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Period Poverty's Impact on the Health, Social Lives, and Professional and Financial
Opportunities of Adolescent Menstruators in Kenya: A Literature Review

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ABSTRACT

Period poverty describes the lack of access to proper menstrual care products and sanitation facilities, educational opportunities, and other resources. The ability to afford menstrual care products can hinder the wellbeing and livelihood of menstruators. This thesis highlights and discusses the health, social, and professional and financial difficulties an adolescent menstruator in Kenya experiencing period poverty encounters. A systematic literature review was conducted to extract articles pertaining to period poverty in Kenya and other low- and middle-income countries. As period poverty gains more recognition, it is recommended that research continues to address the inequities adolescent menstruators in Kenya experience on a health, social, and professional and financial aspect. The literature review highlighted a strong body of research regarding the relationship between the health of an individual and period poverty. The literature also revealed areas that require more research, specifically regarding the mental health of menstruators and the professional and financial issues those experiencing period poverty will face daily.

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Chapter 1: Introduction

Period poverty is an emerging area of research in several disciplines including Global and International Studies (Thomson, Amery, Channon, et al., 2019) as “Only recently, and after much effort by a small group of researchers and advocates, has menstrual health and hygiene been recognized as a pressing public health issue” (Cardoso, Scolese, Hamidaddin, et al., 2021, p. 1). Period poverty is a universal problem and an “...overwhelming majority of evidence and advocacy on unmet menstrual hygiene needs center on the experiences of women and girls in low-and middle-income countries, [but] new research suggests that the experience of ‘period poverty’...may be a common concern for low-income women in high-income countries” (Cardoso, Scolese, Hamidaddin, et al., 2021, p. 2). The reason for this growing interest is the interdisciplinary nature and serious implications on the current youth and the future work force. Period poverty impacts adolescents and their access to a proper, quality education. It is also a matter of significance as far as the achievement of the Sustainable Development Goals (SDG) are concerned. US States and lawmakers have begun to tackle period poverty as it becomes a pressing and prominent issue. Pew Trusts reported in July of 2021 that “...states have passed laws to exempt feminine hygiene products from sales taxes or ensure schools are equipped with free products” (Wright, 2021). These efforts to address period poverty must persist to address this global issue.

There are several ways to define period poverty. The United Nations Population Fund (UNFPA) describes period poverty as “...the struggle many low-income women and girls face while trying to afford menstrual products. The term also refers to the increased economic

vulnerability women and girls face due [to] the financial burden posed by menstrual supplies” (UNFPA, 2021). The *Lancet Child and Adolescent Health* (2018) journal describes period poverty in terms of accessibility, describing that “In many low-income and middle-income countries, access to sanitary products such as pads, tampons, or cups is limited, and girls often resort to using proxy materials such as mud, leaves, or animal skins to try to absorb the menstrual flow” (p. 379). While period poverty impacts menstruators on a financial level, it simultaneously affects their quality of education, physical state, and psychological health. “Because of entrenched stigma and taboos, menstruation is rarely discussed in families or schools, and menarche often arrives suddenly to girls with little or no knowledge of what is happening” (The *Lancet Child & Adolescent Health*, 2018, p. 379). There are other terms regarding period poverty that will be addressed to fully comprehend the nature of menstruation.

The developing and under developing world are disproportionately troubled by period poverty in comparison to the developed world. Not only are financial issues heightened in the developing and under developing world in terms of access and affordability of menstrual care products, but the culture surrounding menstruation differs. “In Asia, menstruation is considered a hygiene crisis in societies with strict religious practices. For instance, in India and Nepal, menstrual hygiene is considered so important the societies and families isolate or banish menstruating adolescent girls” (Chebii, 2018, p. 205). A study conducted by McMahon, Winch, Caruso, et al. details life in the Nyanza Province of Kenya and the adolescent experience with menstruation. “Nyanza is most heavily populated by the Luo, the second largest ethnic group in Kenya. Household and community arrangements among the Luo have been significantly altered in recent decades due to the AIDS epidemic, scarce employment opportunities and male labor migration” (McMahon, Winch, Caruso, et al., 2016, p. 2). Another study conducted in the Kibera

slums of Kenya explored adolescent schoolgirls' experiences with menstruation both in and out of school. Within this study, Chebii (2018) discovered that "...the everyday social interactions of post-menarcheal adolescent girls are governed by the expectations of their society" (p. 208). These two studies demonstrate the experiences menstruators in low- and middle-income countries face throughout puberty and their menstrual cycle.

As period poverty becomes more researched, it is crucial to recognize the importance of this issue and why this thesis is studying it. "There is consistent evidence of wealth-related inequality in the conditions of menstrual hygiene management spaces as well as access to sanitary pads across all countries. Wealth, education, the rural-urban divide, and infrastructural limitations of the household are major contributors to these inequalities" (Rossouw and Ross, 2021, p. 1). Scholars such as these and many others describe the variety of health, social, and economic consequences that are a result of period poverty (Austrian and Anderson, 2014; Cardoso, Scolese, Hamidaddin, et al., 2021; Chandra-Mouli, McCarraher, Phillips, et al, 2014; Elledge, Muralidharan, Parker, et al, 2018; Jewitt and Ryley, 2014). The challenge that adolescents face in rural and poor urban communities and humanitarian crisis settings can create "...long-term consequences for girls in relation to their confidence and self-efficacy, their ability to participate in day-to-day activities such as education and employment, and their health and wellbeing" (Plesons, Patkar, Babb, et al., 2021). The impact of period poverty can be studied on both a small and large scale, such as the individual health of an adolescent or the economic consequences of period poverty on a nation. This thesis recognizes the importance of period poverty and discusses the prevalence of poor menstrual hygiene and management in low- and middle-income countries, specifically Kenya.

Taboos and Misperceptions Surrounding Menstruation that Increase Period Poverty

In low- and middle-income countries, taboos may be created around a religious or cultural belief, but also stem from a lack of conversation surrounding menstruation. “Taboos and misconceptions around menstruation in the past often resulted in dealing with MHM in an unnoticeable manner, using restrictions or exclusions rather than creating the clean, safe and private spaces” (Rossouw and Ross, 2021, p. 10). In many cultures and countries, there are expectations for menstrual health and hygiene management. Menstrual taboos vary based on location and experience. From the onset of menstruation in Kenya, a girl is expected to adjust the space between herself and the male members of the family (Chebii, 2018). This expectation for adolescents will further decrease their level of comfort in menstruating and discussing their menstrual cycle with trusted friends and family. Expectations create a level of embarrassment surrounding menstruation, leading to high levels of disinformation on menstruation and one’s reproductive health. “Many girls are uninformed and unprepared for menstruation, and experience fear and anxiety upon reaching menarche” (Plesons, Patkar, Babb, et al., 2021, p. 1). A study conducted in rural Kenya assessed the perceptions and practices surrounding menstruation for young schoolgirls. “Girls expressed fear, shame, distraction, and confusion as feelings associated with menstruation” (McMahon, Winch, Caruso, et al., 2016, p. 1). Understanding how adolescents cope with menstruation is important so action can be taken to address the barriers created through taboos and period poverty. The fear and embarrassment adolescents in rural Kenya feel generates a major barrier for those attending school as they fear their period will leak, which “...can disrupt girls’ concentration and participation in class as well as the micro-geographies of their movements” (Jewitt and Ryley, 2014, p. 143). If menstruators

feel uncomfortable to exit their seat or fear that their period has leaked and they will be unable to move to a restroom or sanitation facility, their minds are no longer focused on their education.

