# THE INFLUENCE OF CAREGIVERS' GENDER ATTITUDES ON ADOLESCENTS' HEALTH AND WELL-BEING IN THE DEMOCRATIC REPUBLIC OF CONGO

by

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## Abstract

Gender norms are social constructs held by communities that dictate the acceptable range of behaviors and roles for men and women. Inequitable gender norms have a negative impact on the health and well-being of adults and children alike. In early adolescence, children become more attuned to their communities' gender norms. Exposure to humanitarian emergencies, such as armed conflict, exacerbate the health threats of inequitable gender norms by disrupting the social supports necessary for safe and healthy adolescent development. Caregivers are key in socializing children to their communities prevailing gender norms and in buffering against the mental health risks associated with growing up in a humanitarian setting. Limited research has been conducted into the role that caregiver gender attitudes play in the health of adolescents living in a humanitarian setting. This study employs mixed-methods to explore how caregiver gender attitudes are associated with adolescent psychosocial health, nutrition, and school attendance in a sample of adolescent/caregiver dyads (*n*=375) living in eastern Democratic Republic of Congo.

Adolescents of caregivers with moderately gender equitable attitudes were found to have greater food security than children of caregivers with the least equitable gender attitudes. After stratifying by sex, girls of caregivers with moderately gender equitable attitudes had better food security and girls with caregivers endorsing moderately or the most gender equitable attitudes were found to have better scores on a measure of anxiety and depression than as compared to girls of caregivers with the least equitable gender attitudes. There was an overall trend for adolescents with

caregivers classified as moderately gender equitable to have better outcomes across all four measures than adolescents with caregivers classified as having the least or most gender equitable attitudes.

Focus group discussions suggested that differences in girls' mental health outcomes might differ due to caregivers' use of control techniques that limit girls' autonomy and in the frequency that girls witness intimate partner violence. Researchers should examine how the different dimensions of individuals' gender attitudes affect adolescent health and explore how to prevent families who challenge restrictive gender norms from experiencing the social sanctions resulting from endorsing more gender equitable attitudes.

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caregiver/child relationships of all families asked to live in complex humanitarian emergencies.

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## Dissertation Organization

This dissertation is organized into five chapters. Chapter 1 includes introductory and background information; study purpose; study aims and hypotheses; the conceptual framework that provided the foundation for this research; and the study's significance. Chapter 2 is presented in two parts. Manuscript 1 (Corley, Geiger, and Glass, under review) presents a review that explores the evidence on caregiver- and family-focused interventions designed to improve the health and well-being in adolescents who have experienced armed conflict. A second section further explores how caregivers' gendered attitudes may influence the health and development of adolescents who have experienced complex humanitarian emergencies. Chapter 3 describes the quantitative and qualitative methods that were employed when conducting the research necessary to meet the dissertation's overall study aims. Chapter 4 presents study results and is composed of two manuscripts. Manuscript 2 (Corley, Glass, Remy, & Perrin, 2021) presents findings from a latent class analysis of adults from the research study site based on their responses to a gender equality questionnaire. Associations between participants' gender equality classes and intimate partner violence and mental health outcomes are then explored. Manuscript 3 is a presentation of the results of this mixed methods study designed to explore the influence of caregivers' gender attitudes of adolescents' health and well-being (Hypotheses 1, 2, and 3) in a population living in South Kivu, Democratic Republic of Congo. Chapter 5 summarizes findings, study strengths and limitations, and implications for future research and policy.

# CHAPTER 1: INTRODUCTION

## Introduction

Gender is a complex social system that structures the life experience but is not accurately captured by the traditional male and female dichotomy of sex (1-4). Gender norms are unspoken rules that govern attributes and behaviors that are valued and considered acceptable for men and women (1, 5). These norms are embedded in families, defining who is the head of the household; whose contributions to the family are valued; whose needs are accommodated and whose are minimized (6). Inequitable gender norms create and maintain power hierarchies in families, both between and among husband and wife, and their children, both boys and girls. Inequitable gender norms have a negative impact on the health and well-being of adults and children alike. For instance, in some settings a girl at puberty may no longer be allowed to attend school or interact with peers or others as a means to "protect" her purity for marriage (7, 8). Such restrictions limit her opportunities for future employment and increase her risk for early marriage, violence in the relationship, and poor mental and physical health (9-12). Although norms are unspoken rules that govern behaviors, they can be changed, but must be identified, challenged within the community, and replaced with norms that value gender equality (13, 14).

Early adolescence, the time between 10 and 14 years of age, is a developmentally sensitive period of life (15, 16). The early adolescent phase marks an important transition during which children develop life-long health behaviors and beliefs and begin to internalize social norms around gender, sexuality, and relationship dynamics (5, 15,

16). In this period parents play a crucial role in the physical, cognitive, and emotional development of their children (4, 16, 17). Parents' gender norm constructs are passed down intergenerationally from parents to their children and directly influence their mental and physical health (4, 16). Both boys and girls are harmed by inequitable gender norms (1, 4).

Current literature on the effects of gender norms on early adolescent health focuses on those living in politically stable environments (18-22). However, an estimated 125 million adolescents—approximately one-tenth of the world's adolescent population—live in countries affected by conflict (23). Adolescent girls living in such areas are at particularly high risk for sexual violence, abuse and exploitation, and forced or early marriage, given their separation from family and community support structures and a lack of economic options available to them and their families (24-27). While research supports theories positing that inequitable gender norms further harm the emotional well-being of early adolescents' living in traumatic humanitarian contexts, little is known about how parents' gender attitudes influence the health and well-being of adolescents living in humanitarian crisis contexts (24, 28, 29). While gender norms are constructs shared at the community level, gender attitudes are individually-held beliefs about and endorsement of gender norms (4).

