population. The remaining ten schools were majority Tajik.

### *Sampling*

We conducted a total of 16 focus group discussions (FGDs), 7 with boys and 9 with girls, between June 2014 and July 2014. One FGD with girls and one with boys took place in each of five of the eleven schools. The remaining six schools had a FGD with either girls or boys. The FGDs consisted of 6 to 10 participants, ranging in age from 10 to 19 years old. School principals selected students from grades 7 to 11 but some

students in grades 3 to 6 participated as well. This large range in age and grade was due to the difficulty in recruiting participants during exam season.

### *Consent Process*

We met with principals at the selected schools the day before data collection to explain the purpose of the research and its programmatic goal of creating culturally appropriate puberty books. Principals signed a consent form *in loco parentis*, meaning 'in the place of parents,' granting permission for SHN staff to conduct FGDs with students selected by the principal. Before the start of any FGD, facilitators explained to the students that their participation was completely voluntary and they could leave the focus group at any time. All selected students chose to participate in the FGD activities. We received approval of the research protocol from The Emory University Institutional Review Board in Atlanta, GA. A comparable research ethics review committee was not present in Tajikistan.

### *Design of Focus Group Activities*

We used an interactive, participatory focus group approach in order to create a more open, comfortable atmosphere that would foster discussion around sensitive topics [100]. The FGD activities included group discussions, smaller group work, and individual writing. The research activities selected for inclusion were inspired by puberty research in Tanzania, Ethiopia, Cambodia and Ghana, a four-country menstrual hygiene

management (MHM) study conducted in Bolivia, Philippines, Rwanda, and Sierra Leone, and previously developed puberty books from Nepal [97, 101-104].

Each activity corresponded to a specific research aim that would help inform the content of the gender-specific puberty books and as such some activities were used in only the girls' FGDs or only the boys' (see Table 1). A two-part activity called "Becoming an Adult" was used in both sets of FGDs to understand how Tajik adolescents perceive the transition from childhood to adulthood. The first part required participants to split into two groups with each group asked to fill out one of two poster sheets: "Becoming an Adult: Physical Changes" or "Becoming an Adult: Life Changes." Facilitators encouraged discussion among group members and when participants finished writing, a representative presented their poster sheet so the other group could add their thoughts. In the second part of the activity, participants were given individual worksheets and asked to write down the positives and negatives of becoming an adult. The girls' FGD also included a scenario activity where the facilitator describes a girl named Gulchehra who comes to school and gets her menstruation during class. One facilitator then probes the group about Gulchehra's experience while the other facilitator writes down on a poster sheet the challenges that girls describe for Gulchehra. The last activity in the girls' FGD was individual story writing where girls were asked to write down a personal menstruation story either about herself or someone she knew. Finally, the boys' FGD included an activity that explored gender roles. Boys were asked to describe activities that girls do and activities that boys do while the facilitator documented their

responses on two separate poster sheets. The facilitator then encouraged a group discussion about gender roles and norms.

### *Facilitator Team*

SHN team members were trained as FGD facilitators and included four women and two men. Team members worked in pairs with the two men facilitating the boys' FGDs while the women facilitated the girls'. All team members spoke Tajik while one woman and man also spoke Uzbek. Qualitative training included an introduction to research goals, purpose of qualitative research, focus group methodology, role of facilitator, data collection approaches, and a review of the protocol and purpose for each FGD. Team members translated the focus group guides from English to Tajik. Debrief meetings after data collection gave team members a chance to review challenges conducting the discussions, discuss emerging themes, share recommendations, decide upon protocol changes, and review qualitative skills.

### *Data Collection*

The focus groups took place in a designated private classroom in the selected schools. The activities lasted around two hours with an icebreaker activity at the beginning and a stretch break activity at the halfway mark. Focus groups were not recorded based off participant hesitation towards the recorder during a pilot FGD and due to lack of transcription resources.

### *Data Analysis*

We transcribed the written activity materials (i.e. group poster sheets and individual worksheets) into Microsoft Word and then translated from Tajik to English. Two English-speaking team members worked collaboratively and agreed upon a set of translation rules. In addition, a sample of their work was crosschecked against the other's to verify consistency of the translations. In the case of two focus groups, the data was first translated from Uzbek to Tajik by Uzbek-speaking team members and then translated from Tajik to English.

We used content analysis with influence from an anthropological free-listing approach due to the brevity of the written data [105, 106]. G.D.S. read through the data set for each activity (data across all focus groups by gender), clarified any questions with the translators, and then used open-coding to identify common and unique themes using the following steps:

1. Compiled a comprehensive list of the different topics, or subthemes, that arose in a given activity
2. Counted the number of times the same subtheme arose in the data set, both within and across focus groups
3. Collapsed subthemes that expressed similar concepts into a single main theme or "code" and recorded the summative count

4. Constructed a table for each activity analysis that included three columns: (1) main themes listed in order of frequency count, (2) subthemes and (3) notes and ideas for application to puberty book content
5. Examined each main theme to ensure it accurately expressed the holistic subtheme concepts. Re-worded the main theme and re-categorized subthemes as necessary.
6. Main themes across all focus group activities were grouped together based on emerging concepts (refer to Discussion for overview of research findings)

### *Data Application*

Upon completion of data analysis, each research finding was directly translated into content for the puberty books using the following structured process:

1. Triangulated each research finding using one or more of the following sources:  
recorded meeting notes from team debriefs, interviews with school staff, FGDs with mothers and female teachers, and data from FGDs with the opposite gender (e.g. boys' FGD findings informed girls' FGD findings).
  - Six interviews were conducted with school staff associated with the sampled schools. Individuals interviewed included a biology teacher, history teacher, school girls' councilor, two school principals, and regional girls' councilor. Interviews discussed challenges girls face during puberty, puberty curricula taught at school, and puberty book recommendations.
  - Six FGDs were conducted with mothers and female teachers who were associated with the sampled schools. FGDs took place in empty



classrooms and covered challenges girls face during puberty, personal menstruation stories, and puberty book recommendations.

2. Determined what information or messaging the puberty book should address based off the underlying implications of each research finding
3. Gathered additional ideas for puberty book content from SHN staff and stakeholder recommendations and review of published puberty books
4. Developed an outline for each puberty book section that addressed a given research finding and its implications. Included description of different activities, stories, and illustrations that could be used to represent information and relay certain messages.

## Results

We first present the main findings from each set of FGDs by activity and then review how findings were translated into content for two gender-specific puberty books.

### Thematic Findings – Tajik Adolescent Girls

#### *Becoming an Adult: Physical & Life Changes*

Girls identified a wide array of physical and life changes that take place as they transition from child to adulthood. In general, girls noted that their bodies would develop and change, growing bigger and taller. Participants identified menstruation as one of these major changes while most girls also identified breast development and hair appearing in new places. While these physical markers appeared to be common knowledge, few focus groups identified other indicators of puberty such as the appearance of body odor, acne and body *shape* changes. In some cases, focus groups provided contradicting responses such as weight gain versus weight loss.

Beauty and appearance came up repeatedly in all of the focus groups. Girls described how they will *“get more beautiful”* or *“look like a superstar”* when they become an adult. For life changes, they wrote about this new focus on appearance where girls will *“pay more attention to yourself”* and start to *“use make up,” “stand in front of mirror”* and *“want to wear tight clothes.”* Beauty and appearance was the most frequent theme in the *Becoming an Adult: Positive activity* as well.

Girls consistently mentioned starting a family and getting married as prominent life changes when they become an adult. Similarly, girls noted how relationships would change, especially with their parents and future in-laws. Daughters must respect their parents but sometimes there are *“misunderstandings between girls and parents.”* When the girls get married, they will then *“start new life in husband’s house”* and must respect their husband, serve their in-laws and defer to their permission to do things.

In addition to these themes, all of the focus groups explored changes in character and emotions. Girls described many different feelings such as jealousy, shame and love. They discussed how their behavior would change as *“some girls get nervous”* and *“some girls get more nice”* and they will *“make more talk and jokes with boys.”*

### *Becoming an Adult: Positives & Negatives*

Girls and boys in both focus groups extended the meaning of positives and negatives to include a moral interpretation of what it means to be a good or bad adult in society. Participants’ reinterpretation allowed us to explore what Tajik adolescents both look forward to and worry about in adulthood as well as the societal expectations placed on each gender.

Girls described the positives of womanhood as getting married, starting a family and having good behavior. Good behavior was defined as respecting others, behaving well towards your parents, and helping others. As discussed in the previous activity, girls

related womanhood with a newfound beauty and subsequent focus on appearance – dressing well, using make-up, shaping eyebrows, etc. They also viewed menstruation as a sign of good health and the ability to bear children.

On the other side, when girls considered the negatives of womanhood, they identified many troubles with married life such as *“child raising is difficult”* and *“husband becomes jealous.”* Girls described poor relations with in-laws and unwanted marriage arrangements. Some physical changes of womanhood were viewed negatively such as acne, weight gain, unwanted attention, and shyness towards some body changes, especially breast development. Girls also wrote about how the *“body destroys”* after a woman gives birth and the painful and emotional effects of menstruation.

Finally, the most common negative theme was an acknowledgment of the difficulties in adult life. Many girls described how *“life problems get up to you”* and *“all house works on your shoulder.”* Girls connected adulthood with death as family members pass away and a few participants bluntly stated that they don’t like adult life and don’t want to live that life. Sexuality issues and harassment arose as another troublesome theme, albeit less common. In a few focus groups girls denoted sexual desires as a bad behavior of womanhood and also expressed concern with experiencing inappropriate attention and behavior from men.

### Gulchehra's Scenario & Menstruation Stories

During the discussion about Gulchehra, girls expressed the various emotions that Gulchehra would feel when she realized in class that she had started her menstruation. Gulchehra would be shy, confused, afraid and nervous. Girls explained how Gulchehra's body would hurt and she *"will lose her energy."* Many girls also noted that her *"face gets white."* The majority of focus groups identified cotton cloth as Gulchehra's menstrual material but girls rarely elaborated to explain proper hygiene management. Instead, girls frequently emphasized the importance of being prepared for menstruation such as using a menstrual calendar, carrying a cloth or pad with you, and having information beforehand. A number of menstruation practices arose out of the conversation about Gulchehra as girls explained that she should not carry heavy things, *"do hard works,"* or eat cold foods as it can *"damage her health."* A few participants also suggested that Gulchehra drink hot tea or take medicine.

All of the focus groups provided a similar story line for Gulchehra, which revealed issues with the school environment, how menstruation affects girls' behavior, and who provides social support. In general, girls explained that Gulchehra would notice a blood stain on her clothes and ask the teacher for permission to go home, to a friend's house, or to a nearby house. Girls noted that Gulchehra might use the school latrines instead of leaving school, but only if they were in good condition. Gulchehra would also act differently at school – she *"sits quietly at class and doesn't make any jokes,"* *"moves become more slow and careful,"* and *"doesn't want to go to social places or parties."*

Teasing from fellow classmates, especially schoolboys, and wanting to conceal her menstruation were other issues discussed. Girls also consistently identified close friends as Gulchehra's number one source of support. Mothers, girls' councilors, teachers, and family members were mentioned but much less often.

Finally, a thematic analysis of the collected menstruation stories triangulated what girls described during the Gulchehra activity. The stories were often about a girlfriend or classmate who gets her period while at school and is very afraid. The friend experiences body pains and sometimes her face turns white and she loses her energy. The author then helps her friend by asking permission from the teacher for them to leave class. The girls walk home and the author offers advice about how to deal with menstruation and/or gives her friend some cotton cloth and helps her get clean.

### **Thematic Findings – Tajik Adolescent Boys**

#### ***Becoming an Adult: Physical & Life Changes***

Boys explored numerous topics around life changes but did not delve as deeply into the physical aspects of the pubertal transition as girls. Instead, they made general comments towards body development, growing taller, and the appearance of facial hair – all very visible signs of maturation. Several other major changes, like the appearance of chest, armpit and pubic hair, deepening of the voice, body odor, acne, and penis growth, were brought up in only a few focus groups.