McMahon, Winch, Caruso, et al. (2016) recognize that menstruation is discussed and managed differently based on cultural and social contexts, but in many cultures, the discussion surrounding menstruation is forbidden and deemed unnecessary. If adolescents are unable to discuss their menstrual cycle with close friends or family, they are subject to face a high level of discomfort and shame at the onset of puberty (Jewitt and Ryley, 2014; Plesons, Patkar, Babb, et al.; 2021). A study conducted among adolescents in Zambia described the process of the menstrual cycle and its cultural meaning. “Their communal lives are typically guided by rules and taboos, including the expectation that menstruation and menarche are generally inappropriate topics in homes or with close family members...As one girl noted: ‘Mostly we hear about it from friends at school...It is rare to discuss such issues at home as it is a taboo’” (Lahme and Stern, 2017, p. 7). The ability to speak up and take power of one’s menstrual cycle is severely limited when these taboos and misperceptions exist. The growing body of literature on period poverty and issues with menstruation, menstrual hygiene, and menstrual health among adolescents in low- and middle-income countries has shown how this issue has been stigmatized and neglected (Plesons, Patkar, Babb, et al., 2021; Chandra-Mouli, McCarraher, Phillips, et al., 2014; Elledge, Muralidharan, Parker, et al., 2018; Sommer, Caruso, Sahin, et al., 2016).

Taboos and misperceptions about menstruation may increase the severity of period poverty. “Yet, the omnipresent stigmatization of menstruation and entrenched social norms in some parts of the world limit the adequate support to menstruating persons and results in MHM being a multi-sectoral policy challenge, affecting sexual and reproductive health, schooling and education, water, sanitation, and hygiene (WASH), and more” (Rossouw and Ross, 2021, p. 1).

This multi-faceted challenge requires adequate action to increase menstrual hygiene management techniques and decrease period poverty in low- and middle-income countries.

Thesis

Through researching period poverty and other limitations in menstrual hygiene management, this thesis is formed upon the premise that every person has the right to manage their menstrual cycle in a comfortable manner. Inclusive language is important when discussing menstruation for both public health and gender equity efforts. Much of the literature and quotes utilized throughout this piece do not contain inclusive language surrounding menstruation. When referring to those who menstruate, this thesis uses the phrase “menstruators” so as not to apply a specific gender or sex to those that are capable of menstruation. A menstruator is defined as “...a person who menstruates and therefore has menstrual health and hygiene needs – including girls, women, transgender, and non-binary persons” (Unicef, 2019). This thesis takes this into consideration and recognizes that not all women menstruate, and not all who menstruate are women. When thinking of the differences between menstruators and non-menstruators, what inequities might menstruators face? How might their menstrual cycle impact their quality of life, health, or professional and financial status? This thesis will discuss existing literature surrounding period poverty’s impact on adolescent menstruators in Kenya. Looking at the existing literature, this thesis begs the question: how do menstruation and period poverty create inequities for adolescents in Kenya? Simultaneously, how does period poverty create barriers for the health, social lives, and professional and financial opportunities for adolescents in Kenya?

The purpose of this thesis is to review the existing literature surrounding period poverty's relationship with adolescent menstruators in Kenya. Specifically, this literature review will discuss current and future implications of period poverty on adolescent menstruators in Kenya in four broad domains—health-related, society-related, professional opportunities related, and financial independence related.

Definitions of Important Terms

Within the topic of menstruation and period poverty, there are several terms to define. To understand the key terms addressed within this thesis, it is important to discuss each one in detail.

Menstrual Hygiene Management

A term to address is menstrual hygiene management (MHM). The WHO and UNICEF created a joint definition for this term. Menstrual hygiene management is described as “Women and adolescent girls [that] are using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials” (Phillips-Howard, Caruso, Torondel, et al., 2016, p. 2; Unicef, 2019). Unicef (2019) also finds it important to define menstrual health and hygiene (MHH) in relation to menstrual hygiene management. MHH “encompasses both MHM and the broader systemic factors that link menstruation with health, well-being, gender equality, education, equity, empowerment, and rights” (p. 8). Menstrual hygiene materials are required for menstruators to care for their cycle. These products include pads, cloths, tampons, or cups (Unicef, 2019).

There is an existing discussion surrounding the word “hygiene” when discussing menstrual health. Some researchers believe using the word “hygiene” describes menstrual health in a less stigmatized manner (Thomson, Amery, Channon, et al., 2019). Also, researchers acknowledge the need for MHM to extend beyond WASH and other hygiene related goals to also address the stigmas and taboos shaping the rhetoric for menstruation (Sahin, 2015;

Thomson, Amery, Channon, et al., 2019). The use of the word “hygiene” is not to solely address the hygienic practices of menstruation. The topic of menstrual hygiene and health is gaining popularity in research and legislation as is period poverty “...in a bid to promote dignity, gender equality and reproductive health” (Rossouw and Ross, 2021, p. 1). Another definition for MHM is described by Rossouw and Ross (2021) as requiring “...women and girls to have access to their menstrual health materials and products of choice, but also extends into having private, clean, and safe spaces for using these materials” (p. 1). In low- and middle-income countries, there may be a lack of knowledge surrounding menstrual hygiene management. Period poverty and menstrual hygiene management (MHM) have a continuous relationship which is important for readers to understand throughout this thesis.

Menstrual Health

Menstrual health is another term which requires a concrete definition to proceed. Menstrual health is described as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity, in relation to the menstrual cycle” (Hennegan, Winkler, Bobel, et al., 2021, p. 2). This official definition was released in the year 2021 by the journal *Sexual and Reproductive Health Matters* as an effort to create a unified language for stakeholders to support all people who experience a menstrual cycle. Period poverty and menstrual health are both integral in the efforts to achieve the Sustainable Development Goals and improve global health (Hennegan, Winkler, Bobel, et al., 2021; Plesons, Patkar, Babb, et al., 2021; UNFPA, 2021; Unicef, 2019).

Period Poverty and the Sustainable Development Goals

The Sustainable Development Goals were created by the United Nations to provide "...a shared blueprint for peace and prosperity for people and the planet, now and into the future" (United Nations Department of Economic and Social Affairs: Sustainable Development). There are 17 goals crafted to improve the lives of every global citizen. The goals are as follows:

1. No poverty
2. Zero hunger
3. Good health and well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation, and infrastructure
10. Reduced inequalities
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice and strong institutions
17. Partnerships for the goals

It is the responsibility of all United Nations Member States to help in the achievement and progression of these goals. The Sustainable Development Goals aim to reach each individual and eradicate all inequality and disparities for every community. Menstrual health management, period poverty, and menstrual inequity all have a relationship with the Sustainable Development Goals (Hennegan, Winkler, Bobel, et al., 2021; Plesons, Patkar, Babb, et al., 2021; Thomson, Amery, Channon, et al., 2019). Menstrual health has emerged into discussions around international development and sustainability thanks to stakeholders, networks, and other various platforms to recognize menstrual health as a public health issue (Cardoso, Scolese, Hamidaddin, et al., 2021; Plesons, Patkar, Babb, et al., 2021; Wright, 2021). If the Sustainable Development Goals are to be achieved, period poverty will simultaneously be eradicated or greatly decreased. Period poverty can be tied into many of the Sustainable Development Goals including good health and well-being (3), quality education (4), gender equality (5), clean water and sanitation (6), decent work and economic growth (8), reduced inequalities (10), sustainable cities and communities (11), and peace, justice, and strong institutions (16). As discussed in the introduction, period poverty impacts the health, social lives, and financial and professional circumstances for adolescents, particularly in Kenya. If good health and well-being (3) is accomplished, period poverty will be a part of this good health initiative, improving menstrual health and MHM techniques. Another example is quality education (4). For quality education to be provided to all individuals, gender equality (5) must simultaneously be achieved. Period poverty impacts menstruators and those who identify as female. In low- and middle-income countries, period poverty and gender inequalities may limit adolescents from attending school, therefore decreasing their quality of education. Emphasizing the importance of period poverty in

relation to the Sustainable Development Goals is critical in the realm of Global and International Studies.