The purpose of this dissertation study was to examine the relationship between caregivers' gender attitudes and their adolescents' mental health, school attendance, and nutrition in the Eastern Democratic Republic of the Congo. For the purposes of inclusivity, throughout this dissertation parents and other primary caregivers of

adolescents are referred to collectively as caregivers to reflect the important role that other primary caregivers, such as grandparents, older siblings, or extended family members, play in the lives of children. The study adopts a strengths-based approach to the analysis of caregivers' gender norms by hypothesizing that caregivers' greater endorsement of more equitable gender attitudes are associated with better outcomes on measures of early adolescent mental health, school attendance, and nutrition in those living in a post-conflict humanitarian setting. This mixed methods study drew from a quantitative data set developed during a series of microfinance livestock asset transfer effectiveness trials (R01HD71958, 2012-2018, Glass, PI) conducted with caregiver/ adolescent dyads in 10 rural villages in Eastern Democratic Republic of Congo (DRC), an area that has faced armed conflict at a variety of levels of intensity for nearly 30 years (30, 31). I performed a secondary analysis of the quantitative data using a cross-sectional design to examine caregiver gender attitudes and their associations with adolescent measures of anxiety/depression, prosocial behavior, school attendance, and food security in 375 parent/early adolescent dyads. In the qualitative phase, focus group discussions conducted with 20 adolescents and 20 of their caregivers living in the same villages in eastern DRC where quantitative data were collected to explore their perceptions of how their parents' gender attitudes influence adolescents' mental health, school attendance, and nutrition.

## Specific Aims

**Aim 1: Examine how level of caregiver endorsement of equitable gender attitudes is associated with adolescent anxiety/depression, prosocial behavior, school**

**attendance, and food security**. *Hypothesis: Caregivers' endorsement of more equitable gender attitudes will be associated with better scores on scales of adolescent anxiety/depression, prosocial behavior, school attendance, and food security.*

**Aim 2: Examine how adolescent gender moderates the association between caregivers' gender attitudes and adolescents' anxiety/depression, prosocial behavior, school attendance, and food security.** *Hypothesis: Caregivers' endorsement of more equitable gender attitudes will be more strongly associated with better scores on scales of adolescent anxiety/depression, prosocial behavior, school attendance, and food security for girls than for boys.*

**Aim 3: Explore how adolescents and caregivers perceive that caregiver gender attitudes influence adolescent mental health, school attendance, and nutrition.**

## Background

**Why study early adolescence?** Gender-role attitudes relate to individual's notions about the rights of men and women and about the roles that they should occupy within society (32). The gender intensification hypothesis suggests that during adolescence boys and girls experience increasing pressure to conform to these culturally appropriate roles (33). Adolescents internalize these role expectations, so that by about age 16 culturally relevant gender norms, attitudes, and role expectations have already become salient constructs (34). Studying children during adolescence contributes to existing research about how caregiver gender attitudes influence adolescents' development and health trajectories during this developmentally impressionable period.

**The process of gender socialization is life-long; however, early adolescence (ages 10-14) is a significant period in which children become more attuned to the differences between sexes** (15, 16). As individuals move from childhood into adolescence, increased pressure is exerted on them to conform to their culture's relevant gender norms. These gender norms often entail increased independence for boys and restricted autonomy for girls (35). Research underscores the centrality of primary caregivers in the lives of early adolescents (4, 16, 17, 36). As such, caregivers' endorsed gender attitudes strongly influence what adolescents believe to be socially acceptable sets of behaviors for boys and girls (4, 16, 36). Gender inequalities arise from inequitable gender norms and create unequal access to rights based on sex or gender status (1, 8, 37).

Gender inequitable constructs are passed down intergenerationally and directly impact the mental and physical health of girls and boys. Many low- and middle-income countries (LMICs) retain predominately culturally conservative social structures that emphasize clearly delineated roles for boys and girls (6). As adolescents internalize gender norms their opinions and behaviors adjust to conform to these constructs. For example, population surveys conducted in a number of LMICs indicated that over half of boys and girls agree that husband hitting his wife is warranted in some circumstances (38). Boys and men who feel pressure to conform to traditional notions of hazardous masculinity have greater morbidity and mortality from greater use of tobacco, alcohol, and other harmful substance use and more frequent exposure to violence and to dangerous circumstances (3, 39, 40). Tolerance of gender-based violence and increased

exposure to dangerous substances and experiences are among the many negative health outcomes of gender norms that harm both girls and boys. Inequitable gender norms are a major obstacle to improving the health and prosperity of individuals living in LMICs (9-12).

**What role does parenting have in moderating the effects of humanitarian emergencies on adolescent health?** While peers become increasingly influential in children's lives as they enter early adolescence, primary caregivers retain their role as the most important people in most adolescents' lives. The fundamentals of parenting have been conceptualized as containing three components: connection, respect for individuality, and regulation of behavior. Connection, also termed parental warmth, is the perceived support offered by caregivers to their children. Respect for individuality, or respect for autonomy, is the degree to which adolescents perceive their caregivers respect their decision-making and do not resort to psychologically manipulative or controlling behavior. Regulation of behavior, or monitoring, is characterized by caregiver knowledge of how and with whom adolescents spend their time (41). Baumrind's (1971) seminal work on parental styles goes further to depict three main parenting styles: authoritative, authoritarian, and permissive (42, 43). Authoritative parenting encourages independence, negotiation, communication, and considerations of other viewpoints. Authoritarian parenting stresses obedience to authority but does not value negotiation, independence, or uniqueness. Finally, permissive parenting is characterized by little monitoring or expectation of child obedience (44).