Boys discussed an overall change in thoughts and feelings, specifically, sexual attraction, as the most prominent life change they will experience as they become adults. They expressed how their *“mind is on girls”* and they will *“pay more attention to girls”* as they grow older, many citing how they will *“get in love”* and a few describing wet dreams. Boys also wrote about how *“feelings appear”* like nervousness and jealousy.

Boys also emphasized attending university and entering the workforce as major life changes. Although learning a profession was noted in the girls’ focus groups, they rarely identified higher education as being part of their adulthood. Boys and girls both discussed how becoming an adult means more responsibilities but the specifics differed: girls referred to household chores while boys wrote about caring for their family and religious responsibility.

Even though all of the boys’ focus groups identified new obligations as an aspect of adulthood, only about half talked about marriage or starting a family. Unlike the girls’ focus groups, boys sometimes described a newfound independence and social life. Adulthood to them meant driving a car, owning a house, travelling to other countries, playing sports – doing things *“that you couldn’t do when you were young.”*

### *Becoming an Adult: Positives & Negatives*

Many of the themes uncovered in the life changes group work were similar to those from the individual activity on positives and negatives. These similarities suggest that the

typical perspective of Tajik boys on the pubertal transition closely matches the individual's perspective.

In this activity, boys often characterized what it meant to be a morally good man just as the girls' focus groups had done for being a morally good woman. Being a good man was defined as helping others, especially parents and the elderly, and having good manners. Boys also identified continuing their education as a major positive of becoming an adult, stating how *"when you grow up you will read more books, you will be educated"* and you will *"be busy with learning."* Boys also wrote about their view on certain body changes and relationships with girls. Growing taller and growing facial hair were positively discussed but boys primarily focused on how their *"muscles become bigger and stronger"* and their *"figure become attractive."* Lastly, boys addressed how they will *"pay more attention to girls"* and fall in love.

Yet, when boys described what it meant to be a morally bad man the themes included criminal acts and drug use. Being a bad man meant smoking, drinking alcohol, cheating, and committing theft and even rape. Other negative themes included inappropriate speech and fighting with others. In addition, some physical changes were viewed negatively like weight gain, acne, and body odor concerned the boys. They also wrote about relationship troubles and how *not* to act towards girls – *"will be jealous to their wives," "to not respect girls."* Similar to the girls' focus groups, boys also identified sexual dreams as a negative or possibly immoral behavior.



### Gender Roles: Activities for Boys vs. Girls

The final activity explored how boys perceive and define gender roles by asking them to describe activities they associate with each gender.

Much like the 'responsibilities' finding from the life changes activity, boys discussed a number of activities that both boys and girls do but the specific tasks were quite different. For instance, a commonly described activity for both genders was some form of agricultural work. However, while boys chop wood, plow the field, plant trees, and harvest wheat, girls are working in the cotton field or at home in the garden. Similarly, even though both boys and girls take care of livestock, boys pasture the cows while girls clean their living space and milk them.

The most prominent difference was the abundance of household chores listed for girls, which were absent for boys. In most focus groups, boys did point out helping their parents and collecting water. But daily household chores, such as washing clothes, sweeping the yard, cooking, and washing dishes, were listed in every focus group as activities only for girls. On top of this, boys could readily identify fun activities for themselves, like playing soccer, while only two focus groups could list any kind of recreational activity for girls.

### **Translating Findings into Puberty Book Content**

The main research findings from each set of FGDs were directly used to inform the content of the gender-specific puberty books (see Tables 2 and 3). Since similar findings were uncovered in both the girls' and boys' FGDs, the outline for their corresponding puberty book include comparable sections.

A "Physical Changes" section was developed for each book that includes a labeled body diagram of a clothed Tajik adolescent boy or girl. The focus group participants either lacked common knowledge about certain changes, such as the appearance of armpit and pubic hair, or these topics were too sensitive to discuss. Either way, the "Physical Changes" section provides a comprehensive list of body changes. Both boys and girls wanted information on how to manage acne and body odor, which was addressed by providing information on preventative hygiene practices like face washing. Finally, the section includes positive body image messaging since girls and boys seemed to react negatively or overly positive towards certain physical features. A "Confident You" section was specifically developed to encourage girls to not focus so much on physical appearance and beauty but to value personal character traits.

Both girls and boys identified changes in relationships and the appearance of new emotions. For girls, a section called "Relationships with Others" provides information on how to navigate new dynamics with parents and friends. For boys, a section called "New Feelings and Attraction" addresses sexual attraction towards girls and gives

explanations of wet dreams and erections. An additional section on “Respect for Girls” gives guidance on how boys should treat girls and ways to show their respect. Both sections express the normality of these relationship changes and new feelings. An additional section called “Emotional Changes” explains why boys and girls experience so many different emotions during puberty and that this is also normal.

Although boys and girls described different futures for themselves, both negatively associated adulthood with an increase in responsibilities and difficulties. As such, sections were developed for each gender, “Challenges for Older Boys” and “New Expectations & Self-Esteem,” that recognize these challenges and provide advice on how to get support. The boys’ section specifically included stress management guidance while the girls’ included an activity on self-esteem and right to respect. Both sets of FGDs demonstrated the unequal burden placed on girls in regards to household chores and other responsibilities. Because of this, the “Respect for Girls” section in the boys’ book included a discussion on gender roles and gender equality with cartoon illustrations of how boys can support girls so they are treated fairly. In addition, each book contained explicit messaging on the importance of education in achieving one’s dreams. This messaging was especially important for the girls’ book since girls did not as readily recognize education as part of their future but instead focused on marriage and family.

Finally, the focus groups also illuminated the different obstacles Tajik adolescents face during puberty. For girls, these obstacles mainly revolved around menstruation from a lack of knowledge before menarche to specific challenges in the school setting. An extensive question and answer section was developed for the girls' puberty book so they will feel confident and prepared to manage any menstruation issue they might face. A section on "Safety for Growing Girls" was also created since rape was a topic that arose in both the girls' and boys' FGDs. The section explains what sexual abuse and harassment are and provides strategies for girls to safeguard themselves against such abuses. The obstacles that boys described revolved around drug use, criminal acts, and other bad behaviors. The section "Pressures & Solutions" was designed to forewarn boys about the peer pressure they might face. The section illustrates several different scenarios with a follow-up discussion on what boys can do in those situations.

## Discussion

In this case study we first presented qualitative findings on the pubertal transition of Tajik adolescents and then outlined how findings were translated into content for context appropriate puberty books.

We found that Tajik girls and boys face a number of challenges during puberty and at the same time are anticipating the future challenges of adulthood. Many of these challenges were contextualized in the gender roles that the participants described.

Across all focus groups, Tajik girls viewed beauty as the most pivotal change of puberty. This emphasis on beauty coincided with their desire to fall in love and an expectation to marry and start a family. The value placed on appearance in some ways represented the girls' transition into adult gender roles. While girls identified education and having a profession as possible aspects of their future, becoming a wife and mother, and thus needing to attract a husband, were bigger priorities. In Tajikistan, the decreased enrollment of girls in higher education and discrimination against women in nontraditional employment sectors validate the girls' perceptions of their future [87, 88, 107]. Boys, on the other hand, emphasized education and entering the workforce and in fact, rarely mentioned marriage or establishing a family. Instead, boys talked about the independence they have in adulthood with the ability to drive cars and travel – a newfound independence that girls rarely reflected on. In discussing their perceptions of adulthood, both girls and boys clearly illustrated their expected gender roles.

A major challenge of puberty highlighted in both sets of focus groups was an increase in responsibilities, but the specifics differed. For girls, this meant more household chores while boys talked about religious responsibility and caring for their family – gender roles described in other studies [1]. These responsibilities extended into adulthood as girls recognized the challenges of child rearing and serving their husband. Boys only associated household obligations as responsibilities for girls. They also more readily identified leisure activities for boys, like playing sports, than those for girls. This illustrates the difference in free time that Tajik boys experience compared to girls due to the gender roles subsumed in adolescence.

Finally, we found that Tajik boys and girls face certain physical challenges as their bodies develop and social challenges as well. Tajik girls deal with their first menstruation and are not equipped with the necessary knowledge beforehand, allowing for a frightening experience that has been described by girls across multiple countries [40, 44-49]. Girls also described many menstruation challenges in the school setting: teasing from male classmates, inadequate latrines to change their menstrual material, self-imposed restrictions on participation in class from fear of having a menstrual accident. These challenges, reported again and again by girls in many countries, no doubt heavily impact a Tajik girl's education all because of a normal bodily process. Tajik boys face obstacles with their own bodies as they start to have sexual desires and experience wet dreams. The taboo nature of these topics, as sexual desires were

viewed negatively, suggests that Tajik boys lack important information to understand and deal with these typical bodily reactions – a finding similar to other studies on boys' pubertal transition [39, 64]. Finally, when Tajik boys considered the negatives of adulthood, they consistently talked about drug use and criminal acts – behaviors that Tajik girls never described. This implies that Tajik boys experience social pressure to experiment with these risky behaviors, which are often introduced in adolescence [2].

The content outlined for the puberty books was specifically designed to address these pubertal challenges voiced by our participants. The book outlines include guidance and advice on how to prepare for and manage different situations, encouragement of self-confidence, and detailed information on why certain physical and social changes take place with an emphasis on their normality. The puberty books also include sections that address gender roles and challenge boys to question how girls are treated and think of ways they can support and respect girls.

### *Strengths and Limitations*

The interactive activities used in the focus groups successfully captured many aspects of the Tajik pubertal experience. Although audio recording was not possible due to participant hesitations and limited transcription resources, the written activity data was sufficient to inform the content of the puberty books. However, as SHN staff members often discussed, not all schoolgirls and boys are writers. Some participants may have struggled to express their thoughts in writing, especially on these sensitive experiences.

In addition, it was difficult to determine if the absence of a topic meant students lacked knowledge or the topic was merely too sensitive to discuss. In either case, these topics were interpreted as important to address in the puberty books to ensure students had the necessary information. Lastly, the SHN staff members were very effective facilitators. Due to their child-training programs in schools, SHN staff was well versed at working with adolescents and employing activities to relay health concepts.

### *Next Steps*

Our study is the first of its kind to explore the Tajik pubertal experience and to do so by engaging with Tajik schoolgirls and boys directly. But as such, much more research is needed to fully understand how Tajik adolescents navigate the transition from childhood to adulthood. On the programmatic side, the puberty books described in this case study remain in draft form. SHN staff contacted a local artist to design the illustrations and plan to form a Book Committee, composed of various stakeholders, to provide feedback. After complete drafts of the books are developed, an important next step will be to pilot test with students and parents to determine how effective the books are at preparing Tajik girls and boys for puberty.

### *Call to Action*

In this paper we took a unique step in the current paradigm of journal writing by conveying both qualitative findings *and* their direct application to a public health program. Most often separate papers are written, one for the research findings and



another for programmatic design or evaluation. But this disjoints the process used in constructing evidence-based programs. Here we provided a transparent and detailed explanation of our holistic process in hopes of increasing the capacity of practitioners who want to develop evidence-based programs. We laid out in our methods the specific steps taken in both data analysis and data application and showed in our results the structured framework used to directly translate focus group themes into content for the puberty books (see Tables 2 & 3). We call on others in public health to tell their whole tale - to explain their own translational process so we continue to learn as a field of both practitioners and researchers.

## Tables

Table 1. Description of study activities and their research aim used in each set of FGDs.