Chapter 2: Methods

For this literature review, I conducted a systematic search using Google Scholar and PSU Libraries databases to extract relevant articles for review. I also searched within popular journals in the field of menstruation and women's health. I found it beneficial to peruse the bibliographies of each relevant article to find other literature that would support my thesis.

Most of my searches were conducted using the "AND" conjunction in order to generate literature that related to both period poverty AND health or period poverty AND social stigma, etc. I also incorporated searches related to the geographical area I wished to study. These searches contained key words such as "in low- and middle-income countries," "in Kenya," and "in sub-Saharan Africa."

I found that literature using the exact words of period poverty specifically was difficult to find. This word for menstrual inequity has emerged into research in the past several years, so literature may not use these exact words in their titles or key words. I also conducted searches using the conjunction "AND" for "menstruation AND health in Kenya," "menstrual health AND education in Kenya," etc. to embody the entire experience of period poverty and capture accurate literature in my thesis. I found it beneficial to expand my search beyond "period poverty" and explore the other terms surrounding my focus. Within this literature, I found that many authors addressed period poverty without inherently using the words. More recent literature did use this term, making the progression of period poverty into the academic space more prevalent.

Menstruation has been studied for many years but this sub-concept of period poverty and particularly period poverty's impact on adolescent menstruators in Kenya does not contain as much research. Finding research that was adolescent specific also limited the number of articles

that were eligible for the literature review. These implications for my research within this niche area help to explain the lower number of articles utilized within this literature review.

Using keywords and searches in the Google Scholar and PSU Libraries databases, I extracted 33 research articles to review and study for the purpose of my thesis. *BMC Health, Women's Reproductive Health* and *Sexual and Reproductive Health Matters* were three journals that provided relevant articles as well. I also utilized reports from NGOs and other organizations such as UNICEF and the UNFPA to obtain relevant statistics and definitions. I reviewed each article based on title, abstract, and conclusion to adequately decide their relevancy for my thesis. The following literature review will discuss the research within these articles and their contributions to studying period poverty.

Chapter 3: Health

Health is a key component to an individual's life and well-being. Health can be discussed from a young age as adolescence in particular "...is a crucial stage in life that is often challenging to girls because of the physiological and psychological changes they undergo" (Chebii, 2018, p. 204). Rossouw and Ross (2021) describe the importance of health education as an effective way to help menstruators manage their menstrual health and overall wellbeing. For many adolescents within Kenya, the conversations related to menstruation and reproductive health are limited. Not only do adolescents lack a sense of knowledge surrounding what their menstrual cycle is, but they concurrently face barriers to discussing sex and healthy sexual activity practices.

Health can be viewed from a wider lens as it embodies the physical, mental, and emotional wellbeing of an individual. Mental health and the psychosocial aspects of period poverty can impact an adolescent as well. There are three main issues presented to adolescents and their health in Kenya: barriers to access reproductive health care and education, deterioration of one's mental health, and other physiological ailments.

Reproductive Health

A factor impacting adolescents' health is the information they receive regarding menstruation, their reproductive health, and sex in their curriculum at school. "Adolescence is a critical time of psychological and biological change, and there is a strong recognition of the disproportionate sexual and reproductive health (SRH) harms placed on adolescent girls in LMICs" (Phillips-Howard, Caruso, Tordonel, et al, 2016, p. 1). There are a variety of negative consequences which can occur from a lack of sex education and reproductive health knowledge. "Substantial numbers of adolescents experience the negative health consequences of early, unprotected sexual activity – unintended pregnancy, unsafe abortions, pregnancy-related mortality and morbidity and Sexually Transmitted Infections including Human Immunodeficiency Virus; as well as its social and economic costs" (Chandra-Mouli, McCarraher, Phillips, et al., 2014, p. 1). There are also cultural and social factors which play into an adolescent's experience with sexual health and sex education. Within a study conducted among adolescent schoolgirls in Kenya, "...the link between menstruation and fertility was valued and considered a sign of health" (Secor-Turner, Schmitz, and Benson, 2016, p. 303). Much of the sex education within this study addressed an abstinence-only based curriculum. Other literature describes this curriculum and details the failed system of abstinence-only education. Abstinence-only education or a lack of sex education in general can lead to the consequences previously mentioned such as unsafe abortions and other pregnancy related health complications (Chandra-Mouli, McCarraher, Phillips, et al., 2014) and are found to occur in individuals at a young age. "Complications from pregnancy and childbirth are the leading cause of death in girls aged 15-19 in low- and middle-income countries (LMIC) where almost all of the

estimated 3 million unsafe abortions occur” (Chandra-Mouli, McCarraher, Phillips, et al., 2014, p. 1). The risks of abstinence-only curriculum or a lack of sex education in general can harm adolescents’ health and place them in a dangerous situation.

Acknowledging menstruation as a sign of fertility has been recognized (Secor-Turner, Schmitz, and Benson, 2016) as a sacred topic but can simultaneously be discussed from a biological stance such as pregnancy and healthy sexual activity. A study conducted among adolescents in Zambia details universal struggles of schoolgirls and their menstrual health (Lahme and Stern, 2017). Adolescent girls around the world lack accurate health information at the onset of menarche and throughout life as they learn to care for their menstrual cycle and the other ailments that come with menstruation (Lahme and Stern, 2017; Mahon and Fernandes, 2010; Nagar and Aimol, 2010). Several organizations are making efforts to reduce early pregnancy and encouraging adolescents to reach full growth before becoming pregnant or sexually active. The Adolescent Girls Initiative-Kenya (AGI-K) addresses the “considerable risks and vulnerabilities that affect their well-being and hinder a safe, healthy, and productive transition into early adulthood” (Austrian, Muthengi, Mumah, et al., 2016, p. 1). This initiative describes the strength of reproductive health education’s effect on delaying pregnancy and improving the overall health of future mothers and their children.

During adolescence, children are learning and growing at a rapid rate. With this growth comes many changes such as puberty and the menstrual cycle. Within Kenya, adolescents “...face considerable risks and vulnerabilities that affect their health and general well-being. These risks and vulnerabilities include low educational attainment and illiteracy, household poverty, lack of economic independence...” (Austrian, Muthengi, Mumah, et al., 2016, p. 2). These implications of period poverty can hinder an adolescent’s capabilities and maturation.

A study conducted in rural Kenya analyzed the menstrual experience for adolescents and asked them several questions pertaining to their knowledge and perceptions of sex and pregnancy (Secor-Turner, Schmitz, and Benson, 2016). The questions reported from these adolescents included ““Can you become pregnant when you have sex during menstruation?” ‘If you have sex with a man when you have not yet had your monthly period, what will happen?’ ‘Can you become pregnant at any time or what?’” (Secor-Turner, Schmitz, and Benson, 2016, p. 3). There is confusion related to reproductive health and pregnancy. When individuals lack knowledge pertaining to their reproductive health, they are disempowered and lost in situations when they must make a choice for their health.