Parenting style and parenting mental health have been found to moderate the effect of political violence and displacement on a number of different adolescent health measures. In Israel and Palestinian territories caregiver depression has been identified as a risk factor for adolescent post-traumatic stress syndrome (PTSS), while positive parenting (e.g. monitoring) and support have a protective effect (45, 46). Caregiver psychopathology and high levels of caregiver stress were similarly associated with higher reported scores on PTSS measures in a study conducted in Syria (47). Evidence from research conducted with Palestinians living in the Palestinian territories and Syrian refugees living in Lebanon suggest that children with caregivers who are depressed or irritable are at a significantly higher likelihood of reporting PTSS (48). Finally, scholarship conducted in Afghanistan found that caregivers' PTSS symptoms had a near direct correlation adolescent PTSS (49).

Adolescent depression and internalizing and externalizing behaviors have also been frequently studied in adolescents who have endured political violence or forced displacement. In Ugandan adolescents, caregiver attachment was found to be protective against depression and anxiety symptoms (50). Maternal attachment in the same group of adolescents was also found to moderate the relationship between adolescent depression and multiple risk behaviors (51). In Palestinian adolescents who reported past experiences of trauma, caregiver' psychological distress was found to fully mediate adolescent internalizing and externalizing behaviors and neuroticism (52). Positive parenting was also found to be a mediator in the pathway between traumatic stress and adolescent externalizing behaviors and emotional, behavioral, and relational problems

in Palestinian children (53). In Israel, adolescents reporting having experienced high levels of political violence but low levels of parental warmth were more likely to experience externalizing behavior problems than those experiencing high levels of parental warmth (43). In a second study from Israel, maternal warmth was negatively associated with internalizing symptoms while high maternal authoritarianism exacerbated the effects of political violence on externalizing symptoms (54). Refugee children from Iraq, Syria, and Palestinian territories reported better academic performance in those with authoritative mothers than those with authoritarian mothers. Additionally, adolescents with fathers considered authoritative reported fewer internalizing symptoms, less norm breaking, and better academic performance than those with authoritarian fathers (55).

Caregivers continue to ensure the physical safety of their children as they enter adolescence and provide support and life skills information. Researchers in the DRC investigated the associations between caregivers' gendered and parental attitudes and their adolescent girls' attitudes toward intimate partner violence (IPV) and experiences with violence. Their analyses showed that more equitable gender attitudes were associated with lower odds of sexual abuse among girls and a lower likelihood of IPV acceptance by girls (56). A related study conducted in the DRC investigating the impact of caregiver life skills training on adolescent girls' exposure to violence, parents' gender attitudes, and parental behaviors found that adolescent girls whose parents received the life skills training were just as likely as those in the control group to report experiencing all forms of sexual violence studied and child marriage during the 12-

month follow-up. Parents in the treatment arm, however, did exhibit parenting styles characterized by greater warmth and affection and lower overall rejection (57). In Uganda, adolescents interviewed described the valuable support that their parents provided in helping them to meet their spiritual and material needs (58). Finally, in regards to developmental and life skills guidance, displaced adolescents in Somalia and Myanmar reported that mothers were the most common source of information on puberty and sexual reproductive health (59, 60).

Throughout the literature, numerous examples suggest that caregivers strongly influence adolescents' mental and physical health. Positive, warm, caring parenting styles confer upon adolescents a sense of safety and protection in the face of adversity (46, 54, 61). Caregivers also play a critical role in buffering the effects of adverse events by facilitating the development of resilience in their adolescent children (48, 61). The construct of resilience has traditionally been regarded as an intrinsic character trait that aids an individual to achieving desirable emotional and social functioning despite experiencing adversity (62). More recently, however, resilience has been reframed as an outcome of protective processes present at multiple levels of a child's social ecology (63). While individual characteristics such as high intelligence, an internal locus of control, effective coping skills, and an easygoing temperament have been associated with resiliency, family-level factors such as supporting relationships with caring adults and good caregiver mental health are just as important to a child developing the resiliency necessary to overcome the challenges posed by living in an humanitarian context (62). Authoritative, warm, supportive parenting styles significantly promote

positive psychosocial and social outcomes and are protective against a number of psychological problems (61).