Study Activities	Description	Research Aim	Form of Data Collected
<b>All FGDs</b>			
Becoming an Adult: physical & life changes	Participants worked in two groups to write down either the physical or life changes that take place when they become an adult. Each group presented their work to allow for additional input.	<i>To understand how Tajik adolescents perceive the puberty process, both the physical and social transitions, and to identify gaps in knowledge</i>	Group poster sheets
Becoming an Adult: positives & negatives	Participants outlined on an individual worksheet what they view as the positives and negatives to adulthood.	<i>To explore what Tajik adolescents look forward to and worry about in adulthood</i>	Individual worksheets
<b>Girls' FGDs</b>			
Gulchehra's Scenario: imagining the life of a girl	Facilitator outlined a scenario where a girl named 'Gulchehra' gets her period while at school. Participants were then asked to describe aspects of Gulchehra's experience while the facilitator recorded challenges.	<i>To identify 'typical' menstruation practices and main challenges girls face in the school setting</i>	Facilitator poster sheet
Menstruation Stories: personal experiences	Each participant wrote down a personal menstruation story either about herself or someone she knows.	<i>To uncover characteristics of menstrual experiences and validate findings from Gulchehra's Scenario</i>	Individual stories
<b>Boys' FGDs</b>			
Gender Roles: activities for boys vs. girls	Two poster sheets were presented, one labeled "Activities for Girls" and the other "Activities for Boys." Facilitator recorded participants' ideas for each sheet and then encouraged discussion around gender roles and norms.	<i>To uncover boys' perceptions of gender roles and how they view concepts of gender equality</i>	Group poster sheets

Table 2. Translation process used to apply research findings from girls' FGD to puberty book content and design.

Research Findings	Triangulation*	Implications	Book Content Ideas	Application to Puberty Book
<p><b>Physical Changes</b><sup>1,3</sup></p> <p>Girls identified several common body changes but rarely identified others like body odor, acne and body shape. When girls did write about them, they were viewed negatively along with weight gain and feeling shy towards breast development.</p>	<p><b>A</b> In some focus groups, as girls worked on the Physical Changes activity, they talked about wanting information on how to manage acne and that they are embarrassed by body odor. One staff explained that some girls are ashamed by their breasts and walk hunched over.</p>	<p>Girls lack knowledge about some body developments and how to manage these changes. They appear to be sensitive topics to discuss. Some girls may also struggle to accept certain body changes.</p>	<p>G&amp;K books include a naked body diagram to provide a comprehensive list of physical change but SHN staff and mothers' FGDs thought a clothed diagram would be more appropriate.</p>	<p>Create "Physical Changes" section that has a labeled body diagram of a clothed Tajik girl to showcase the different changes. Include additional information on body odor and acne – why these changes take place and how to address them through hygiene behaviors like face washing. Finally, integrate positive body image messaging.</p>
<p><b>Beauty</b><sup>1,2,4</sup></p> <p>Girls frequently wrote about becoming beautiful as a major positive of adulthood and how they will start to focus on their appearance.</p>	<p><b>A</b> SHN staff validated how Tajik society places a strong emphasis on beauty for girls and women.</p>	<p>Girls place a high value on beauty and appearance.</p>	<p>SHN staff wanted the book to include messaging on the value of one's character rather than beauty.</p>	<p>Include a section entitled "Confident You" that calls on girls to recognize and be proud of who they are. List of character traits is provided and the reader is asked to identify the top three that describe them best, the traits they value and why.</p>
<p><b>Wife &amp; Motherhood</b><sup>2,4</sup></p> <p>The most common life changes girls identified and viewed as positives of adulthood were starting a family and getting married. Several girls also wrote about pursuing a job but few wrote about higher education.</p>	<p><b>A</b> SHN staff confirmed that Tajik girls are pressured to marry and some will want to continue with their education but won't be able to.</p>	<p>Girls are more focused on marriage and family compared to other aspects of adulthood such as continuing with their education or entering the workforce.</p>	<p>SHN staff wanted to influence girls so they consider education more. "Dreams" activity in SCI Nepal book could be adapted to emphasize importance of education.</p>	<p>In "Confident You" have an activity that asks readers to think of their dream job. Discuss the importance of education, character traits, and waiting to start a family in order to reach this dream. Encourage girls to share their dream with others who can provide support.</p>
<p><b>Relationships &amp; Emotional Changes</b><sup>2</sup></p> <p>Girls described how they must respect their parents but have 'misunderstandings' and rely more on friends. They also interact with boys differently due to attraction. Other new emotions like jealousy, shame and love also appear.</p>	<p><b>A</b> SHN staff echoed how girls stop listening to their parents' advice but talk with friends.  <b>B</b> Girls' Councilor described the interactions she observes at school between girls and boys (teasing/attraction).  <b>A/B/C</b> Girls don't seek puberty guidance from their mothers.</p>	<p>During adolescence, girls start to confide in friends and have new interactions with boys while creating distance between themselves and their parents. Girls also experience new emotions.</p>	<p>G&amp;K books have 'Emotional Changes' section that depicts a series of illustrated girls with different facial expressions to demonstrate new emotions.</p>	<p>Develop a section called "Relationships with Others" that provides guidance on how to navigate new/shifting relationships with parents, friends, and boys. Add an "Emotional Changes" section that illustrates different emotions and explains why girls experience so many different emotions during puberty (i.e. hormones) and that it is normal.</p>
<p><b>New Expectations &amp; Gender Roles</b><sup>2,3,4</sup></p> <p>Girls explained how adulthood brings many difficulties. Girls take on new household responsibilities and when they get married they face challenges with child rearing and serving their husband and in-laws.</p>	<p><b>A</b> SHN staff explained that as girls grow older they become more shy as they prepare for marriage and learn the rules of society  <b>D</b> Boys elucidated how girls have many household chores – cleaning, cooking, laundry, etc.</p>	<p>As girls enter adolescence they recognize the gender norm for women is to have an obedient nature and their assigned gender role is household caretaker.</p>	<p>SHN staff member had idea for a 'self-esteem heart' metaphor that could be used to illustrate how girls are negatively affected by the way others treat them (reinforcement of gender norms/roles).</p>	<p>Create a "New Expectations &amp; Self-Esteem" section that acknowledges girls' responsibilities and how interactions affect self-esteem. Illustrate a girl's 'self-esteem heart' being broken because of the way others treat her. Emphasize to the reader that she deserves respect. Provide advice on how to get support.</p>

<p><b>Sexual Abuse</b><sup>3</sup> A few participants specifically wrote about rape as a negative of adulthood.</p>	<p><b>B</b> School principal shared stories of sexual harassment that her own daughter experienced. <b>D</b> A few boys mentioned rape when describing bad behaviors of grown men.</p>	<p>Issues of sexual harassment and abuse are present.</p>	<p>SHN staff was very concerned that rape arose as a topic and wanted the book to give safety advice for girls. SCI Nepal book provides a good example.</p>	<p>Include a section on “Safety for Growing Girls” that explains sexual abuse and sexual harassment and how perpetrators can be either strangers or friends and relatives. Provide advice on what girls can do to safeguard against such abuse.</p>
<p><b>Reactions to Menstruation</b><sup>1,3,5,6</sup> Girls identified menstruation as a physical change and viewed it as a sign of good health. However, the reaction to one’s menses included shyness, confusion, and fear. Menarche was an especially scary experience due to lack of knowledge beforehand about menstruation.</p>	<p><b>A/B</b> SHN staff and girls’ councilor shared their own scary menarche stories, explained how girls are ashamed of their periods, and that girls worry when they skip periods. <b>A/B</b> Puberty topics are not taught in national school curricula but girls’ councilors and teachers discuss menstruation sometimes.</p>	<p>Some girls understand that menstruation is related to their biology. However, most do not have more in-depth information or knowledge before their first period.</p>	<p>Biology teacher thought the book should include information on how to prepare for menarche and what to do. SHN staff also wanted girls to know bodily symptoms of menstruation.</p>	<p>The second half of the puberty book should include a comprehensive Q&amp;A section about menstruation that is similar to the G&amp;K books.</p> <p>Include the following Q&amp;A sections:</p> <ul style="list-style-type: none"> <li>• “What is menstruation?”</li> <li>• “When will I start menstruation?”</li> <li>• “What should I do if I feel pain?”</li> <li>• “How can I prepare each month?”</li> <li>• “How should I manage my menstruation?”</li> <li>• “What should I do if I get my menstruation at school?”</li> <li>• “Who should I go to for help?”</li> </ul>
<p><b>Menstruation Practices</b><sup>5,6</sup> Girls described menstrual practices such as drinking hot tea and taking pain medicine but not carrying heavy items or eating cold food. Cotton cloth was also the most common menstrual material used by girls.</p>	<p><b>A/B</b> Also believe that when girls are menstruating they should not do heavy labor, eat certain foods, or use anything cold like bathe in cold water. <b>A/B</b> Girls know about cotton cloth and pads but don’t know how to use or clean them</p>	<p>Girls follow certain rules when menstruating, some of which relate to managing painful cramps. The menstrual material girls are most familiar with is cloth.</p>	<p>Biology teacher wanted to emphasize menstrual hygiene practices. SHN staff wanted extensive guidance on how to use, clean and store cloths/pads and which pain medicine to use.</p>	<p>Provide extensive advice on preparation and menstrual hygiene management so girls feel confident. Continuously express the normality and importance of menstruation so girls are not ashamed.</p> <p>In the school section, encourage girls to develop an action plan for other settings where they might get their period. Advise girls to identify ahead of time a trusted female who they can go to for help.</p>
<p><b>Menstruation Challenges at School</b><sup>5,6</sup> Girls are less active in the classroom when menstruating. They rely on a friend to ask the teacher for permission to leave. Only latrines in good condition are used. Boys and fellow classmates tease girls.</p>	<p><b>A/B</b> Boys tease girls because they do not know about menstruation <b>A/B</b> In general, schools do not have adequate latrines with soap and water or provide menstrual pads or extra school uniforms. Girls go home to change their menstrual material.</p>	<p>Menstruation heavily affects girls’ ability to learn because of the associated shame and stigma. Teasing and inadequate school latrines add to the impact on education.</p>	<p>Schoolteacher suggests the book should include advice to wear darker dresses so bloodstains are not as easily visible.</p>	<p>During one or two Q&amp;A sections, include an illustration of a daughter talking with her mother about menstruation issues.</p> <p>Lastly, construct 2 or 3 menstruation stories based off the data so girls can relate to others’ experiences and learn how to handle different situations. Consider including a menstruation story by a teacher, mother or girls’ councilor so girls can relate to women in their lives.</p>
<p><b>Menstruation Support</b><sup>5,6</sup> Girls mainly seek support from close friends rather than their mother, relatives or school staff.</p>	<p><b>A/B</b> Girls rely only on friends. <b>B</b> Girls are ashamed to explain to teachers why they leave class. <b>B/C</b> Mothers don’t talk with their daughters about menstruation because don’t have information.</p>	<p>Girls only feel comfortable talking to peers about their menstruation issues.</p>	<p>SHN staff, teachers and girls’ councilor think the book should provide positive messaging on girls asking their mothers for advice and support.</p>	<p>During one or two Q&amp;A sections, include an illustration of a daughter talking with her mother about menstruation issues.</p> <p>Lastly, construct 2 or 3 menstruation stories based off the data so girls can relate to others’ experiences and learn how to handle different situations. Consider including a menstruation story by a teacher, mother or girls’ councilor so girls can relate to women in their lives.</p>
<p><b>Menstruation Advice</b> The advice girls gave on how to deal with menstrual challenges fell into 3 categories: (1) be prepared, (2) ask for help, and (3) be confident.</p>		<p>Girls want to have greater self-efficacy around menstruation so they can feel confident during this time.</p>	<p>Preparation and management techniques should be key components of menstruation content.</p>	

Table 3. Translation process used to apply research findings from boys' FGD to puberty book content and design.