Researchers such as Chandra-Mouli, McCarraher, Phillips, et al. (2014) simultaneously strive to increase reproductive and sexual health knowledge in adolescents. Their study evaluated the contraceptive needs of adolescents in developing countries and worked to identify the barriers that adolescents face regarding the use and accessibility of contraceptives. A lack of reproductive health knowledge not only impacts the lived experiences of adolescents but can harm their future state of health and fertility. The study concluded that “Substantial numbers of adolescents, both married and unmarried are at risk of pregnancy with serious health and social costs to young mothers and their babies. Poor access to and use of contraception is a key contributory factor” (Chandra-Mouli, McCarraher, Phillips, et al., 2014, p. 6). The implications of period poverty can cause harm to those neglected from receiving adequate information towards their reproductive health.

Mental Health

Menstruation and menarche are key parts of one's biological process, which can further impact their physical and mental health. Basic needs such as food, water, and shelter are necessary for human survival and overall wellbeing (Cardoso, Scolese, Hamidaddin, et al., 2021). When basic needs are unmet, mental health may deteriorate. Menstrual hygiene is also considered a basic need (Cardoso, Scolese, Hamidaddin, et al., 2021; Plesons, Patkar, Babb, et al., 2021; Unicef, 2019) yet there is not enough research to understand how menstrual health and hygiene relate to mental health. In a study conducted by Cardoso, Scolese, Hamidaddin, et al., (2021) "Findings revealed that period poverty was significantly associated with depression on a gradient. Compared to those who had never experienced period poverty, women who had experienced period poverty every month reported the most severe depression..." (p. 5). This study examined the relationship between period poverty and mental health among college students in the US but may remain applicable to other countries experiencing period poverty. Even approaching menarche, adolescents, especially those in low- and middle-income countries face serious amounts of anxiety and fear of getting their period (Chebii, 2018; McMahon, Winch, Caruso, et al., 2011; Plesons, Patkar, Babb, et al., 2021). Anxiety and fear impact an adolescent's mental health and potential ability to pay attention in school.

Another factor of period poverty that impacts one's mental health includes isolation, which can create a sense of loneliness and worsen one's depression or anxiety. "...adolescent girls are excluded from social events, or they isolated themselves even when invited; they opted instead to send apologies because they fear rigorous activities, such as those that involve standing up or a lot of movement during the event (Chebii, 2018, p. 209). While this can play

into the cultural and social aspects surrounding menstruation, any form of social isolation can impact the mental health of an adolescent.

Cardoso, Scolese, Hamidaddin, et al. (2021) acknowledge the lack of studies addressing the mental health implications of period poverty. While there is not a plethora of information regarding mental health and period poverty currently, the immersion of period poverty into the research sphere will hopefully bring about more information linking this issue to mental health.

Other Physiological Health Implications

Adolescents are generally uninformed or unprepared for menstruation (Chebii, 2018; Jewitt and Ryley, 2014; McMahon, Winch, Caruso, et al., 2011; Plesons, Patkar, Babb, et al., 2021; The Lancet Child and Adolescent Health; 2018). Menstruators experience issues with "...a variety of symptoms, such as pain, headaches, and fatigue, and—when combined with social and cultural taboos—they often cannot participate in household, educational, employment, social and/or religious activities" (Plesons, Patkar, Babb, et al., 2021, p. 2). While these are non-life threatening factors that come with menstruation (headaches, pain, and fatigue), the impact that these ailments have on the capabilities of menstruators is limiting and once again increases the negative stigma and feeling surrounding menstruation. "For most girls, management of menstrual pain is a key concern, yet little sympathy or attention is given to those facing this regular pain, let alone management of irregular or pathological periods" (The Lancet Child & Adolescent Health, 2018).

Adolescents experiencing period poverty also face implications regarding their menstrual health management. The barriers perpetrated by period poverty create poor MHM techniques, which can cause health issues for adolescents such as reproductive tract infections, vaginal discharge and odor, and urinary tract infections (Phillips-Howard, Caruso, Torondel, et al., 2016). These health issues can be a result of poor menstrual hygiene management. Researchers (Jewitt and Ryley, 2014; Phillips-Howard, Caruso, Torondel, et al., 2016; Thomson, Amery, Channon, et al., 2019) address several priorities regarding MHM and discuss the consequences of poor menstrual hygiene management such as the use of unhygienic materials and other reproductive infections. These unhygienic or unconventional materials not only cause poor

reproductive health but can also create a sense of pressure in adolescents to engage in unhealthy sexual activity, including trading their body for menstrual products or feeling pressured to have sex (Oppenheim, 2019; Phillips-Howard, Caruso, Torondel, et al., 2016; Rossouw and Ross, 2021; Tull, 2019). Those who are financially struggling and experiencing extreme period poverty may be the most vulnerable group to participate.

Other physiological health implications resulting from period poverty include infertility or a pressure to have sex for the purpose of bearing children at a young age (Chandra-Mouli, McCarraher, Phillips, et al., 2014). As previously mentioned, within a study conducted among adolescent schoolgirls in Kenya, "...the link between menstruation and fertility was valued and considered a sign of health" (Secor-Turner, M., et al, 2016, p. 303). When fertility is viewed as a strong sign of health, a result of infertility may give an unhealthy view of an individual. "The link between menstruation and fertility as a perceived transition to womanhood illuminated clear gender expectations related to the value of childbearing in rural Kenya. In this way, menstruation was socially valued and created a sense of pride in many participants: ... 'I am a real girl and a real woman...when I'm receiving it because I know there are many who are expecting to receive it but don't...'" (Secor-Turner, M., et al, 2016, p. 304). Framing menstruation and fertility as a positive thing for womanhood and childbearing is a part of many cultures in rural Kenya. At the same time, the confusion and misinformation about menstruation may also cause young girls to feel pressured into engaging in sexual activity or confused on how to have sex (Chandra-Mouli, McCarraher, Phillips, et al., 2014; Austrian and Anderson, 2014). "For example, one participant described how boys may use myths related to menstruation to get sex: 'Sometimes, some boys, they do tell us if you do experience pain when you are receiving [menstruation], if you do sex, it can help you...you cannot be feeling pain in the abdomen'" (Secor-Turner, M., et al, 2016, p.

303). These myths that adolescents believe can create poor implications for their menstrual health due to their lack of sexual education.

The other physiological implications that menstruators face monthly can be non-life threatening but impede on their ability to attend work or school and participate in normal daily activities (Jewitt and Ryley, 2014). All of these implications create a level of discomfort in menstruators and further increase their experience with period poverty.

Menstruators face confusion and ailments regarding their reproductive health, mental health, and other physiological issues that are further heightened by period poverty. Within Kenya, the health impacts of period poverty create serious barriers for adolescents and their ability to obtain an education comfortably, which limits their health education regarding menstruation. Also, the taboos surrounding menstruation may limit a menstruator's ability to discuss any reproductive, mental, or other physiological health issues they are experiencing.

Chapter 4: Social Life

For menstruators, adolescence can prove difficult as they grow and evolve into womanhood while simultaneously navigating the other challenges that come with maturing (Chebii, 2018). The physiological changes that can occur during menstruation were discussed in the health section, as well as the psychological impacts, but these impacts can be further addressed regarding the social lives of adolescents. Menstruation can impact adolescents' social life as they grow up. "...the developmental period is characterized by ambivalence in emotions and identity caused by menarche" (Chebii, 2018, p. 204). The onset of menarche begins a new phase of life for menstruators as they navigate their menstrual cycle and the taboos placed upon menstruation. Simultaneously, social norms may disadvantage adolescents in low- and middle-income countries, further impacting their ability to go to school and interact with children similar in age to them (The Lancet Child & Adolescent Health, 2018). Rural living and an access to menstrual care products and gender discrimination are all key factors of period poverty that impede on an adolescent's social life.