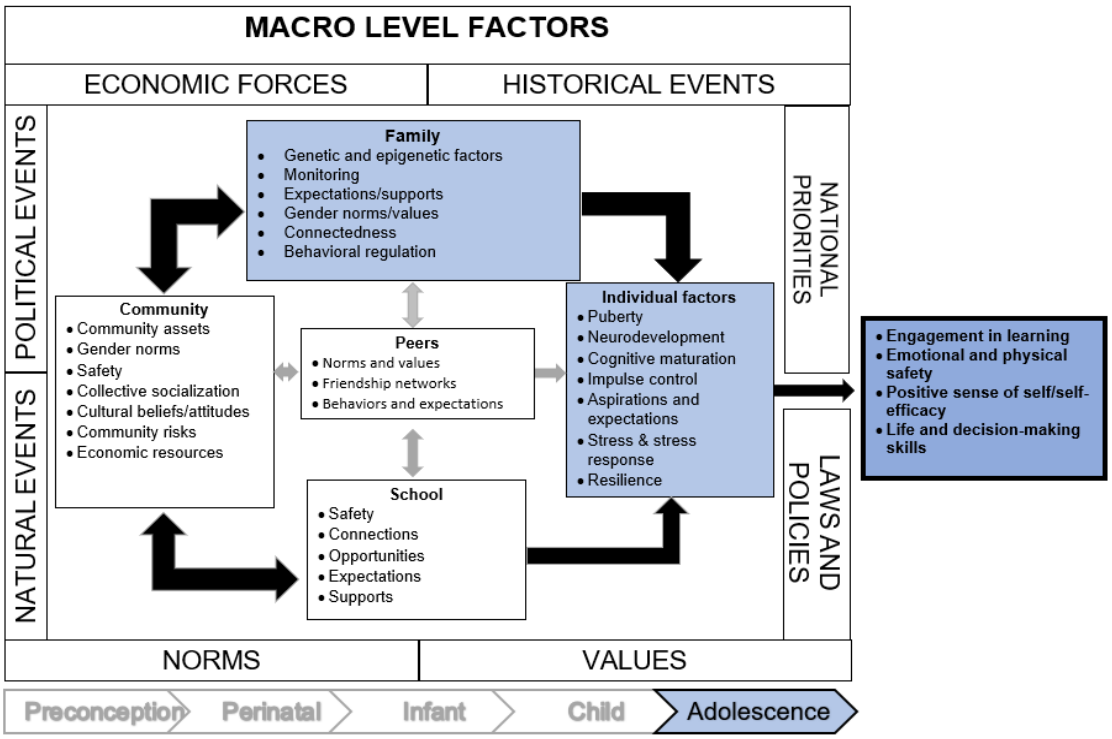
**There are 1.2 billion adolescents globally and 90% live in low- and middle-income countries. Additionally, an estimated 125 million, one-tenth of the world's adolescents, live in countries affected by conflict** (23). Humanitarian crises can disrupt family, religious, educational, and similar social support networks important to the well-being and healthy development of adolescents (17, 59). Such insecure environments leave boys and girls vulnerable to increased poverty, school drop-out, violence, and exploitation (59). Girls living in areas experiencing humanitarian crises are at increased risk for sexual violence, abuse, and forced or early marriage (24). The mechanisms by which inequitable gender norms harm the health and well-being of adolescent boys and girls are numerous and include the adversities and disadvantages brought on by overt gender discrimination and through harmful health behaviors and exposures related to toxic notions of masculinity and femininity (1, 5, 39, 64). Additionally, the damaging effects on early adolescents' mental and physical well-being caused by living in violent and unstable humanitarian contexts are thought to be amplified by inequitable gender norms that reinforce potential feelings of depression and hopelessness (28, 29). Scientific inquiry into how inequitable gender norms affect early adolescents living in humanitarian crises is beginning to emerge and has revolved primarily around the topics of gender-based violence and sexual reproductive health (24, 28, 29, 59, 60, 65, 66). Literature suggests that early adolescents' adoption of prevailing inequitable gender norms combined with prolonged exposure to political instability and personal

experiences with violence may cause adolescents to internalize beliefs about their own inferiority, resulting in reduced mental well-being (29). While the available evidence is invaluable to our understanding, it provides an incomplete view of how gender norms affect the well-being of adolescents living in humanitarian crises.

## Conceptual Framework

Many of this dissertation's theoretical underpinnings are drawn from Blum et al.'s Conceptual Framework for Early Adolescence (figure 1), an ecological-social model for early adolescent development research (17). The Conceptual Framework posits that children's personal attitudes, beliefs, and behaviors are influenced by numerous domains whose constituent factors interact to create the lived-experience of the adolescent (4, 17, 59). Blum et al. state that successful early adolescence depends upon

**Figure 1: Adapted Framework for Early Adolescence and Social Norms Approach**



the achievement of four main goals: engagement in learning, maintenance of emotional and physical safety, achievement of a positive sense of self/self-efficacy, and acquisition of life and decision-making skills (17). The study's adolescent quantitative outcomes of anxiety/depression, prosocial behavior, school attendance, and food security were selected for their relevance to early adolescents' success in achieving the goals outlined in Blum et al.'s Conceptual Framework for Early Adolescence (17). The framework offers a multilevel life course perspective in which community, family, peers, school, and individual factors contribute directly to achieving the goals of early adolescence.

In addition to its quantitative outcomes, this research includes the results of qualitative focus group discussions conducted with adolescents and their caregivers. While the quantitative findings serve to answer the study's first and second aims, these focus group discussions help to meet its third aim of exploring adolescents' and caregivers' perceptions of how caregiver gender attitudes influence adolescent mental health, school attendance, and nutrition. Understanding the relationship between caregivers' gender attitudes and early adolescent mental health, school attendance, and nutrition is an important step in aiding communities to identify, challenge, and replace inequitable gender norms with norms valuing gender equality.

## Significance

Most gender analysis studies taking place in humanitarian settings have analyzed community gender norms as a risk factor for gender-based violence and decreased mental and sexual and reproductive health outcomes. However, no studies to date have sought to examine the influence of caregivers' gender attitudes on their adolescents'

well-being (28, 29, 56). Mental health problems in the eastern DRC due to traumatic experiences directly and indirectly linked to its decades-long conflict are well documented (67, 68). This dissertation study adopts a strengths-based approach by hypothesizing that caregivers' greater endorsement of equitable gender norms are associated with improved outcomes on measures of adolescent mental health, school attendance, and nutrition in those living in a post-conflict humanitarian setting.

It is important to understand how gender norms affect the well-being of adolescents in humanitarian contexts in order to aid communities in developing interventions and policies designed to challenge the harmful effects of these norms on the achievement of the four main goals of early adolescence: engagement in learning, maintenance of emotional and physical safety, achievement of positive sense of self/self-efficacy, and acquisition of life and decision-making skills (17). The study offers a methodologically innovative approach to examining the effects of gender norms on early adolescent health in humanitarian settings. Placing the caregiver/child dyad as the focal point of this research is a key strength of the proposed study and recognizes the primacy of this relationship in the lives of most early adolescents (15-17). The quantitative independent and dependent variables are comprehensive and appropriate for purposes of this study. The qualitative component contextualizes quantitative findings and meets the call for more mixed methods studies that explore parents' and early adolescents' understanding of gender norms and their effects on early adolescents' mental health, school attendance, and nutrition (2, 21, 69).