Research Findings	Triangulation*	Implications	Book Content Ideas	Application to Puberty Book
<p><b>Physical Changes</b><sup>1,3</sup></p> <p>Boys identified general body developments but described specific changes, like chest hair, less often. Boys viewed height, facial hair, and strong muscles as positive changes but viewed weight gain, acne, and body odor as negatives.</p>	<p><b>A</b> SHN facilitator noticed some focus groups knew many physical changes while others knew a few. This was connected to different biology teachers. Boys wanted advice on how to deal with acne.</p>	<p>Boys lack knowledge on many puberty changes. Some changes may be too sensitive to discuss. Boys have a well-defined concept of what physical features are and are not desirable.</p>	<p>HCP Zambia brochure provides information on genital development. G&amp;K books include a body diagram with labeled changes. SHN staff wanted to include advice on facial hair.</p>	<p>Create "Physical Changes" section similar to girls' book with a labeled body diagram and additional information on hygiene behaviors for body odor and acne. Provide illustrative example of how to maintain facial hair. Integrate positive body image messaging with an emphasis on all body types being 'strong.' Finally, include information on genital development – penis and testicular growth and production of sperm.</p>
<p><b>Attraction to Girls</b><sup>2,3,4</sup></p> <p>Boys often discussed paying more attention to girls and falling in love. They also wrote about sexual attraction with very few describing wet dreams. Boys recognized other new emotions like jealousy and nervousness. They identified how <i>not</i> to treat girls, like teasing, and some negatives of relationships.</p>	<p><b>B</b> Girls' Councilor described the interactions she observes at school between girls and boys (teasing/attraction).  <b>D</b> Girls stated that boys tease them when they have a menstrual incident.  <b>A/B</b> Boys do not know what menstruation is.</p>	<p>Boys find it exciting to be attracted to girls and have relationships. Some are also aware of what it means to respect girls. Boys may lack knowledge about wet dreams/erections and not know how to handle those events.</p>	<p>SCI Nepal book uses a story to explain wet dreams. HCP Zambia / G&amp;K books explain what erections and wet dreams are, why they happen and how to manage them. GK books also explain menstruation to boys.</p>	<p>Include an "Emotional Changes" section. Develop a "New Feelings and Attraction" section that explains how attraction to girls is normal. Include wet dream story where a boy doesn't know what happened. Explain wet dreams and erections - why they occur and how to manage them. Create a "Respect for Girls" section that emphasizes how growing boys and girls should respect and support each other. Explain the challenges girls face like menstruation. Illustrate how boys can show their respect to girls.</p>
<p><b>Responsibilities in Adulthood</b><sup>2,3</sup></p> <p>Boys negatively related adulthood with more responsibilities but positively and frequently wrote about continuing their education and entering the workforce. They also described a new independence (e.g. travel, drive cars, own a house).</p>	<p><b>A</b> SHN facilitator noted that boys discussed many challenges they face in reaching their dream jobs like lack of money and limited college slots.</p>	<p>Boys are excited to continue their studies, get a job and do new things. Boys look forward to their future but face challenges and may feel stressed by the responsibilities.</p>	<p>"Dreams" activity in SCI Nepal book could be adapted to reiterate the importance of education.</p>	<p>Develop "Challenges for Older Boys" section that recognizes boys' challenges and responsibilities, urges boys to continue their studies (SCI Nepal dreams activity) and gives advice on how to manage stress and get support. Include in "Respect for Girls" section, as an example of respect, a cartoon of a boy encouraging his female classmate to continue her studies so she reaches her dreams.</p>
<p><b>Bad Behavior</b><sup>4</sup></p> <p>Boys associated criminal acts, drug use, bad manners, fighting, and inappropriate speech with men who are bad. A few boys specifically mentioned rape as a criminal act.</p>	<p><b>A</b> SHN facilitator explained that there are no gyms or libraries so boys end up using drugs like 'Nass,' a smokeless tobacco product.</p>	<p>Since boys so intently talked about bad behaviors, they may face pressure, likely from peers, to use drugs and do other acts.</p>	<p>SCI Nepal / G&amp;K books define peer pressure and provide example stories of boys peer pressured to use drugs.</p>	<p>Create a "Pressures &amp; Solutions" section that explains peer pressure and the bad behaviors boys may be pressured to do (e.g. Nass, theft, fighting). Illustrate different scenarios and then follow-up with advise on how to handle each situation. Provide ideas for other things boys can do in their free time.</p>
<p><b>Gender Roles</b><sup>7</sup></p> <p>Boys described specific agricultural work for both genders. They identified household chores for girls. Boys talked about sports but mentioned leisure for girls less often.</p>	<p><b>A</b> SHN facilitator relayed that boys discussed how household chores and childcare are not their job.  <b>D</b> Girls wrote about many household obligations.</p>	<p>Boys have well-defined notion of gender roles when it comes to chores. Girls may have less free time compared to boys.</p>	<p>SCI Nepal book utilizes a variety of activities that challenge gender roles.</p>	<p>In the "Respect for Girls" section simulate the gender roles activity. Follow with a discussion on the unequal chores girls have compared to boys. Ask the reader to consider the important women in his life. Provide cartoon examples of how boys can treat girls fairly (e.g. brother helps sister with dishes).</p>

\*Triangulation sources:

A = Team debriefs

B = Informal interviews with stakeholders

C = Mothers and female teachers FGDs

D = Opposite gender FGDs (boys' vs. girls')

Activity Key for Findings:

1 = Becoming an Adult: Physical Changes

2 = Becoming an Adult: Life Changes

3 = Becoming an Adult: Positives

4 = Becoming an Adult: Negatives

5 = Gulchehra's Scenario

6 = Menstruation Stories

7 = Gender Roles: Activities for Boys and Girls

## Chapter 4: Conclusion and Recommendations

### Growing up in Tajikistan

The qualitative research presented in this thesis uncovered a detailed picture of what it is like for young girls and boys to grow up in Tajikistan and experience that transition from childhood to adulthood during puberty.

We found that Tajik girls begin to worry about acne, body odor and weight gain while becoming heavily focused on their appearance and beauty. Most Tajik girls learn about menstruation from their friends, associate their menstrual experiences with embarrassment and confusion, and face countless difficulties in the school environment with managing their menses. Tajik girls also start to become attracted to boys at this time, feel a range of new emotions, and confide in their friends while distancing themselves from their parents. Lastly, as Tajik girls consider their future, they place a strong emphasis on getting married and starting a family, transitioning from their parent's household to their husband's household and taking on more household responsibilities.

Meanwhile, Tajik boys also worry about acne, body odor, and weight gain but look forward to growing facial hair and building muscle. Tajik boys also persevere with their attraction towards girls but view sexual desires as bad and rarely discuss wet dreams or erections. Drugs and criminal acts appear to be pressures Tajik boys face although they recognize these behaviors as immoral. Finally, when Tajik boys consider their future as adults, they look forward to continuing their education and entering the workforce, experiencing a newfound independence that they did not have in childhood.

These painted pictures of what it's like to go through puberty as a Tajik adolescence clearly mirror many of the same challenges documented in previous puberty research. Girls around the world experience the same worries and troubles with their menstruation and boys describe similar masculinity norms and issues around sexual desires [35-39, 44, 45, 47, 52, 59, 64, 97]. Yet, for young girls and boys in Tajikistan, many of these challenges are contextualized in gender norms. Tajik girls and boys clearly start to recognize and subsume their expected gender roles of adulthood during the pubertal transition. These engrained gender roles no doubt impact their physical, psychosocial and emotional health as girls take on subservient behaviors and are not challenged in their education and boys face pressures to practice established masculinity norms, take on breadwinner responsibilities, and ultimately foster gender inequality. Puberty education in Tajikistan is one intervention that can encourage and support adolescents in questioning harmful gender roles while also guiding girls and boys through the other challenges of puberty.

## **Recommendations**

### *Save the Children: Communicating Findings and Next Steps*

Save the Children International in Tajikistan should consider sharing the results of this research to the wider school community surrounding Qurgonteppa. It will be invaluable for other schoolgirls and boys to hear the pubertal experiences voiced by their peers and to reflect on their own puberty challenges. Moreover, including the greater school community in the results could foster a stronger acceptance of the proposed puberty



book program. Save the Children plans to pilot test the puberty books in the selected study schools once they are fully drafted and illustrated. The schoolteachers, principals, parents, and students will gain a better understanding of why certain content has been included in the books if the research findings are explicitly communicated to them.

### *Research: Giving Adolescents Voice*

A myriad of journal articles on adolescent health make a call for researchers to actively engage with adolescents in their work [2, 10-13]. This research met that call with full force by acknowledging Tajik schoolgirls and boys as the ‘experts’ and utilizing focus groups to hear their stories and learn about their pubertal experiences. Qualitative research truly lends itself to this level of engagement with participants. Participatory approaches in particular, such as the activities used in this research, foster a more equalizing and empowering environment for participants, which is instrumental for sensitive research topics. Tajikistan is a country shaped by Islamic tradition but the Tajik students still spoke about sexual desires, wet dreams, and other taboo subjects. I encourage other researchers to draw upon these qualitative and participatory methods in some manner to create a more equal partnership between themselves and their participants.

### *Public Health Field: Bridging the Research to Program Gap*

Public health is an applied field with constant dialog between researchers and practitioners. Yet, the conversation around translating research into programmatic

design is often lost. In some cases only the research findings are reported while gray literature details the program while in other cases, two separate journal articles are written – one for the research study and one for the program. As a result, few papers actually describe the bridge between analyzing results from a study and using findings to inform the program – in essence, never reporting on the strategy employed to construct evidence-based programs. This thesis took a unique step by conveying both novel qualitative findings *and* their direct application to a public health program. The structured process used was outlined in detail so that every thematic finding was connected to some recommendation for the puberty book content. But what other frameworks and strategies are used? This is a key question in the field and qualitative research in particular lacks rigorous methods for this translational process. I encourage my fellow public health researchers and practitioners to share their tactics and lessons learned in translating findings to evidence-based programs.

## References

1. Fatusi, A.O. and M.J. Hindin, *Adolescents and youth in developing countries: Health and development issues in context*. J Adolesc, 2010. **33**(4): p. 499-508.
2. Sawyer, S.M., et al., *Adolescence: a foundation for future health*. The Lancet, 2012. **379**(9826): p. 1630-1640.
3. Patton, G.C. and R. Viner, *Pubertal transitions in health*. The Lancet, 2007. **369**(9567): p. 1130-1139.
4. Patton, G.C., et al., *Health of the world's adolescents: a synthesis of internationally comparable data*. The Lancet, 2012. **379**(9826): p. 1665-1675.
5. *Health for the World's Adolescents: A second chance in the second decade*. 2014, World Health Organization: Geneva, Switzerland.
6. *Changing ages, Changing Bodies, Changing Times - Adolescent boys and girls*, in *World Development Report 2012: Gender Equality and Development*. 2012, World Bank: Washington, D.C. p. 280-283.
7. *The State of the World's Children 2011: Adolescence An Age of Opportunity*. 2011, UNICEF.
8. Blum, R.W., *A Case for School Connectedness*, in *Educational Leadership*. 2005. p. 16-20.
9. *Puberty Education & Menstrual Hygiene Management*, in *Good Policy and Practice in Health Education*. 2014, UNESCO: France.
10. Blum, R.W., et al., *Adolescent health in the 21st century*. The Lancet, 2012. **379**(9826): p. 1567-1568.
11. Sommer, M., *An overlooked priority: puberty in sub-Saharan Africa*. Am J Public Health, 2011. **101**(6): p. 979-81.
12. Saewyc, E.M., *What about the boys? The importance of including boys and young men in sexual and reproductive health research*. J Adolesc Health, 2012. **51**(1): p. 1-2.
13. Chandra-Mouli, V., et al., *Invest in adolescents and young people: it pays*. Reproductive Health, 2013. **10**(51).
14. Das Gupta, M., et al., *The Power of 1.8 Billion: Adolescents, Youth and the Transformation of the Future*, in *The State of World Population*, R. Kollodge, Editor. 2014, UNFPA.
15. *Global Monitoring Report 2010: The MDGs after the Crisis*. 2010, The World Bank: Washington DC.
16. Bruneforth, M. and P. Waller, *Out-Of-School Adolescents*. 2010, UNESCO Institute for Statistics: Montreal, Canada.
17. *Growing up Global: The changing Transitions to Adulthood in Developing Countries*, ed. C.B. Lloyd. 2005, Washington DC: The National Academies Press.
18. *Development and the Next Generation*, in *World Development Report 2007*. 2006, The World Bank: Washington DC.
19. Viner, R.M., et al., *Adolescence and the social determinants of health*. The Lancet, 2012. **379**(9826): p. 1641-1652.
20. Resnick, M.D., et al., *Protecting Adolescents from Harm: Findings from the National Longitudinal Study on Adolescent Health*. JAMA, 1997. **278**(10).
21. Bond, L., et al., *Does bullying cause emotional problems? A prospective study of young teenagers*. BMJ, 2001. **323**: p. 480-484.