Rural Living and Access to Menstrual Care Products

In schools within rural areas, “Appropriate and hygienic infrastructure—including waste disposal mechanisms, soap and water for washing, and safe, private, and accessible toilets—is rarely available or sustainable” (The Lancet Child & Adolescent Health, 2021). As menstruation continues to be stigmatized and remains a neglected issue in many places (Plesons, Patkar, Babb, et al., 2021; Rossouw and Ross, 2021; Chebii, 2018; McMahon, Winch, Caruso, et al., 2011; Sommer, 2011; Lahme and Stern, 2017), adolescents continue to be uninformed about their menstrual cycle and may feel uncomfortable attending school during menstruation. Coupled with the shrouded conversation surrounding menstruation, there is a lack of accessibility to menstrual care products in poor, rural settings (McMahon, Winch, Caruso, et al., 2011). Menstrual management research in rural and resource-poor schools has been conducted by scholars to understand how adolescents perceive their periods in the school setting and barriers they face in their menstrual management (Hockett, 2020; Jewitt and Ryley, 2014; Lahme and Stern, 2017; McMahon, Winch, Caruso, et al., 2011; Phillips-Howard, Caruso, Torondel, et al., 2016; Rossouw and Ross, 2021; Secor-Turner, Schmitz, and Benson, 2016; Sommer, 2011). In terms of the physical environment and sanitary facilities studied “Girls reported that it is difficult to manage their periods in school due to a lack of water and an inability to bathe, which is a preferred practice if a girl is menstruating while at home” (McMahon, Winch, Caruso, et al., 2011, p. 5). While resource-poor and rural areas lack proper sanitation facilities, adolescents also lack proper menstrual care products and therefore default to using cloth from shirts or dresses, or scraps of old cloth from towels and blankets to care for their menstrual cycle (Jewitt and Ryley, 2014; McMahon, Winch, Caruso, et al., 2011; Phillips-Howard, Caruso, Torondel, et al., 2016;

The Lancet Child & Adolescent Health, 2018). Secor-Turner, Schmitz, and Benson's (2016) study along with Jewitt and Ryley's (2014) analyze the adolescent experience of menstruation in rural Kenya and demonstrate the prominent issue of access to menstrual products and its impact on menstruators' social life and schooling. Both studies highlight the large number of days girls in Kenya miss due to period poverty, totaling to nearly 3.5 million learning days per month (Jewitt and Ryley, 2014; Secor-Turner, Schmitz, and Benson, 2016).

Menstrual hygiene management also requires privacy. Privacy includes the ability to manage menstrual hygiene anonymously in a safe and clean space (Hennegan, Winkler, Bobel, et al., 2021; Rossouw and Ross, 2021; Unicef, 2019). Caring for one's menstrual cycle in a clean and safe space that offers privacy relates to the Sustainable Development Goal for clean water and sanitation (SDG goal 6) (United Nations Department of Economic and Social Affairs: Sustainable Development). This can include a place to wash one's hands, lock a door, and flush a toilet or latrine (Hennegan, Winkler, Bobel, et al., 2021; Rossouw and Ross, 2021; Thomson, Amery, Channon, et al., 2019; Unicef, 2019). In rural or urban settings for schooling in Kenya, "...such schools are often characterized by inadequate facilities to manage menstruation, such as washrooms that do not provide sufficient privacy for changing sanitary towels and water for washing" (Chebii, 2018, p. 210). The disposal of menstrual hygiene products plays a role in sanitation and privacy as well. In a comprehensive literature review on menstrual hygiene management in low- and middle-income countries, Elledge, Muralidharan, Parker, et al. (2018) discuss how "A critical factor affecting disposal is the disconnect between water, sanitation and hygiene facilities, and disposal, particularly in institutional settings" (p. 9-10). The water, sanitation and hygiene facilities mentioned by these authors describe the WASH sector which focuses on safe and private sanitation practices (Mahon and Fernandes, 2010; Sahin, 2015;

Thomson, Amery, Channon, et al., 2019). In a study conducted by Rossouw and Ross (2021) exploring period poverty in developing and underdeveloped countries, 31% of women in Kenya shared that they are unable to lock the door to their menstrual health management space. This study found that there is a consistent inequity regarding access to menstrual health management products and wealth status (Rossouw and Ross, 2021) . Living in a rural area within a developing or underdeveloped country can limit access to sanitary pads in comparison to those living in urban areas (Elledge, Muralidharan, Parker, et al., 2018; McMahon, Winch, Caruso, et al., 2011; Secor-Turner, Schmitz, and Benson, 2016;).

Tying menstrual care product accessibility to the misinformation adolescents have regarding their menstrual cycle, adolescents may be fearful to discuss menstruation with anyone, especially as they understand the cultural factors that impact their society's view of menstruation. Attending school in a comfortable manner is important but may be limited due to the rural and resource-poor settings of schools in Kenya, as well as other social factors which will be discussed next.

Societal Structures and Gender Discrimination in Rural Areas

Menstruators face discrimination based on gender, as discussed by Lahme and Stern (2017), who note that “Gender discrimination associated with sexist sociocultural beliefs and gender-unfriendly policy environments pose further barriers to girls’ education by affecting their school attendance” (p. 4). While this thesis acknowledges that any gender is capable of menstruating, much of the discrimination is directed towards girls. This discrimination impacts the level of comfort menstruators have in attending school or focusing throughout the school day (Jewitt and Ryley, 2014; McMahon, Winch, Caruso, et al., 2011).

Adolescents’ education can also be influenced by the societal structures which favor young boys attending school over young girls. Abuya, Onsomu, and Moore (2014) describe the challenges of educating children in sub-Saharan Africa, noting that of the 33 million children who do not attend primary school, 54% of these are girls. The gendered roles established within Kenya’s culture place a large emphasis on the value of each child specifically pertaining to their gender. Cultures that favor the boy child will prioritize an education for the boy as they believe that girls do not need an education for their role as a wife and mother (Abuya, Onsomu, and Moore, 2014; Hockett, 2020). These gender inequity issues particularly surrounding education and the view of menstruators in the social setting creates a barrier for menstruators’ educational attainment. This issue can be connected to the discussion related to reproductive health. Menstruators who are not sent to school and are expected to fulfill the societal roles of being a wife and mother may be introduced to these reproductive health risks and lack knowledge on preventing pregnancy or STIs to care for their own well-being (Austrian and Anderson, 2014; Chandra-Mouli, McCarraher, Phillips, et al., 2014). Gender discrimination may also be instigated

through social isolation, as “Qualitative studies describe how fear and shame around menstrual hygiene as a result of stigmatization inhibit mobility and participation in society, which results in social isolation” (Rossouw and Ross, 2021, p. 1). The societal structures that may perpetuate this situation of gender discrimination can not only restrict adolescents from a quality education where they can grow academically and socially but may also create a sense of social isolation among individuals that cannot attend school.

Chapter 5: Professional and Financial Issues

A final key theme emerging from the literature reviewed relates to the professional and financial issues that impact adolescents and their futures. With a lack of knowledge on reproductive health and sex education, coupled with the societal structures influencing adolescents' ability to attend school, menstruators may face limited professional opportunities and financial struggles.