# CHAPTER 2: LITERATURE REVIEW

## Introduction

This review of the literature is presented in two parts. Manuscript 1 (Corley, Geiger, and Glass, under review) presents a review that explores the evidence on caregiver- and family-focused interventions designed to improve adolescent health and well-being in adolescents who have experienced armed conflict. A second section further explores how caregivers' gendered attitudes may influence the health and development of adolescents who have experienced complex humanitarian emergencies.

## MANUSCRIPT ONE: Caregiver and family-focused interventions for early adolescents affected by armed conflict: A narrative review

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## Abstract

**Introduction** Armed conflict is damaging to children's emotional and physical well-being and blunts normal development trajectories when experienced during sensitive growth periods such as early adolescence, typically defined as 10-14 years of age. Caregivers play a critical role in building and strengthening resilience to adverse events across the life course. The purpose of this article is to identify and explore the existing evidence on caregiver- and family-focused interventions designed to improve adolescent health and well-being. **Methods** A narrative review of peer-reviewed and gray literature on interventions to improve health and resiliency that engage young adolescents and caregivers in low-and-middle income countries affected by conflict. **Results** Of the 4,698 articles screened, 14 articles detailing results from 12 interventions met inclusion criteria. **Discussion** Interventions have historically aimed to address psychological difficulties associated with armed conflict while measuring early adolescent internalizing and externalizing behavior outcomes and parenting quality outcomes. Future research should give additional attention children's regulation of behavior by their parents and to the economic and safety issues that threaten the health and well-being of early adolescents and their families. Lastly, program developers should ensure that interventions are appropriately adapted to local cultural and geopolitical contexts by collaborating closely with local communities and stakeholders.

## Introduction

### The Toxic Stress Effects of Armed Conflict

Ninety percent of the world's 1.2 billion adolescents live in low- and middle-income countries (LMICs) (23). Additionally, an estimated 125 million adolescents live in countries affected by conflict (70). Armed conflicts disrupt family, religious, educational, and similar important social structures, damaging children's sense of safety, cognitive functioning, and psychosocial health (71). Armed conflict exposure or displacement from conflict-affected communities leaves boys and girls vulnerable to increased poverty, school drop-out, and exploitative labor practices and at an increased risk of physical and sexual violence and forced or early marriage (24, 71).

The effects of armed conflict are profound and endure across the life course. Due to the increasingly prolonged and unpredictable nature of many modern conflicts, armed conflicts frequently act as toxic stressors that can overwhelm children's normal stress response capacities and engender maladaptive and chronically dysregulated stress responses (72, 73). Exposure to toxic stressors has been found to cause derangements in the functioning and development of children's immune system and numerous neuroendocrine systems (74). Children from armed conflict-affected communities are also at risk of compromised development of critical resilience capacities - cognitive and socioemotional characteristics that aid in buffering against future stressful life events (61, 75). Disruptions in the functioning of biological stress systems and impaired acquisition of important resilience factors has been implicated in impaired development of executive and cognitive functioning skills, disruptive behavior,

attachment deficits, addiction, and heightened responses to future stressful events (72). Exposure to toxic levels of stress is also a risk factor for risky health behaviors and a source of biological injury and poor health. Toxic stress-related immune functioning alterations and associated increases in inflammatory markers have been linked to cardiovascular disease, liver cancer, asthma, autoimmune diseases, poor dental health, chronic obstructive pulmonary disease, and depression (76).

Early adolescence (ages 10-14) is a period of rapid physical and cognitive development. Puberty brings about significant hormonal changes that result in reproductive maturity as well as structural and functional changes in the brain (77). These changes allow early adolescents to begin to develop important cognitive skills such as impulse control, executive functioning, working memory, and critical reasoning (78). Further, alterations in neuroendocrine system functioning result in increased responsiveness to perceived stressors during adolescence (74, 79). The developmentally sensitive nature of this period suggests that young adolescents are both vulnerable to lasting damage from armed conflict-related trauma and stress and particularly responsive to resiliency programs designed to counteract its negative effects. Therefore, interventions targeting this age group may be particularly effective.

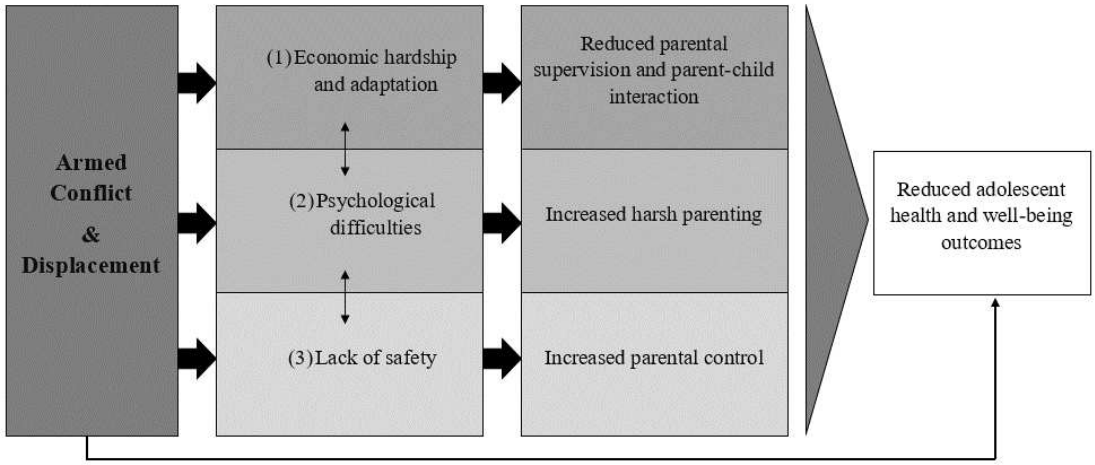
**The Role of Parents/Caregivers**

Even though peers gain increasing importance and influence during adolescence, for most adolescents, parents/caregivers remain the most influential individuals in their lives (17). For the purposes of inclusiveness, parents and other primary caregivers are referred collectively in this article as caregivers. While caregiver psychological distress