22. Viner, R.M., et al., *50-year mortality trends in children and young people: a study of 50 low-income, middle-income, and high-income countries*. The Lancet, 2011. **377**(9772): p. 1162-1174.
23. *Global Health Risks: Mortality and burden of disease attributable to selected major risks*. 2009, World Health Organization: Geneva, Switzerland.
24. Gakidou, E., et al., *Increased educational attainment and its effect on child mortality in 175 countries between 1970 and 2009: a systematic analysis*. The Lancet, 2010. **376**.
25. *Pubertal Processes and Physiological Growth in Adolescence*, in *Blackwell Handbook of Adolescence*, G.R. Adams and M.D. Berzonsky, Editors. 2003, Blackwell Publishing: United Kingdom.
26. Greenspan, L. and J. Deardorff, *The New Puberty: How to Navigate Early Development in Today's Girls*. 2014, USA: Rodale.
27. Frisch, R.E., *Body fat, menarche, fitness and fertility*. Human Reproduction, 1987. **2**(6): p. 521-533.
28. Scott, E.C. and F.E. Johnston, *Critical Fat, Menarche, and the Maintenance of Menstrual Cycles*. Journal of Adolescent Health Care, 1982. **2**: p. 249-260.
29. Blakemore, S.J., S. Burnett, and R.E. Dahl, *The role of puberty in the developing adolescent brain*. Hum Brain Mapp, 2010. **31**(6): p. 926-33.
30. Wade, T.J., J. Cairney, and D.J. Pevalin, *Emergence of Gender Differences in Depression During Adolescence: National Panel Results from Three Countries*. Journal of the American Academy of Child and Adolescent Psychiatry, 2002. **41**(2).
31. Martin, C.A., et al., *Sensation Seeking, Puberty, and Nicotine, Alcohol, and Marijuana Use in Adolescence*. Journal of the American Academy of Child and Adolescent Psychiatry, 2002. **41**(12).
32. Felson, R.B. and D.L. Haynie, *Pubertal development, social factors, and delinquency among adolescent boys*. Criminology, 2002. **40**(4): p. 967.
33. Ntsayagae, E., et al., *Cultural considerations in theories of adolescent development: a case study from Botswana*. Issues Ment Health Nurs, 2008. **29**(2): p. 165-77.
34. Blanc, A.K. and J. Bruce, *Commentary: Explicit Attention to Age and Gender Disparities Is Key to Understanding Adolescent Experiences and Outcomes*. Journal of Research on Adolescence, 2013. **23**(1): p. 191-192.
35. Koohestani, H.R., N. Roozbahani, and N. Baghcheghi, *Adolescent Boys' Lived Experience of Puberty: A Qualitative Study*. Iran Journal of Nursing, 2009. **22**(57): p. 53-65.
36. Golchin, N.A.H., et al., *The experience of puberty in Iranian adolescent girls: a qualitative content analysis*. BMC Public Health, 2012. **12**(698).
37. Ahmadi, F., et al., *The experience of puberty in adolescent boys: an Iranian perspective*. International Nursing Review, 2009. **56**: p. 257-263.
38. Vuttanont, U., et al., *"Smart boys" and "sweet girls"—sex education needs in Thai teenagers: a mixed-method study*. The Lancet, 2006. **368**(9552): p. 2068-2080.
39. Sommer, M., S. Likindikoki, and S. Kaaya, *Tanzanian Adolescent Boys' Transitions Through Puberty: The Importance of Context*. American Journal of Public Health, 2014. **104**(12): p. 2290-2297.
40. Sommer, M., *Ideologies of sexuality, menstruation and risk: girls' experiences of puberty and schooling in northern Tanzania*. Cult Health Sex, 2009. **11**(4): p. 383-398.

41. Sommer, M. and M. Sahin, *Overcoming the taboo: advancing the global agenda for menstrual hygiene management for schoolgirls*. Am J Public Health, 2013. **103**(9): p. 1556-9.
42. Farage, M.A., K.W. Miller, and A. Davis, *Cultural aspects of menstruation and menstrual hygiene in adolescents*. Expert Review of Obstetrics and Gynecology, 2011. **6**(2): p. 127-139.
43. Johnston-Robledo, I. and J.C. Chrisler, *The menstrual mark: Menstruation as social stigma*. Sex Roles, 2013. **68**: p. 10.
44. Caruso, B.A., et al., *WASH in Schools Empowers Girls' Education in Freetown, Sierra Leone: An assessment of menstrual hygiene management in schools*. 2013, United Nations Children's Fund: New York.
45. Mason, L., et al., 'We Keep It Secret So No One Should Know' – A Qualitative Study to Explore Young Schoolgirls Attitudes and Experiences with Menstruation in Rural Western Kenya. PLoS ONE, 2013. **8**(11).
46. Ali, T.S. and S.N. Rizvi, *Menstrual knowledge and practices of female adolescents in urban Karachi, Pakistan*. J Adolesc, 2010. **33**(4): p. 531-41.
47. Long, J., et al., *WASH in Schools Empowers Girls' Education in Rural Cochabamba, Bolivia: An assessment of menstrual hygiene management in schools*. 2013, UNICEF: New York.
48. Mahon, T. and M. Fernandes, *Menstrual hygiene in South Asia: A neglected issue for WASH (water, sanitation and hygiene) programmes*. Gender and Development, 2010. **18**(1): p. 99-113.
49. Chrisler, J.C. and C.B. Zittel, *Menarche stories: reminiscences of college students from Lithuania, Malaysia, Sudan, and the United States*. Health Care Women Int, 1998. **19**(4): p. 303-12.
50. Juyal, R., et al., *Practices of menstrual hygiene among adolescent girls in a district of Uttarakhand*. Indian Journal of Community Health, 2012. **24**(2): p. 124-128.
51. Marván, M.L. and V. Alcalá-Herrera, *Age at menarche, reactions to menarche and attitudes towards menstruation among Mexican adolescent girls*. J Pediatr Adolesc Gynecol, 2014. **27**(2): p. 61-6.
52. McMahan, S.A., et al., 'The girl with her period is the one to hang her head' Reflections on menstrual management among schoolgirls in rural Kenya. BMC Int Health Hum Rights, 2011. **11**: p. 7.
53. Sumpter, C. and B. Torondel, *A systematic review of the health and social effects of menstrual hygiene management*. PLoS One, 2013. **8**(4): p. e62004.
54. Guterman, M., P. Mehta, and M. Gibbs, *Menstrual Taboos Among Major Religions*. The Internet Journal of World Health and Societal Politics, 2007. **5**(2).
55. Dhingra, R., A. Kumar, and M. Kour, *Knowledge and practices related to menstruation among tribal (Gujjar) adolescent girls*. Ethno-Med, 2009. **3**(1): p. 6.
56. Bahram, A., B. Hamid, and T. Zohre, *Prevalence of bacterial vaginosis and impact of genital hygiene practices in non-pregnant women in zanzan, iran*. Oman Med J, 2009. **24**(4): p. 288-93.
57. El-Gilany, A.H., K. Badawi, and S. El-Fedaway, *Menstrual hygiene among adolescent schoolgirls in Mansoura, Egypt*. Reproductive Health Matters, 2005. **13**(26): p. 147-152.

58. Thakre, S.B., et al., *Menstrual Hygiene: Knowledge and Practice Among Adolescent School Girls of Saoner, Nagpur District*. Journal of Clinical and Diagnostic Research, 2011. **5**(5): p. 1027-1033.
59. Haver, J., et al., *WASH in Schools Empowers Girls' Education in Masbate Province and Metro Manila, Philippines: An assessment of menstrual hygiene management in schools*. 2013, United Nations Children's Fund: New York.
60. Gultie, T., D. Hailu, and Y. Workineh, *Age of menarche and knowledge about menstrual hygiene management among adolescent school girls in Amhara province, Ethiopia: implication to health care workers & school teachers*. PLoS One, 2014. **9**(9): p. e108644.
61. Crofts, T. and J. Fisher, *Menstrual Hygiene in Ugandan Schools: An Investigation of Low-Cost Sanitary Pads*. 2012.
62. Tjon A Ten, V., *Menstrual Hygiene: A Neglected Condition for the Achievement of Several Millennium Development Goals*, V.T.a. Ten, Editor. 2007, Europe External Policy Advisors.
63. Montgomery, P., et al., *Sanitary pad interventions for girls' education in Ghana: a pilot study*. PLoS One, 2012. **7**(10): p. e48274.
64. Wang, R.-J., Y. Huang, and Y.-C. Lin, *A Study of Masturbatory Knowledge and Attitudes and Related Factors Among Taiwan Adolescents*. Journal of Nursing Research, 2007. **15**(3): p. 233-242.
65. Goldstein, M., *Male puberty: physical, psychological, and emotional issues*. Adolescent Medicine, 2003. **14**(3): p. 541-553.
66. Ge, X., R.D. Conger, and G.H. Elder, *The Relation between Puberty and Psychological Distress in Adolescent Boys*. Journal of Research on Adolescence, 2001. **11**(1): p. 49-70.
67. Flaming, D. and J.M. Morse, *Minimizing Embarrassment: Boys' Experiences of Pubertal Changes*. Issues in Comprehensive Pediatric Nursing, 1991. **14**: p. 211-230.
68. Marcell, A.V. and J.M. Ellen, *Core sexual/reproductive health care to deliver to male adolescents: perceptions of clinicians focused on male health*. J Adolesc Health, 2012. **51**(1): p. 38-44.
69. Lindberg, C., C. Lewis-Spruill, and R. Crownover, *Barriers to sexual and reproductive health care: urban male adolescents speak out*. Issues Compr Pediatr Nurs, 2006. **29**(2): p. 73-88.
70. Chang, Y.T., M. Hayter, and M.L. Lin, *Pubescent male students' attitudes towards menstruation in Taiwan: implications for reproductive health education and school nursing practice*. J Clin Nurs, 2012. **21**(3-4): p. 513-21.
71. Varga, C.A., *The Forgotten Fifty Percent: A Review of Sexual and Reproductive Health Research and Programs Focused on Boys and Young Men in sub-Saharan Africa*. African Journal of Reproductive Health, 2001. **5**(3): p. 175-195.
72. Cesario, S.K. and L.A. Hughes, *Precocious Puberty: A Comprehensive Review of Literature*. JOGNN, 2007. **36**: p. 263-274.
73. Thomas, F., et al., *International Variability of Ages at Menarche and Menopause: Patterns and Main Determinants*. Human Biology, 2001. **73**(2): p. 271-290.
74. Aksglaede, L., et al., *Forty years trends in timing of pubertal growth spurt in 157,000 Danish school children*. PLoS One, 2008. **3**(7): p. e2728.