Professional Issues

When menstruators are unable to attend school, not only can their health and social well-being be impacted, but their ability to get a job and create positive financial opportunities for themselves are limited. “In addition to stripping girls of their self-esteem and sense of agency, growing evidence suggests that inequitable school environments negatively impact girls’ ability to succeed academically [and] limit their long-term economic potential...” (Phillips-Howard, Caruso, Torondel, et al., 2016, p. 2). Sommer, Caruso, Sahin, et al. (2016) also discuss how “Poor school attainment reduces girls’ economic potential over the life course...” (p. 2). The link between menstruation and school attendance has been previously discussed in terms of comfort with menstruation and ability to attend school but can also tie into economic empowerment. According to the OECD, “Economic empowerment is the capacity of women and men to participate in, contribute to and benefit from growth processes in ways that recognize the value of their contributions, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth” (DAC Network on Gender Equality, 2011, p. 6). Economic empowerment is important in the context of period poverty as well because “World Bank figures estimate that wider society and national economies can profit from better menstruation management: with every 1% increase in the proportion of women with secondary education, a country’s annual per capita income grows by 0.3%” (Chaaban and Cunningham, 2011, p. 3). With a limited economic potential and lack of economic empowerment, menstruators may be restricted from pursuing a secondary education, which can therefore impact their ability of applying for a higher-paying job. To not invest in menstrual management will impact those who do not menstruate and the overall state of the economy. There is a lack of strong research

surrounding the impact of period poverty on economic empowerment (Tull, 2019, p. 14) but it plays a key role in the opportunities menstruators may strive for or have available to them. The Adolescent Girls Initiative-Kenya describe the benefits of educating girls, including “improved reproductive health...delaying first marriage, lowering family size, improved health for them and their children, as well as economic benefits to a woman, her family, and community” (Austrian, Muthengi, Mumah, et al., 2016, p. 2). Providing professional opportunities to menstruators can increase their health and the overall well-being of their family. Professional opportunities may be more easily attainable through a quality education and economic empowerment that is not restricted by period poverty.

Financial Issues

Financial burdens are prevalent for women in low- and middle-income countries as they decide what to prioritize to buy for their household (Austrian and Muthengi, 2013; Oppenheim, 2019). Adolescent girls and young women may lack the skills to obtain adequate employment and therefore provide for themselves and their own economic needs (Austrian and Anderson, 2014). Adolescent girls and young women in developing countries face a myriad of challenges which include lacking the skills and employment opportunities necessary to contribute financially to their families while also addressing their own economic needs (Austrian and Anderson, 2014; Austrian and Muthengi, 2013; Erulkar and Matheka, 2007). If a menstruator is lacking access to menstrual products, they may not be able to purchase them. Sometimes, young girls will trade sex in exchange for menstrual care products (Oppenheim, 2019; Phillips-Howard, Caruso, Torondel, et al., 2016; Rossouw and Ross, 2021; Tull, 2019). One of the reasons this is happening is due to poverty as women do not have the finances and spending money to buy menstrual care products. Other factors include the stigmas and taboos surrounding menstruation (McMahon, Winch, Caruso, et al., 2011; Oppenheim, 2019; Rossouw and Ross, 2021). The financial burden of purchasing menstrual care products can lead young girls and women to participate in activities they do not want to maintain their menstrual cycle.

If a menstruator lacks an education and has limited professional opportunities, they will also experience a dependence on their significant other and inadequate opportunities to provide for one's family (Hockett, 2020). These financial situations leave menstruators reliant upon their partner for financial stability and other necessities such as food and shelter (Hockett, 2020). Financial issues burden many people, but menstruators in Kenya and rural Kenya specifically

will be impacted by period poverty and therefore placed at a disadvantage to achieve their professional goals and seek financial independence.

Chapter 6: Findings, Discussion, and Recommendations

The literature presented a comprehensive discussion surrounding period poverty and its implications on the health, social well-being, and professional and financial opportunities of adolescent menstruators in Kenya. Through this thesis and an immersive search through existing literature, I have found that period poverty is an issue that requires further research in several areas. The inclusivity of gender within the world of menstruation and period poverty is necessary to progress research and implement developed initiatives and policies around the world. My findings have shown me that there is a bias towards literature in one aspect of period poverty: health. Therefore, the findings of this thesis are skewed. The section on health supplemented my findings, except the mental health subcategory. Also, there was a neglect of research to support the professional and financial opportunities section. Each section and the literature within it addressed the overall inequities those experiencing period poverty are facing. Low- and middle-income countries are disproportionately affected by period poverty and struggle to improve other resources that worsen period poverty such as clean water and sanitation. Kenya holds many taboos and misperceptions related to menstruation and the topic of menstruation is not popular within this culture, therefore increasing levels of period poverty and misinformation for adolescents.

The type of methodology used within the literature varied, with researchers utilizing a mix of qualitative and quantitative methods to reach their conclusions. Within the qualitative methods articles, interviews were conducted with groups of adolescent schoolgirls to adequately capture their perceptions and understandings of menstruation. Researchers aimed to understand the adolescent experience of menstruation and found it most effective to utilize focus groups or

conduct a case study for one school to obtain detailed results. The quantitative studies utilized surveys and samples to gain relevant statistics and quantify the impacts of period poverty on menstruators in low- and middle-income countries. The literature I reviewed provided me with findings in mostly the health section, but in the two other areas as well. I will detail my findings at greater length and provide recommendations for future research.

The articles reviewed adequately captured the lived experience of period poverty and the health, social, and professional and financial impacts placed upon adolescent menstruators in Kenya. Period poverty is a preeminent concern in the global health and development sphere, particularly relating to the Sustainable Development Goals. To achieve the Sustainable Development Goals, period poverty must also be addressed to aid and alleviate the circumstances for those experiencing period poverty. Research surrounding period poverty has recently grown and is biased towards the health implications created through period poverty. Throughout this review, literature surrounding health, social lives, and professional and financial difficulties of period poverty were analyzed and discussed. A discussion of the literature will follow to address gaps in the research and how this is limiting the alleviation of period poverty, as well as provide recommendations for the future.

Health

Period poverty is a public health issue (Cardoso, Scolese, Hamidaddin, et al., 2021) which relates to the health of an individual and their menstrual cycle. Much of the literature addressed reproductive health and the lack of information provided to adolescents on menstruation. I believe that the focus on reproductive health within the literature I reviewed was a representation of the needs of the adolescents being surveyed or interviewed. While there is a neglect of mental health within period poverty research, this may be because mental health is not as important in cultures within Kenya, therefore making less research dedicated towards the subject. Menstrual hygiene management and menstrual health are two key factors that researchers address in terms of period poverty. Nearly every definition for menstrual health within the literature I reviewed discussed the importance of individuals' ability to manage their menstrual cycle in a safe, private, and comfortable manner. Learning about one's menstrual cycle is important for the purposes of family planning, reducing STIs, and other reproductive health issues such as reproductive tract infections (RTI) and infertility. Period poverty can directly impact the reproductive health of a menstruator, but as noted previously, other physiological implications such as RTIs and infertility may also be a result of improper MHM. The common ailments that accompany menstruation: headaches, cramps, fatigue, and more are all things that menstruators silently suffer with but may not be able to discuss with family members as menstruation is a stigmatized topic. These ailments can range, but still correlate to the overall wellbeing of a menstruator.

Adolescents that lack the proper information regarding menstruation and how to properly care for their cycle may be exposed to unsafe sexual practices at a young age which could lead to

unsafe pregnancies, abortions, or maternal mortality. In many schools within Kenya and other low- and middle-income countries, there is a lack of sex education, leaving adolescents uninformed and curious about sex and safe sexual practices. The literature reviewed supports the idea that period poverty impacts the health and overall wellbeing of adolescent menstruators in Kenya. Reproductive health may be harmed along with other physiological health components, and mental health can be put at risk when adolescents feel uncomfortable discussing menstruation with friends or family.