induced by stress and trauma can lead to harsh parenting, a recognized risk factor for child maltreatment and poor psychosocial outcomes (80), healthy caregiver emotional functioning is more likely to result in parenting styles characterized by positivity, warmth, care, and monitoring, which confer upon adolescents a sense of safety and protection even in the face of adversity (46, 54). Caregivers also buffer against the effects of adverse events by facilitating the development of resilience in their adolescent children (48, 61, 62). However, as a protective process that allows individuals to cope with stress, resilience itself is not an end outcome but rather a resource that mediates the relationship between adverse life events and well-being (81). For adolescents, well-being can be described as the opportunity and ability to achieve goals central to the development of key cognitive, physical, and emotional abilities that emerge during this age (16).

The role that caregivers play in supporting the mental and physical health and well-being of children exposed to armed conflict has been studied across diverse

**Figure 1:** Conceptual model of pathways linking armed conflict to parenting and early adolescent health and well-being outcomes



geopolitical contexts (43, 49, 51, 54, 59, 60). Sim et al. (2018) propose a conceptual model that illustrates caregivers' behavior as partially mediating the relationship between armed conflict and child emotional functioning. The authors' model acknowledges the direct effects of armed conflict on child emotional outcomes but emphasizes the intergenerational transmission of trauma and stress through parenting and family dynamics and the destructive toll of numerous environmental stressors following armed conflict and displacement (82). We use an adapted version of this model to present and compare findings from articles included of this review (figure 1).

A growing appreciation for this relationship has prompted the development of numerous caregiver and family-focused interventions to augment caregivers' capacities in meeting the emotional and material needs of themselves and their children. A handful of reviews have previously collected and synthesized findings from positive parenting programs and child psychosocial interventions implemented in families living in LMICs (61, 83, 84). Additional research into parenting and family-focused interventions has allowed more recent reviews to explore the effectiveness of existing parenting interventions designed to improve children's psychosocial health outcomes in LMICs (85, 86). These reviews have been useful in identifying the components of existing interventions that appear effective in improving children's resilience and mental health. However, this collection of reviews concentrates principally on psychosocial health in a wide age range of children living in both politically stable and conflict-affected LMICs.

It does not appear that, to date, a review has examined caregiver- and family-focused intervention programs targeting health and well-being of young adolescents in

families living in communities affected by conflict. Considering the broadly disruptive nature of armed conflict and the potential benefits of interventions during the early adolescent period that engage both adolescents and caregivers, the purpose of this narrative review is to identify critical strategies and elements of caregiver and/or family-based interventions designed to improve health and well-being outcomes for young adolescents exposed to conflict. Narrative reviews are appropriate for addressing research topics in which the existing body of scholarship is limited and diverse in terms of methods, study settings, sample characteristics, and outcomes (87). We believe this narrative review will prove useful to researchers and practitioners interested in improving health and well-being outcomes of young adolescents and families who have been displaced by or continue to experience armed conflict.

## Methods

### Search Strategy

A literature search was conducted to capture existing peer-reviewed and gray literature documenting caregiver- and family-focused interventions designed to improve well-being in early adolescents from conflict-affected communities. The objective was to identify programs in which all or part of the intervention's components were designed to improve caregivers' capacity to improve health and well-being and build resilience in their young adolescents who had been directly or indirectly affected by armed conflict. The review was completed in August 2020 in PubMed, CINAHL, and PsycInfo, with no limitations placed on publication year, in consultation with a medical research librarian. Gray literature searches were performed on Google and Google Scholar search engines

and on the organizational websites of UNOCHA, UNICEF, Save the Children, The International Rescue Committee (IRC), War Child, and The Prevention Collaborative.

For the search strategy, a list of countries defined as low- or middle-income by the World Bank was compiled and supplemented with a list of major geographic regions composed at least in part by low- and middle-income countries (88). To this list of locations was included terms related to parenting behavior and education and adolescent health. Lastly, terms related to armed conflict were added to search protocols. The Boolean operator "AND" was used to combine these different concepts and "OR" was used to capture articles containing at least one of the individual terms used to define each concept. Database index terms, such as MeSH terms, were included when available for these concepts. Table 1 provides key search terms for each concept.

**Table 1:** Key search terms used to detect database literature (CINAHL, PubMed, Scopus) *

| Armed conflict | Regions/Countries | Parenting | Early Adolescents |
|---|---|---|---|
| Armed conflict | Central America | Parent | Adolescence |
| Civil disorders | South America | Caregiver | Adolescent |
| Ethnic violence | Asia | Parenting | Early adolescent |
| Refugee | Africa | Family | Pre-adolescence |
| Humanitarian | Europe | Parent training | Pre-teen |
| Displaced | *Countries each added individually in searches* | Parent education | Child |
| Post conflict | | Parental attitude | |
| War | | | |

*Index terms used when available.