75. *Focusing Resources on Effective School Health: A FRESH Start to Enhancing the Quality and Equity of Education*. 2000, World Education Forum.
76. Haque, S.E., et al., *The effect of a school-based educational intervention on menstrual health: an intervention study among adolescent girls in Bangladesh*. *BMJ Open*, 2014. **4**(7): p. e004607.
77. Fakhri, M., et al., *Promoting menstrual health among persian adolescent girls from low socioeconomic backgrounds: A quasi-experimental study*. *BMC Public Health*, 2012. **12**(193).
78. Arora, A., et al., *Impact of health education on knowledge and practices about menstruation among adolescent school girls of rural parts of district Amabala*. *Indian Journal of Community Health*, 2013. **25**(4): p. 492-497.
79. Maleki, A., et al., *Effect of puberty health education through reliable sources on health behaviors of girls*. *Journal of Behavioral Sciences*, 2010. **4**(2): p. 155-161.
80. Peltzer, K. and S. Promtussananon, *Evaluation of Soul City School and Mass Media Life Skills Education among Junior Secondary School Learners in South Africa*. *Social Behavior and Personality: an international journal*, 2003. **31**(8): p. 825-834.
81. Sommer, M., *An Early Window of Opportunity for Promoting Girl's Health: Policy Implications of the Girl's Puberty Book Project in Tanzania*. *International Electronic Journal of Health Education*, 2011. **14**: p. 77-92.
82. Olcott, M.B., *Tajikistan's Difficult Development Path*. 2012, Washington DC: Carnegie Endowment for International Peace.
83. Roche, S., *From youth bulge to conflict: the case of Tajikistan*. *Central Asian Survey*, 2010. **29**(4): p. 405-419.
84. Shemyakina, O., *The effect of armed conflict on accumulation of schooling: Results from Tajikistan*. *Journal of Development Economics*, 2011. **95**(2): p. 186-200.
85. *Assessment of Development Results: Republic of Tajikistan*, in *Assessment of Development Results*, E. Office, Editor. 2009, United Nations Development Programme: USA.
86. *Investing in Young People in Eastern Europe and Central Asia*. 2014, UNFPA.
87. *Mainstreaming Gender in Poverty Reduction Strategies: Tajikistan Country Gender Assessment*. 2006, Asian Development Bank: Philippines.
88. Lowicki-Zucca, J., *Youth Perspectives of Education Quality in Tajikistan: A case study of education quality for youth in the CEECIS region*. 2012, UNICEF; Ministry of Education Republic of Tajikistan.
89. *Afghanistan Gender Mainstreaming Implementation" Towards Greater Gender Equity in Education*. 2009, The World Bank in South Asia.
90. Syrgakkyzy, Z., *Exploring the Discourses about Sexual Education in Kyrgyzstan: The Case of Government, Non-Government and Political Institutions*, in *Department of Sociology*. 2014, The American University of Central Asia: Bishkek, Kyrgyz Republic.
91. Mooijman, A., *Assessment of 1994-2001 UNICEF School Sanitation and Hygiene Project in Khatlon, Tajikistan*. 2002, UNICEF CARK: Almaty, Kazakhstan.
92. Hennink, M., I. Rana, and R. Iqbal, *Knowledge of personal and sexual development amongst young people in Pakistan*. *Cult Health Sex*, 2005. **7**(4): p. 319-32.
93. Dongre, A.R., P.R. Deshmukh, and B.S. Garg, *The Effect of Community-Based Health Education Intervention on Management of Menstrual Hygiene among Rural Indian Adolescent Girls*. *World Health & Population*, 2007.

94. Posner, J., et al., *Development of leadership self-efficacy and collective efficacy: adolescent girls across castes as peer educators in Nepal*. *Glob Public Health*, 2009. **4**(3): p. 284-302.
95. Nemade, D., S. Anjenaya, and R. Gujar, *Impact of Health Education on Knowledge and Practices about Menstruation Among Adolescent School Girls of Kalamboli, Navi-Mumbai*. *Health and Population: Perspectives and Issues*, 2009. **32**(4): p. 161-175.
96. Allah, E. and E. Elsabagh, *Impact of health education intervention on knowledge and practice about menstruation among female secondary school students in Zagazig city*. *The Journal of American Science*, 2011. **7**: p. 737-747.
97. Sommer, M., *Where the education system and women's bodies collide: The social and health impact of girls' experiences of menstruation and schooling in Tanzania*. *J Adolesc*, 2010. **33**(4): p. 521-9.
98. *Gender Education and Equality in a Global Context: Conceptual Frameworks and Policy Perspectives*. 2008, London: Routledge.
99. *Feed the Future: Tajikistan Fact Sheet*. 2011.
100. *Community-Based Participatory Research for Health: From Process to Outcomes*. Second ed. 2008, San Francisco, CA: John Wiley & Sons.
101. Caruso, B.A., *WASH in Schools Empowers Girls' Education: Tools for Assessing Menstrual Hygiene Management in Schools*. 2013, UNICEF: New York, NY.
102. Sharma, S., *Kishor*, ed. S.t. Children. 2011, Nepal: National Health Education Information and Communication Center.
103. Sharma, S., *Kishoree*, ed. S.t. Children. 2011, Nepal: National Health Education Information and Communication Center.
104. Sommer, M., et al., *A comparison of the menstruation and education experiences of girls in Tanzania, Ghana, Cambodia and Ethiopia*. *Compare: A Journal of Comparative and International Education*, 2014: p. 1-21.
105. Gatewood, J.B., *Familiarity, Vocabulary Size, and Recognition Ability in Four Semantic Domains*. *American Ethnologist*, 1984. **11**(3): p. 507-527.
106. Hsieh, H.F. and S.E. Shannon, *Three approaches to qualitative content analysis*. *Qual Health Res*, 2005. **15**(9): p. 1277-88.
107. Silova, I. and T. Abdushukurova, *Global norms and local politics: uses and abuses of education gender quotas in Tajikistan*. *Globalisation, Societies and Education*, 2009. **7**(3): p. 357-376.



## Appendix A

### Focus Group Discussion Guide: TAJIK GIRLS

#### **Opening Activity - Introductions and questions about school**

*The goal of this section is to establish a comfortable atmosphere for the participants, build rapport, and introduce the FGD topic of puberty.*

**Introduction script to be read by focus group facilitator in order to welcome participants and start the first activity.** *Thank you for participating in our discussion today. We are very excited to be here to talk with all of you and learn from your experiences. First, we would like to learn more about you and your experiences at school.*

#### **Activity #1: Introductions**

1. As a way to get to know each other, let's go around and tell everyone:
  - What grade you are in
  - Your favorite subject in school
  - What you want to be when you grow up
  - (Consider asking girls "why" they want to be that profession in order to continue conversation and establish atmosphere)
2. What do you like most about being in school?

<b>Questions</b>	<b>Probes/Follow-ups</b>
3. Can you all explain the role of your counselor?	<ul style="list-style-type: none"> <li>• When do you meet with your counselor?</li> <li>• What conversations do you have with her? <b>Why?</b></li> <li>• What information or resources does she provide for you?</li> <li>• When do you seek out your counselor? <b>Why?</b></li> </ul>
4. Can you all describe any classes you have taken on health or puberty?	<ul style="list-style-type: none"> <li>• During what grade do you take these classes?</li> <li>• Are the classes separated by sex?</li> <li>• What topics are covered in these classes?</li> <li>• What topics did they not cover that you wish to learn about?</li> <li>• What did you like about these classes? Not like? <b>Why?</b></li> </ul>

**Key Activity – 1. Becoming an Adult**  
*Physical and life changes (puberty process)*

**Activity aim and description:** This activity is split into two parts and thus has two major aims: (1) to uncover what girls perceive as the puberty process, what knowledge they have about this life stage and what gaps in knowledge exist and (2) to understand how girls perceive the role of women in their society and the positives and negatives of becoming a woman.

The unstructured and open format of this activity eliminates any preconceived notions by the researchers about how girls think about these topics and also allows the girls to contribute together at the same time. For the first part, girls will gather around two large sheets of paper and be provided markers to write down the physical changes and life changes that take place when a girl becomes a woman. For the second part, girls will be provided a sheet of paper and writing utensil to write down the positives and negatives of becoming a woman.

- **Transitional script to be read by facilitator to introduce the activity:** *We would now like to talk about what it means to become an adult. When we go through puberty there are a number of physical changes that take place and life changes such as changes in one's role at home. We are going to do an activity to help us talk about these changes that take place during and after a young girl goes through puberty.*

- **Preparation instructions for facilitator:**

**Part I (25 minutes)**

1. Put one sheet of paper on the ground/table in front of the girls.
2. The sheet of paper should have two columns. One column labeled 'Becoming an Adult: Physical Changes' and the other 'Becoming an Adult: Life Changes.'
3. Make sure that the paper is accessible to everyone. Position all girls to reach the paper.
4. Provide each girl with a marker and put some additional markers in a place where everyone can reach them.

**Part II (25 minutes)**

5. Prepare writing paper that is divided into two columns with one column labeled "Positives" and the other column labeled "Negatives"
6. Pass out the labeled sheets of writing paper and pen/pencil to each girl.

- **Activity steps:**

1. On the side labeled 'Becoming an Adult: Physical Changes' ask girls to write or draw about what bodily changes take place when a girl goes through puberty and becomes a woman. You can ask girls to think about:
  - How a woman looks different from a girl (body shape, clothes, hair style, etc.).*
  - What physical appearances are associated with women versus girls?*
  - What a woman's body is able to do physically compared to a girl's body?*
2. On the side labeled 'Becoming an Adult: Life Changes' ask girls to write or draw

about how the life of a woman is different from a girl's. You can ask girls to think about:

*Expectations people may have of women compared to girls.*

*How relationships change.*

*How daily life changes when you become a woman (changes in activities?).*

*Differences in what girls are allowed to do compared to what women are allowed to do (any restrictions?).*

*Responsibilities (home and school)*

*Role of women in society compared to girls.*

3. Once the drawing/writing is complete, ask the following questions (encourage the other girls to add in additional comments):

*Could one of you talk about the 'Physical Changes' page and what is listed?*

*Could one of you talk about the 'Life Changes' page and what is listed?*

4. Now pass out the labeled sheets of writing paper and a pen/pencil to each girl. Ask everyone to write down some positives and negatives about becoming an adult using the columns provided. (Provide about **10 minutes** for writing time)

5. Once the writing is complete, ask the following questions:

*What are some of the positives that you wrote down about becoming an adult?*

*What are some of the negatives that you wrote down about becoming an adult?*

*(\*Consider going "Round Robin" and asking each person to list one positive and one negative from their sheet of paper and explain **why**)*

**When does this transition from being a girl to becoming a woman take place?**

*Is there a specific event that marks this transition? What event?*

*Is the transition gradual?*

**Source: Activity inspired by the 'Negatives and positives of being a woman' activity in Sommer, M. (2010). Where the education system and women's bodies collide: The social and health impact of girls' experiences of menstruation and schooling in Tanzania. *Journal of Adolescence*, 33(4), 521-529.**

**Key Activity – 2. Scenario: Imagining the life of a girl**  
*Menstruation-related experiences and challenges*

**Activity aim and description:** This activity is aimed at understanding what a ‘typical’ girl in the school may experience during menstruation. The activity sets up a scenario where a fictional girl or a friend at the school gets her period while in class. The participants are asked to describe what the girl may experience, feel and do. The facilitators are trained to solicit ideas from all of the girls and let them know that it is OK if they have different opinions. The questions and probes are provided to help the facilitator cover certain topics. If girls are open and vocal, they may be discussed without prompting.

- **Transitional script to be read by facilitator to introduce the activity:** *We are going to start talking about a girl’s experience with menstruation. Imagine a girl in school named Gulchehra. Gulchehra is 13 years old and in class. She has just realized that she has begun to menstruate. Think about your friends’ or your own experiences to put yourself in her shoes. Think about how she would deal with the situation.*
- **Instructions for note taker:** Note taker will take notes throughout and will keep a running list of all of the challenges girls mention.
- **Scenario Discussion: Questions and probes for facilitator to ask to encourage discussion**
  1. How do you think Gulchehra feels when she realizes she has her period?  
*Attitudes/emotions:* Excitement, fear, stress, confusion? **Why** does she feel this way?
  2. What is the first thing Gulchehra does once she realizes she has her period?  
*Resources/management/practices:* Where does she go?  
*Support:* Whom does she talk with? **Why?**
  3. What kinds of materials does Gulchehra use?  
*Resources/management/practices:* Pad, cloth, other? **Why** these items and not others?
    - Does Gulchehra like to use these materials? **Why or why not?**
    - What is done with these materials after they are used? **Why?**
    - Are these materials the same materials girls would use while at home? **Why or why not?***Support:* Where does she get materials? Brought from home, friend, school/counselor, shop?
  4. How does her period change a ‘typical’ day at school? How is her day different?  
**Why?**  
*Behavior changes:* How might her routine change? How does she behave in class?
    - What is different about her behavior at school? **Why?**
    - How does she act with classmates, friends, teachers?
    - Is she excused from certain activities, homework, etc.? Is she tardy? Does she leave school? **Why?**

• Does she experience any restrictions at home, school or elsewhere (religious centre)? **Why?**

5. How does Gulchehra feel throughout the day?

*Attitudes/emotions/physical/feelings*

6. Is it a surprise that her period arrived? **Why?**

*Resources/management/practices:* Is she prepared? Brought materials? Tracked her period?