The literature reviewed in the health section of this thesis demonstrates the barriers one might face on a reproductive, mental, and physical level when experiencing period poverty. This research provides implications into the lived experiences of adolescents in Kenya and other low- and middle-income countries. I recommend that future research in this field addresses the importance of sexual education and provides the framework for sexual education programs as it relates to MHM. An important part of the Global and International Studies major is understanding that development programs and designs are not applicable to every country. Understanding the culture of another country or town is crucial to implement an effective program. In terms of period poverty reduction, the implementation of sexual education courses or menstrual health resources within schools would be beneficial to adolescents in Kenya, specifically rural areas of Kenya. I recommend that future research dives further into the importance of sexual health education for adolescents in low- and middle-income countries.

I also recommend that future research details a deeper understanding of the common ailments for adolescents experiencing period poverty. Menstruation and the common ailments such as cramps, headaches, and fatigue may impact an adolescent differently than an adult. Also, an adolescent experiencing period poverty in Kenya may not think about the headache they have

as this could be contributed other factors such as the stress of going to school or other duties they may have around the house. Adolescent specific research in the area of the physiological ailments that accompany menstruation was neglected to an extent, which may be because adolescents are not regarding these ailments as severe or do not attribute them to menstruation.

Another recommendation for future research in this section is the association between period poverty and mental health. There is a lack of research in this area, and I believe that fostering a discussion for mental health in the menstrual health space is important for the reduction of period poverty. Mental health has come into the conversation of workplaces, schools, and the community at large, especially at the onset of the COVID-19 pandemic. I was only able to find a few articles directly discussing the impact of period poverty and menstruation on the mental health of individuals. Reproductively and physiologically, menstruation causes individuals to feel discomfort and pain. Mentally, menstruation can cause feelings of depression and anxiety. Menstruators may feel incredibly lost in how to care for their menstrual cycle, and menstruation is a stigmatized topic, leaving them feeling lonely or isolated through puberty.

Another aspect that I would recommend for future research in the world of period poverty is the physiological changes that an adolescent's body experiences as they menstruate and grow. Weight gain, curves, hair growth/loss, growth in breasts, body odor, and other bodily changes occur throughout puberty and the onset of menarche. These physiological changes can create feelings of insecurity in adolescents, which can further impact their mental health. This is a chain reaction, and if menstruation is not heavily discussed in an adolescent's culture, they will only feel more isolated and lonelier throughout their experience with menstruation.

Overall, more research must continue in the world of period poverty and the health of menstruators. There are necessary steps to be taken within research and development programs

that can help to alleviate period poverty. As research on period poverty continues to grow, there will be a deeper understanding of what period poverty is and how it can impact individuals on a reproductive, mental, and physiological health level.

Social Life

An individual's social life is important to their development and growth, especially as an adolescent. The literature regarding the social life of adolescent menstruators in Kenya was discussed through the disadvantages of rural living and limited access to menstrual care products and the presence of gender discrimination within school and home life.

This literature demonstrated the level at which menstruation is neglected in Kenya, especially rural Kenya. Schools and other infrastructures in areas of rural Kenya lack proper sanitation and hygiene facilities for menstruators to care for their cycle safely and privately. In poorer, rural settings, menstruators may not have access to menstrual care products which can lead them to be absent from school or work during their menstrual cycle. Not only does this further increase barriers to menstrual management, but if adolescents are absent from school throughout their menstrual cycle, this infers that they could be missing up to a week of school each month. Much of the literature also addressed the level of discomfort individuals may face in attending school during their menstrual cycle. With improper sanitation systems and/or a lack of clean water to bathe or wash one's hands, adolescents may attend school and experience levels of anxiety or discomfort for fear that their period may leak and cause a stain on their clothing. If they lack proper menstrual care products, adolescents will resort to using old cloths or scraps of clothing, only worsening their discomfort and ability to enjoy school.

From the literature I reviewed, I found that many of the qualitative studies interviewed young schoolgirls and asked their thoughts on menstruation. These studies produced similar results, concluding that menstrual hygiene management is rarely taken into consideration when it comes to sanitation systems, and resource-poor/rural areas are especially lacking in their

hygienic infrastructures. Schoolgirls reported how difficult it is to manage their period in public which discourages their school attendance, along with their feelings of shame or fear surrounding menstruation. My recommendation for future research directly correlates to the 6th Sustainable Development Goal: clean water and sanitation. There is existing research regarding WASH practices and clean sanitation systems, but I recommend that this research ties further into period poverty specifically. To achieve the Sustainable Development Goals by 2030, period poverty must also be taken into consideration. When period poverty is addressed through terms of clean water and sanitation, adolescents will feel more comfortable attending school by knowing they will have a proper place to care for their period. I encourage researchers to quantitatively investigate how period poverty is being worsened due to the lack of proper water and sanitation systems.

Another aspect of social life and schooling related to period poverty is the experiences of the classroom in rural Kenya. For example, the school uniform that adolescents have to wear may worsen their experience with period poverty, especially if the classroom is packed with students and not temperature controlled. Also, adolescents in rural Kenya may have to travel several miles to get to school, making the transportation time long, especially in a warmer climate. For adolescent menstruators, the school uniform, uncomfortable classroom environment, and long travel to and from school may cause them to be absent. I recommend that future research highlights the situation of period poverty for adolescents in Kenya and their day-to-day experience with school and the classroom environments.

The other section regarding the social lives of adolescents and period poverty addressed the societal structures in rural Kenya which increase gender discrimination practices. There was less research on gender discrimination and menstruation in comparison to rural living and

sanitation practices within the literature I reviewed. My main findings from this literature found that there are levels of gender discrimination within Kenya which favors young boys over young girls in the education system. The research discussed how sub-Saharan Africa specifically struggles with educating girls and keeping them enrolled in school. Strict gendered roles within this culture will leave girls left out of the education system, limiting their interactions with others, and placing them at risk for other health and financial issues. Social isolation is a serious issue for any adolescent but may be worsened for adolescents experiencing period poverty and gender discrimination.

As the literature for this section was not as plentiful as the health section, I continue to encourage researchers to study the dynamics of period poverty and its impact on the social lives of adolescent menstruators. I found research pertaining to the gendered roles and culture within Kenya but would like to see more in the future so a student like myself can gain sufficient background on the culture and taboos surrounding menstruation in a country other than my own.

As mentioned in my discussion of the health literature, I also encourage researchers to discuss how bodily changes and other body image issues might invoke insecurities for adolescents, which can impact their social life. As menstruation can often feel like a lonely process for adolescents in Kenya and other low- and middle-income countries, I would recommend that research addresses how competition and comparison among menstruators can impact one's feeling of social isolation. Some adolescents experience puberty earlier than their peers, which means their body will be changing prior to their friends. Weight gain and the growth of breasts may cause a young child to feel insecure or oversexualized, especially in a culture with strict gender roles. The onset of menarche symbolizes fertility and the ability to have children. Adolescents may feel this societal pressure more than others if they get their period

earlier than their peers. I encourage the overall research of body image, bodily changes, and body comparison among peers at the onset of puberty and how this might impact their social lives.