## Inclusion criteria

For inclusion in this narrative review, studies must have provided an intervention to a study populations emanating from a region experiencing recent or ongoing armed conflict, defined as any state or non-state conflict resulting in at least 25 military and civilian deaths in one calendar year (89). Interventions were subcategorized by the

conceptual model (figure 1) pathway(s) they attempted to intervene upon. Interventions could, for example, be designed to accomplish one or more of the following: ameliorate known risk factors antecedent to poor parenting practices, such as caregiver distress; increase caregiver knowledge or parenting skills; or to increase the financial and material resources available to caregivers to meet basic needs of their adolescent children. The primary outcomes of interest were adolescent mental and physical health and well-being outcomes. Secondary outcomes of interest were measures of family functioning, such as warmth or relationship quality, parenting quality, and caregivers' own health and well-being. Interventions frequently include a wide age-range of child participants, the authors chose to include articles describing interventions in which participant child mean age was from six months younger to six months older than the age range of interest (i.e., 9.5-14.5 years). Articles in which the participant child mean age was slightly younger or older than this range or articles in which mean age could not be determined but included a segment of children falling within the review's age range were considered for inclusion by authors based on their potential to contribute to the review's goal of detailing interventions targeting young adolescents and their caregivers in complex humanitarian settings. Articles describing interventions delivered to either biological parents or primary caregivers not biologically related to adolescents were considered for inclusion included.

**Study selection**

Database search results were exported to Covidence, a primary screening and data extraction program. Duplicates were removed by the program as search results

were collated. The first author conducted title and abstract reviews of all articles identified using the described inclusion criteria. Potentially relevant studies were retrieved, and full texts were reviewed by the first author.

### Data extraction and analysis

Two authors (AC and KG) read all studies that met the inclusion criteria and employed an Excel data sheet created to facilitate the extraction of data. The two authors independently read the included articles and filled out separate copies of the data extraction sheet. Information extracted included authors; publication year; study and intervention countries; sample size; intervention components, delivery method, and duration; intervention and comparison group descriptions; adolescent and parent outcome measures; and findings. After reading the articles the authors met frequently to discuss articles' intervention components and results and to synthesize findings that were believed to be relevant to the researchers and practitioners.

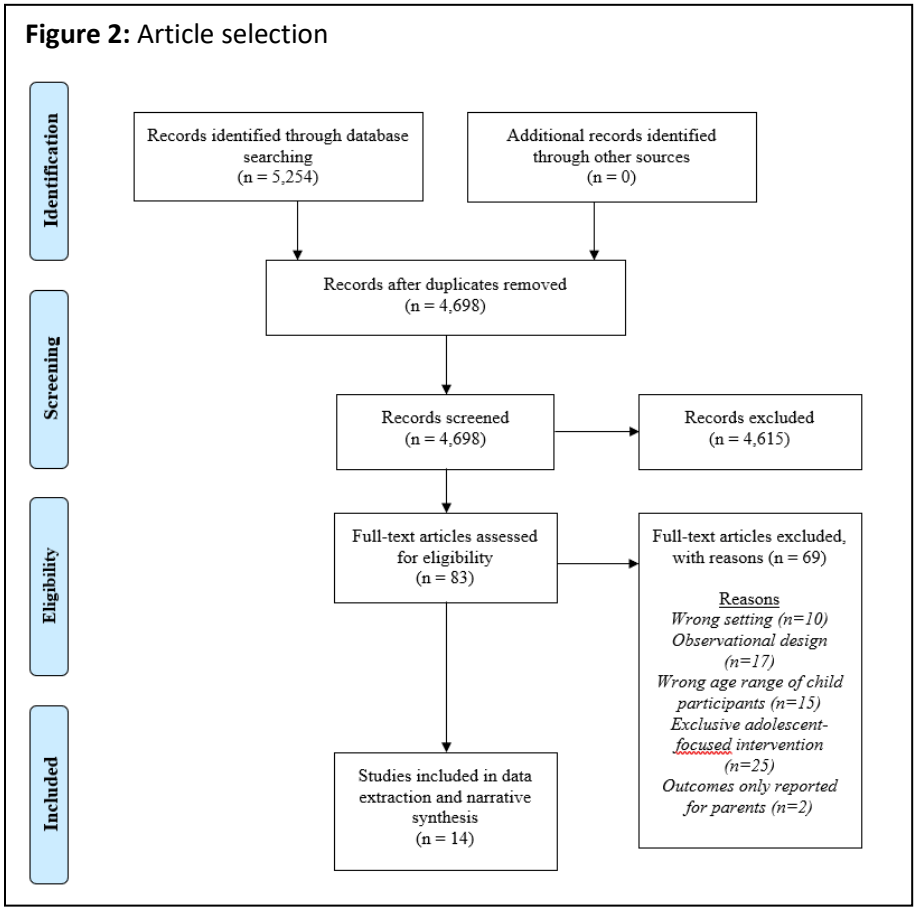
## Results

### Study Selection

A total of 1,332 articles were retrieved from PubMed, 3,228 from PsycINFO, and 694 from CINAHL. No reports meeting the review's eligibility criteria were identified when searching the gray literature. Of the 5,254 studies retrieved from the three databases 556 were found to be duplicates and immediately removed. An additional 4,615 articles were removed during title and abstract reviews. During full-text review 69 of the remaining 83 articles were excluded, leaving 14 articles to be included in this review. Reasons for excluding the 69 articles during full-text review included: non-conflict

affected setting, no participants in age range of young adolescents (10-14 years), interventions focused exclusively on adolescents, observational study design with no intervention, and studies in which outcomes were reported only for caregivers. The 14 articles from which data was extracted report on 12 different intervention programs. Two sets of articles each report results from a single study. Figure 2 details article selection.