*Support:* Has she talked to someone about this day?

7. How do you think Gulchehra learned to manage her period?

*Support:* Family or friends? School? Education?

*Resources/management/practices:* Experience? What coping strategies does she have?

8. What does Gulchehra need to know about menstruation?

*Resources/management/practices:* What are the do's and don'ts? How should she manage her menstruation? **Why?**

9. What might make Gulchehra's classmates suspect that she has her period?

*School challenges:* Behaviors in class? With friends? Latrine use? Different clothing?

10. How might people's behavior towards Gulchehra change if they know she has her period?

*Non-supportive:* Teasing? Avoidance? Exclusion? From teachers, family, peers?

**Why?**

11. Which people at the school does Gulchehra feel comfortable talking to about menstruation?

*Support:* **Why** those people and how are they different from others?

*Non-supportive:* If there are no people, **why?** Who would Gulchehra not want to know?

**Source: Activity copied with permission from Caruso, B. (2013). WASH in Schools Empower Girls' Education: Tools for Assessing Menstrual Hygiene Management. UNICEF.**

### Closing Activity – 3. Tackling challenges like Gulchehra

#### *Recommendations for improving girls' experiences*

**Activity aim and description:** This activity is aimed at understanding what participants think are the biggest challenges girls face in school during menstruation and what they think can be done to address them. A list of challenges generated from the previous activity will be shared and girls will be asked if anything else should be added. They will be asked what the biggest challenges are and what can be done to help girls manage those challenges.

- **Transitional script to be read by the facilitator to introduce the activity:** *We would now like to think more about some of the experiences that you discussed, particularly the challenges Gulchehra faces at school.*

- **Preparation instructions for facilitator and note taker:**

1. Note taker posts the list of challenges on a board or somewhere all girls can see.
2. Facilitator asks one of the participating girls to read the list of challenges.

- **Activity steps:**

1. Ask the following: What other challenges may Gulchehra face at school when she has her period that are not listed here?

**Probes:** *Sanitation/latrines? Information? Pads/materials? Teasing? Physical pain? Emotional feelings?*

2. Once the final list of challenges is complete, explain to the girls that you will now go around the room and ask them to state what they think is the biggest challenge. Explain that you will then go around and ask for the second biggest and finally on the last round, you will ask them to state what they think is the third biggest challenge.

*Note taker will place a tick mark next to each challenge the girls identify and then write the total next to it.*

3. Go through the top 5 challenges with the most tick marks and ask the girls to explain:

**Why is this a challenge?**

**Source:** Activity copied with permission from Caruso, B. (2013). WASH in Schools Empower Girls' Education: Tools for Assessing Menstrual Hygiene Management. UNICEF.

### Take Home Activity – Personal Stories

*Girls reflect on the activities and their own experiences*

**Activity aim and description:** The aim of this activity is to collect personal stories from girls to use in the puberty book upon consent and de-identification. Girls will be asked to reflect on the activities and either write about their experience with becoming a woman or an experience they had with menstruation and to provide some advice to younger girls about the growing up process.

- **Transitional script to be read by facilitator to introduce the activity:** *Before we end our discussion today, we would like to ask each of you to complete a small take home assignment. We would like you to write a short story about either your experience with becoming a woman or an experience you had with menstruation. In your story we would also like you to include any advice you would give to younger girls about the growing up process. Please bring your personal story back to school and hand it to your counselor. We will collect the stories from her and use them as examples in the puberty book we are creating. However, your name will not be associated with the story and we will remove any identifying information from the story so it cannot be connected to you. If you would **not** like your story to be used then please write at the top of your page “Do not use.”*
- **Preparation instructions for facilitator:**
  1. Pass out two sheets of paper and a pencil to each girl.
  2. Set up a box off to the side so girls can place their questions in the box before they leave. Provide extra paper and pens.
- **Closing remarks by facilitator:** *Thank you for your participation today. Your involvement is really important to us, and we appreciate you sharing your ideas and experiences. We hope to use the discussions we had today to help create a puberty book for young girls like you so they can be informed about the growing up process. Before we end, do you have any questions for me about puberty, menstruation, the activities, or other information we discussed today?*

*If you do not want to ask your question out loud, please write your question down and place it in this box.*

**Source: Activity inspired by ‘Kishoree’ - a puberty book for girls published by the Government of Nepal and created by Save the Children.**

## **Focus Group Discussion Guide: TAJIK BOYS**

### **Opening Activity - Introductions and questions about school**

*The goal of this section is to establish a comfortable atmosphere for the participants, build rapport, and introduce the FGD topic of puberty.*

**Introduction script to be read by focus group facilitator in order to welcome participants and start the first activity.** *Thank you for participating in our discussion today. We are very excited to be here to talk with all of you and learn from your experiences. First, we would like to learn more about you and your experiences at school.*

#### **Activity #1: Introductions**

5. As a way to get to know each other, let's go around and tell everyone:
- What grade you are in
  - Your favorite subject in school
  - What you want to be when you grow up
  - (Consider asking boys "why" they want to be that profession in order to continue conversation and establish atmosphere)
6. What do you like most about being in school?

<b>Questions</b>	<b>Probes/Follow-ups</b>
7. Can you all describe the usual condition of the latrines at your school?	<ul style="list-style-type: none"> <li>• How many latrines are there?</li> <li>• Are there separate latrines for boys and girls?</li> <li>• Comments on: Cleanliness? Smell? Privacy? Safety?</li> <li>• Soap/water/materials available for personal hygiene?</li> <li>• Do boys prefer going with friends?</li> </ul>
8. Can you all describe any classes you have taken on health or puberty?	<ul style="list-style-type: none"> <li>• During what grade do you take these classes?</li> <li>• Are the classes separated by sex?</li> <li>• What topics are covered in these classes?</li> <li>• What topics did they not cover that you wish to learn about?</li> <li>• What did you like and not like about these classes?</li> </ul>



## Key Activity – 1. Gender Roles and Equality

**Activity aim and description:** This activity aims to uncover what roles and activities boys associate with each gender and how open they are to such roles and activities being shared by *both* genders. This activity will uncover how engrained gender roles are in society and the level of gender equality that is present.

Two large poster sheets will be set up in front of the group of boys. One sheet will be labeled “Activities for Girls” and another will be labeled “Activities for Boys.” In the first phase of the activity, boys will be asked to list out-loud activities for each poster sheet. After a substantial list is created for both genders, a third poster sheet will be set up between the previous two and will be labeled “Activities for BOTH Girls and Boys.” Again, boys will be asked to list out-loud activities appropriate for both genders.

- **Transitional script to be read by facilitator to introduce the activity:** *For our first activity, we would like to talk about gender roles. We want to know what activities come to your mind when you think about activities that are appropriate for girls and then activities that are appropriate for boys. Then we can talk about what activities you think are okay for both genders to take part in.*

- **Preparation instructions for facilitator and note taker:**

**Part I.**

1. Place two large poster sheets on a stand or wall in front of the boys so that everyone can clearly see them.
2. Label one poster sheet “Activities for Girls” and the other poster sheet “Activities for Boys.”
3. Note taker should be ready to record the boys’ responses, using a different colored marker for each poster sheet.

**Part II.**

4. Place a third large poster sheet in between the previous two so that the boys can clearly see all three posters.
5. Label this third poster sheet “Activities for BOTH Girls and Boys.”
6. Note taker should be ready to record the boys’ responses, using a new colored marker

- **Activity steps:**

1. Introduce each poster to the boys. Explain that one poster is for activities they think are appropriate for girls to do and the other poster is for activities they think are appropriate for boys to do.
2. Ask them to freely list out-loud activities they think should be recorded on each poster sheet. Remind them that there is no right or wrong answer but that they should answer freely and honestly. To help the boys get started you can ask them to think about:

*What activities do boys do at home compared to girls?*

*What activities do boys do in their free time compared to girls?*

4. After a substantial list of activities has been recorded for each poster sheet, go through each poster and ask the boys set up the third poster sheet.
5. Explain that now the boys can list activities they think are okay for both boys and girls to do. First, ask the boys to select activities from the “Activities for Girls” poster sheet that they think are okay for boys to do as well.
6. After the boys are finished selecting from that poster sheet, ask them to select activities from the “Activities for Boys” poster sheet that they think are okay for girls to do as well.
7. Finally, ask the boys if there are any other activities they can think of that are okay for both boys and girls to participate in.
8. Once the boys are finished listing activities, have the note taker circle the activities that remained ‘gender-specific’ (i.e. boys did not select them for the *both* poster sheet). Ask the following questions:

*On the “Activities for Girls” sheet, we have circled the activities that you think are only appropriate for girls. Tell me **why** boys cannot do these activities.*

*On the “Activities for Boys” sheet, we have circled the activities that you think are only appropriate for boys. Tell me **why** girls cannot do these activities.*

*On the “Activities for BOTH Girls and Boys” sheet, tell me **why** these activities are okay for both genders to participate in.*

*How do you think these restrictions on activities affect the lives of boys and girls?*

*How do these activities change when a boy becomes a man? **Why?***

*How do these activities change when a girl becomes a woman? **Why?***

**Source: Activity inspired by ‘Kishor’ - a puberty book for boys published by the Government of Nepal and created by Save the Children.**

## Key Activity – 2. Becoming a Man

### *Physical and life changes (puberty process)*

**Activity aim and description:** This activity is split into two parts and thus has two major aims: (1) to uncover what boys perceive as the puberty process, what knowledge they have about this life stage and what gaps in knowledge exist and (2) to understand how boys perceive the role of men in their society and the positives and negatives of becoming a man.

The unstructured and open format of this activity eliminates any preconceived notions by the researchers about how boys think about these topics and also allows the boys to contribute together at the same time. For the first part, boys will gather around two large sheets of paper and be provided markers to write down the physical changes and life changes that take place when a boy becomes a man. For the second part, boys will be provided a sheet of paper and pen/pencil to write down the positives and negatives of becoming a man.

- **Transitional script to be read by facilitator to introduce the activity:** *We would now like to talk about what it means to become a man. When we go through puberty there are a number of physical changes that take place and life changes such as changes in one's role at home. We are going to do an activity to help us talk about these changes that take place during and after a young boy goes through puberty.*

- **Preparation instructions for facilitator:**

#### **Part I.**

7. Put two sheets of paper on the ground/table in front of the boys.
8. Label one as 'Becoming a Man: Physical Changes' and one as 'Becoming a Man: Life Changes.'
9. Make sure that the paper is accessible to everyone. Position all boys to reach the paper.
10. Provide each boy with a marker and put some additional markers in a place where everyone can reach them.

#### **Part II.**

11. Prepare writing paper that is divided into two columns with one column labeled "Positives" and the other column labeled "Negatives"
12. Pass out the labeled sheets of writing paper and pen/pencil to each girl.

- **Activity steps:**

2. On the sheet labeled 'Becoming a Man: Physical Changes' ask boys to write or draw about what bodily changes take place when a boy goes through puberty and becomes a man. You can ask boys to think about:
  - How a man looks different from a boy (body changes, clothes, etc.).*
  - What physical appearances are associated with men versus boys?*
  - What a man's body is able to do physically compared to a boy's body?*
2. On the sheet labeled 'Becoming a Man: Life Changes' ask boys to write or draw

about how the life of a man is different from a boy's. You can ask boys to think about:

*Expectations people may have of men compared to boys.*

*How relationships change.*

*How daily life changes when you become a man (changes in activities?)*

*Differences in what girls are allowed to do compared to what women are allowed to do (any restrictions?).*

*Responsibilities (home and school)*

*Role of men in society compared to boys.*

3. Once the drawing/writing is complete, ask the following questions (encourage the other boys to add in additional comments):

*Could one of you talk about the 'Physical Changes' page and what is listed?*

*Could one of you talk about the 'Life Changes' page and what is listed?*

4. Now pass out the individual sheets of writing paper and a pen/pencil to each boy. Ask everyone to write down some positives and negatives about becoming a man.