Another recommendation for future research would be the inclusion of all genders in the discussion of menstruation. This is applicable to all research surrounding period poverty, but the literature reviewed in this section specifically demonstrated how much society places gendered roles on menstruation. Gender inclusive language is a goal of mine, and I aimed to implement this language throughout my thesis by using the term “menstruator” in a replacement of “young girls and women.” The qualitative and quantitative studies reviewed throughout this thesis almost solely used terms such as “girls and young women,” “schoolgirls,” and “females.” The term “menstruator” has recently emerged into the world of period poverty, which is why I encourage researchers to continue to use gender inclusive language throughout their studies. Also, studies pertaining to transgender individuals would be interesting in terms of period poverty and the overall experience of menstruation for a transgender individual. The goal of future research in the realm of period poverty should discuss important aspects such as these to remain gender inclusive and help remove the strong association of women with menstruation.

Professional and Financial Issues

The professional and financial issues section of this literature review produced the vaguest results for discussion. There was a neglect of research in this area and articles were mainly biased towards the overall situation of period poverty and a country's economic status within the literature I reviewed. While it is important to recognize how a country can be placed at an economic disadvantage due to the high levels of period poverty and restricted education for females, it is equally as important to look at the individual level and acknowledge how menstruators are restricted from obtaining a job and gaining financial independence.

The findings in this portion of the literature highlighted how the inequitable school environments within Kenya and other low- and middle-income countries limit menstruators from achieving professional excellence and other financial freedoms. The economic potential of adolescents was highlighted as an area of study that needs to be further researched, but it was identified that low levels of school attainment will be a certain factor that decreases one's financial status and potential.

Economic empowerment was also an important subject within the literature, emphasizing the need to create more educational equity in low- and middle-income countries. Allowing more women to go to school could increase their economic empowerment and professional opportunities greatly. The Adolescent Girls Initiative-Kenya and other organizations work to empower girls in their education and seek out ways to enroll more adolescents in school in developing countries. The many benefits of schooling can be described through economic empowerment and financial freedom.

Financial issues are also discussed throughout this section of literature. One of my aims through this literature was to find research regarding the prioritization of needs over menstrual care products within the household. There was no research detailing this specific situation, but I believe that it does occur in many households both in Kenya and other countries. Within a household budget, there is money set aside for food, toiletries, and other necessities. Other factors of budgeting could pertain to rent, utilities, and transportation. Within countries and cultures that consider menstruation a taboo topic, menstrual care products may not be considered a necessity within the budget. Period poverty can cause menstruators to choose their family's needs over their own, especially in a circumstance when they are struggling financially. Several articles mentioned the transactional sex that young girls may participate in for menstrual care products but did not strongly highlight this prioritization of needs that I discussed.

Another financial issue highlighted in this literature is the financial dependence that menstruators may place upon their partner or spouse. The inability to make independent financial decisions can limit a menstruator from purchasing menstrual care products, but this financial dependence is also due to the lack of economic empowerment and professional opportunities presented to menstruators. My recommendations for further research within this section would be regarding the financial status of those impacted by period poverty.

A final area that I wish had been addressed from a financial standpoint is the gender wage gap, which can only be worsened by period poverty. The gender wage gap is prevalent in all countries and is even larger for women of color and other minority groups. I encourage researchers to investigate the connection between period poverty and the gender wage gap. Because menstruators are missing school and work due to period poverty and a lack of access to

menstrual care products or clean sanitation systems, I imagine that the gender wage gap will only be further increased for those experiencing period poverty.

Conclusion

Through my review of the literature regarding period poverty's impact on the health, social lives, and professional and financial issues of adolescent menstruators in Kenya, I have concluded that period poverty is an emerging topic of conversation that deserves increasingly more attention. Period poverty is a potential public health crisis affecting not only Kenya, but the world. The literature emphasized how crucial menstruation is to life and the stigmatized view it holds throughout Kenya. Period poverty exacerbates issues regarding reproductive health and sex education, sanitation systems, and the mental health of adolescents. Schools struggle to provide gender equity and hygienic infrastructures to their students, leaving menstruators unable or uncomfortable to attend school, creating social isolation and other forms of discrimination. Period poverty limits the professional and economic opportunities for menstruators, which could put adolescents at risk for unsafe sexual practices. It is also important to recognize that Kenya is currently a relatively resource rich country, so the experience of period poverty in other African countries may be worse. The complex situation of period poverty will vary in every country, and it is necessary to state that this literature review aimed to address period poverty for adolescent menstruators in Kenya, not Africa at large. Adolescent menstruators in Kenya are a vulnerable population that can potentially be put at a disadvantage for life due to period poverty. As period poverty gains more global attention by both researchers and advocacy organizations, it is important that future work aims to address the social and financial issues that period poverty creates for adolescents. The bias of research related towards the health of adolescent menstruators and period poverty demonstrates the focus on reproductive health and other complications created by period poverty. To empower menstruators on a health, social, and

professional and financial level, the stigma surrounding menstruation must be broken and more actions must be taken to sufficiently address this problem, especially to achieve the Sustainable Development Goals by 2030.

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ACADEMIC VITA

Kathryn R. Lewis

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Education

The Pennsylvania State University, University Park

June 2018 – May 2022

Schreyer Honors College

Honors Thesis: Period Poverty and Education's Impact on the Health, Social Lives, and Economic Stability of Adolescent Menstruators in Kenya

- Bachelor of Science, Global and International Studies
- Bachelor of Arts, Spanish

Paterno Fellow, College of the Liberal Arts

- Honors Program including advanced academic coursework, thesis, study abroad and internship, ethics study, and leadership/service commitment

Study Abroad: Ronda, Spain: Spanish Language and Culture

Summer 2019

- Earned 9 credits in Spanish immersion courses and traveled throughout Spain to improve language fluency and cultural knowledge

Relevant Coursework

- Sociology of Immigration
 - o Researched impacts of immigration on the U.S. and stereotypes of immigrants in the U.S.
- Development Issues in the Global Context
 - o Covered theory and practice along with challenges presented in development and its sectors
- Seminar in Health Policy
 - o Discussed policy challenges related to U.S. healthcare and its complications in politics
- Advanced Telecommunication Topics: Children and Untapped Markets
 - o Explored unique situations for children in conflict zones and the media's effect on them
- Statistics for Public Policy
 - o Learned R coding and how statistics can impact policy making and effectiveness

Research

Research Fellow: Research-to-Policy Collaboration

May 2021-Present

- Created and managed useful data to compile a recruitment database of 2,127 researchers to conduct science communication testing and support evidence-based policymaking
- Supported company's Twitter to promote the Research-to-Policy Collaboration and contribute to a strong outreach effort using social media campaigns
- Provided website support and analyzed website optimization testing to better understand formats of communication and researcher-policy maker engagement on the Research-to-Policy website platform

Research Assistant: World Bank

February 2021-May 2021

- Assisted World Bank consultant as they developed a cost-benefit tool for the economic analysis of sanitation projects
- Conducted literature searches and extracted relevant articles to support data and research
- Implemented Excel skills to analyze the impact of poor sanitation on diarrheal diseases and deaths across 182 countries

Research Fellow: The Rock Ethics Institute, Penn State

Children, Youth and Media in International and Global Conflict Zones Lab

January 2020-August 2020

- Completed 20 literature reviews and transcribed 5 audio interviews to analyze and describe lives of Sahrawi youth refugee's education
- Assisted graduate student to write narrative literature review through notetaking and literature searches
- Exhibited time management skills and supported my colleagues' work to impact one another's research

Research Assistant: Center for Language Sciences, Penn State

August 2019-December 2019

- Trained in language coding to analyze bilingual brain language processing
- Examined results of tests from bilingual speakers to further understand code switching
- Maintained and organized data in Office and Google Sheets to quantify subjects