5. Once the writing is complete, ask the following questions:

*What are some of the positives that you wrote down about becoming a man?*

*What are some of the negatives that you wrote down about becoming a man?*

*(\*Consider going "Round Robin" and asking each person to list one positive and one negative from their sheet of paper and explain **why**)*

*Thinking about all of this, what does it mean in your community, or your family, when a boy becomes a man? What does it mean to you? **Why?***

**When does this transition from being a boy to becoming a man take place?**

*Is there a specific event that marks this transition? What event?*

*Is the transition gradual?*

**Source: Activity inspired by the 'Negatives and positives of being a woman' activity in Sommer, M. (2010). Where the education system and women's bodies collide: The social and health impact of boys' experiences of menstruation and schooling in Tanzania. *Journal of Adolescence*, 33(4), 521-529.**

### Take Home Activity – Personal Stories

*Boys reflect on the activities and their own experiences*

**Activity aim and description:** The aim of this activity is to collect personal stories from boys to use in the puberty book upon consent and de-identification. Boys will be asked to reflect on the activities and either write about their experience with becoming a man and to provide some advice to younger boys about the growing up process.

- **Transitional script to be read by facilitator to introduce the activity:** *Before we end our discussion today, we would like to ask each of you to complete a small take home assignment. We would like you to write a short story about an experience you had with becoming a man. In your story we would also like you to include any advice you would give to younger boys about the growing up process. Please bring your personal story back to school and hand it to your teacher. We will collect the stories from him and use them as examples in the puberty book we are creating. However, your name will not be associated with the story and we will remove any identifying information from the story so it cannot be connected to you. If you would **not** like your story to be used then please write at the top of your page “Do not use.”*
- **Preparation instructions for facilitator:**
  1. Pass out two sheets of paper and a pencil to each boy.
  2. Set up a box off to the side so boys can place their questions in the box before they leave. Provide extra paper and pens.
- **Closing remarks by facilitator:** *Thank you for your participation today. Your involvement is really important to us, and we appreciate you sharing your ideas and experiences. We hope to use the discussions we had today to help create a puberty book for young boys like you so they can be informed about the growing up process. Before we end, do you have any questions for me about puberty, the activities, or other information we discussed today?*

*If you do not want to ask your question out loud, please write your question down and place it in this box.*

**Source:** Activity inspired by ‘Kishoree’ - a puberty book for girls published by the Government of Nepal and created by Save the Children.

## Appendix B

### Interview Guide: TEACHERS

#### **Introduction:**

Hello [participant's name], my name is Gloria and this is my colleague Saodat. We are from Save the Children and are working on a research project concerning puberty education. Thank you so much for taking the time to meet with us today. We greatly appreciate it.

As you may know, we are conducting focus group discussions with grade 7-11 students to understand their experiences with puberty. We will then use the information from the focus groups to create two puberty books, one for boys and one for girls. Save the Children hopes to work with the Ministry of Education and Ministry of Health to integrate these books into the school curricula. We want to talk to you today to hear your perspective and opinion on how best to teach puberty topics.

During this interview, I will be asking you a series of questions. I will be recording some notes while we talk and will also audio record the interview. This interview is completely voluntary and you may choose to not answer a question or to end the interview at any time.

The information you provide will be used in our analysis and future discussions with the Ministry of Education and Ministry of Health. These items will only be shared with Save the Children staff members and stakeholders. Your name will not be used in any reports or presentations, quotes will be de-identified, and all audio files will be deleted after our research is completed.

Would you like to proceed with the interview?

IF YES: Great.

IF NO: End interview.

Is it okay if I audio record the interview?

IF YES: Thank you!

IF NO: Not a problem. I will simply take notes instead.

Do you have any questions for me at this time, or any concerns that you would like to share?

IF YES: answer their questions / address concerns

IF NO: proceed

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### ❖ **Background:**

To get started, let me ask you a few background questions.

1. How old are you?
2. Where are you originally from?
3. How long have you been a teacher?
  - *Follow-up:* How long have you worked at this school? Did you always teach grade 7?
4. When you were in secondary school, what information was taught about puberty?
  - *Probe:* Can you tell me about any health classes you had that addressed puberty topics?  
(*N.B.* When we talk about puberty topics we are referring to bodily changes, feminine and menstrual hygiene, new feelings and relationships, etc.)
  - *IF NO school classes:* How did you learn about puberty issues? Can you tell me about anyone, such as a family member or friend, who explained some of these topics to you?

### ❖ **Puberty Education Today**

Now that we've talked about some of your own experiences with puberty education, we're going to talk about what information is taught in school today.

5. What puberty topics are covered in school today?
  - *Probe:* In which grades are puberty topics discussed? How is the information taught (i.e. any activities or videos etc.)?

IF NO topics covered: go to next section  
IF YES:
6. How do students respond to these lessons on puberty (i.e. what are their reactions to the information)?
7. What changes have you noticed in how female and male students interact possibly as a result of their puberty education?

### ❖ **Personal View of Puberty Education**

In this next section, we're going to talk about your personal view and opinion of puberty education.

8. Do you think puberty topics should be taught in school?
  - *Probe:* Why or why not?

- *IF YES:* What grades do you think should have puberty education lessons?
  - *Probe:* What topics do you think should be taught? Why?
9. What effect do you think puberty education has on the school environment?
- *Probe:* What do you think are some of the positive aspects of having puberty education in school?
  - *Probe:* What do you think are some of the negative aspects?
10. What experiences have you had in addressing menstruation issues with female students?
- *Probe:* Can you tell me about a time that a female student started her menstruation during class?
  - *Probe:* How do you respond in these situations?

### ❖ Puberty Book Curriculum Integration

In this last section, we are going to talk about how you think the puberty books created by Save the Children could be taught in school and what support teachers will need.

11. Where in the school curricula do you think the puberty books could be taught?
- *Probe:* Is there a health section where it could be included?
  - *Probe:* What grade(s) do you think should use the puberty books?
12. How do you think the puberty books should be taught?
- *Probe:* Do you think the boys and girls should be taught separately? Why?
  - *Probe:* What teaching methods should be used? (i.e. participatory activities, videos, etc.)
13. What do you think teachers will need in order to feel comfortable teaching the puberty books?
- *Probe:* What materials will they need?
  - *Probe:* What training will they need?
14. What concerns do you have about teaching the puberty books?
15. What else would you like to share with me today that I might have missed?

### Concluding Remarks:

Thank you again for participating in the interview and for taking time out of your day. Like I said before, the information you gave will only be shared with Save the Children staff members and stakeholders. All information will be de-identified.



We are looking for teachers to help review the puberty books and provide feedback once we are finished designing them. Would you be willing to assist us with this?

IF YES: Great! Thank you so much. Can you provide us with your telephone number? We will call you sometime during the end of July. We will set up a time and date convenient for you to meet with us and some other teachers to review the books. Thank you again and I hope you have a good day.

IF NO: No problem. Thank you again for participating in this interview. I hope you have a good day.

## **Interview Guide: GIRLS' COUNCILORS**

### **Introduction:**

Hello [participant's name], my name is Gloria and this is my colleague Saodat. We are from Save the Children and are working on a research project concerning puberty education. Thank you so much for taking the time to meet with us today. We greatly appreciate it.

As you may know, we are conducting focus group discussions with grade 7-11 students to understand their experiences with puberty. We will then use the information from the focus groups to create two puberty books, one for boys and one for girls. Save the Children hopes to work with the Ministry of Education and Ministry of Health to integrate these books into the school curricula. We want to talk to you today to learn about your role as a girls' counselor and what changes you think should take place to make the school environment better suited to address puberty issues for students.

During this interview, I will be asking you a series of questions. I will be recording some notes while we talk and will also audio record the interview. This interview is completely voluntary and you may choose to not answer a question or to end the interview at any time.

The information you provide will be used in our analysis and future discussions with the Ministry of Education and Ministry of Health. These items will only be shared with Save the Children staff members and stakeholders. Your name will not be used in any reports or presentations, quotes will be de-identified, and all audio files will be deleted after our research is completed.

Would you like to proceed with the interview?

IF YES: Great.

IF NO: End interview.

Is it okay if I audio record the interview?

IF YES: Thank you!

IF NO: Not a problem. I will simply take notes instead.

Do you have any questions for me at this time, or any concerns that you would like to share?

IF YES: answer their questions / address concerns

IF NO: proceed

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### ❖ **Background:**

To get started, let me ask you a few background questions.

1. Where are you originally from?
2. How long have you been a girls' counselor?
  - *Follow-up:* How long have you worked at this school? What grade do you teach?
3. What puberty topics are covered in school today?
  - *Probe:* In which grades are puberty topics discussed? How is the information taught (i.e. any activities or videos etc.)?  
(*N.B.* When we talk about puberty topics we are referring to bodily changes, feminine and menstrual hygiene, new feelings and relationships, etc.)

### ❖ **Role of Girls' Counselor**

Thank you for answering those background questions. Now we're going to talk about your role as a girls' counselor.

4. What is the purpose of your role as a girls' counselor?
5. What do you do as a girls' counselor?
  - *Probe:* What activities do you do with the girls? What resources do you provide?
  - *Probe:* When do you meet with the girls?
  - *Probe:* Do you interact with the girls as a group or individually?
6. Do you address puberty issues in any way with the girls?
  - IF YES: What issues do you address and how?

### ❖ **Experiences with Puberty Issues**

In this next section, we're going to talk about experiences you have had with girls in addressing puberty issues.

7. What experiences have you had in addressing menstruation issues with girls?
  - *Probe:* Can you tell me about a time that a girl started her menstruation during school?
  - *Probe:* How do you respond in these situations?
  - *Probe:* What resources do you provide for the student?
8. What resources are available at school to help girls manage their menstruation?

- *Probe:* For instance, are there extra school uniforms for when girls leak through their clothes, are there extra pads available, is there soap and water in a location where girls can wash in private?

9. Can you tell me about any other experiences you have had in addressing puberty issues with girls?

- *Probe:* Consider a time when girls asked about their bodies changing, questions about menstruation, teasing experiences with boys, etc.
- *Probe:* What other resources are available at school to help girls address these issues?

### ❖ Changes in School Environment

In this last section, we are going to ask your opinion about the school environment.

10. What changes do you think should take place in the school environment to better assist students with puberty issues?

- *Probe:* What resources do you think girls need at school in order to manage their menstruation?

11. How do you think puberty books would affect the school environment?

- *Probe:* What do you think are some of the positive aspects of having puberty education in school?
- *Probe:* What do you think are some of the negative aspects?

12. How do you think the puberty books created by Save the Children could be integrated into the school curricula?

- *Probe:* Is there a health section where it could be included?
- *Probe:* What grade(s) do you think should use the puberty books?
- *Probe:* Do you think the boys and girls should be taught separately? Why?
- *Probe:* What teaching methods should be used? (i.e. participatory activities, videos, etc.)

13. What do you think Save the Children should consider when designing the puberty books?

- *Probe:* What topics are most important?
- *Probe:* How should information be presented?

14. What concerns do you have about the puberty books?

15. What else would you like to share with me today that I might have missed?

**Concluding Remarks:**

Thank you again for participating in the interview and for taking time out of your day. Like I said before, the information you gave will only be shared with Save the Children staff members and stakeholders. All information will be de-identified.

We are looking for counselors and teachers to help review the puberty books and provide feedback once we are finished designing them. Would you be willing to assist us with this?

IF YES: Great! Thank you so much. Can you provide us with your telephone number? We will call you sometime during the end of July. We will set up a time and date convenient for you to meet with us and some other counselors and teachers to review the books. Thank you again and I hope you have a good day.

IF NO: No problem. Thank you again for participating in this interview. I hope you have a good day.