**Figure 2:** Article selection



## Study Characteristics

### Study regions and settings

Interventions were conducted in the WHO regions of Africa (*n* = 6), Southeast Asia (*n* = 1), Europe (*n* = 1), and the Eastern Mediterranean (*n* = 4) (90). Interventions were conducted with populations living in the same communities in which they had experienced armed conflict or displaced internally within their home country (*n* = 7) and in those groups who had migrated to another LMIC as either a refugee or other status of migrant (*n* = 5). Most interventions were delivered in community settings (*n* = 11), such as schools, community meeting areas, and children's safe spaces. One study conducted its intervention at participants' homes.

### Study design

Five studies were randomized control trials (RCTs) while the remaining seven were described as pilot or feasibility studies. We conceptualized the interventions employed within each study as intervening on one or more of the pathways posited in the conceptual model (figure 1) linking armed conflict to reduced adolescent health and well-being outcomes. Within each pathway, some interventions sought to address the environmental stressors (i.e., economic hardship, psychological difficulties, and lack of safety) theorized to engender maladaptive parenting behaviors while others chose to directly intercede at the level of the parenting behaviors linked to reduced adolescent health and well-being outcomes. Two interventions targeted the *economic hardship and adaptation* pathway, 11 interventions had components meant to address the

*psychological difficulties* pathway, and two interventions aimed to reduce risk factors within the *lack of safety* pathway.

### Intervention Pathways

Table 2 lists articles included in the study and the pathways upon which they are conceptualized as having intervened.

**Table 2:** Included articles

| Author (year) | Sample/ mean age or range<br><br>Conflict & study region(s) | Intervention Pathway(s) & Components | Delivery/ duration |
|---|---|---|---|
| ***Randomized Control Trials*** | | | |
| Annan et al. (2017) † | *N* = 479 families; mean child age 10.4<br><br>Myanmar/ Thailand | **(2) Psychological difficulties**<br>• Caregiver-training focused on stress management, communication, limit setting, non-physical discipline.<br>• Child program focused on life skills, communication, and emotional regulation.<br>• Trainings run parallelly and together. | Non-specialist local facilitators/ 12 weeks |
| Glass et al. (2020) | *N* = 542; mean child age 12.2<br><br>Democratic Republic of the Congo (DRC) | **(1) Economic hardship and adaptation**<br>• Livestock asset transfer programs.<br>• Caregivers and children randomized to receive training and livestock asset.<br>• Three study arms: caregiver-only livestock asset (pig), adolescent-only asset (rabbit), or caregiver and adolescent assets (pig + rabbit). | Trained Congolese NGO facilitators/ 24 months |
| Loughry et a. (2006) | *N* = 400; mean child age 11<br><br>Gaza & West Bank | **(2) Psychological difficulties**<br>• For caregivers, first aid and parenting skills classes.<br>• For children, structured cultural and recreational activities, including traditional dancing, artwork, sports, drama, and puppetry. | Local trained youth facilitators/ 12 months |
| Puffer et al. (2017) † | *N* = 479 families; mean child age 10.4<br><br>Myanmar/ Thailand | **(2) Psychological difficulties**<br>• Caregiver-training focused on stress management, communication, limit setting, non-physical discipline.<br>• Child program focused on life skills, communication, and emotional regulation.<br>• Trainings run parallelly and together. | Non-specialist local facilitators/ 12 weeks |

| | | | |
|---|---|---|---|
| Stark et al. (2018a) | *N* = 764 caregivers; mean child age 10<br><br>DRC | **(2) Psychological difficulties**<br>**(3) Lack of safety**<br>• Caregiver sessions on relationship building, gender roles, recognizing and responding to risks to girls' safety, and prevention of harmful traditional practices.<br>• Safe space and female mentorship for girls.<br>• Girls' 32-session life skills course. | Non-specialist local facilitators and trained NGO facilitators/ 12 months |
| Stark et al. (2018b) ‡ | *N* = 881 adolescent girls; mean child age 14.6<br><br>Sudan & South Sudan/ Ethiopia | **(1) Economic hardship and adaptation**<br>• Monthly parenting sessions covering positive relationship building, communication, nonviolent discipline, and developmental and cultural issues faced by adolescent girls.<br>• Safe space and female mentorship for girls.<br>• Girls' 40-session life skills course. | Non-specialist local facilitators and trained NGO facilitators/ 10 months |
| Stark et al. (2018c) ‡ | *N* = 919 adolescent girls; mean child aged 14.6<br><br>Sudan & South Sudan/ Ethiopia | **(2) Psychological difficulties**<br>**(3) Lack of safety**<br>• Monthly parenting sessions covering positive relationship building, communication, nonviolent discipline, and developmental and cultural issues faced by adolescent girls.<br>• Safe space and female mentorship for girls.<br>• Girls' 40-session life skills course. | Non-specialist local facilitators and trained NGO facilitators/ 10 months |
| ***Feasibility and Pilot Studies*** | | | |
| El-Khani et al. (2018) | *N* = 16 children; mean child age 10<br><br>Syria/ Turkey | **(2) Psychological difficulties**<br>• Teaching recovery techniques (TRT) curriculum for children covering relaxation, dealing with flashbacks and memories, and managing fear from reminders of war.<br>• Caregiver addition to curriculum (TRT+Parenting) focus on understanding emotional and behavioral change in children, appropriate discipline techniques, and building better communication. | Non-specialist local facilitators/ 5 weeks |
| El-Khani et al. (2020) | *N* = 120 caregivers; children 8-14<br><br>West Bank | **(2) Psychological difficulties**<br>• Light touch parenting program, designed for low-resource settings, focused on increasing positive parent-child interactions, promoting emotional communication skills, and teaching effective, consistent discipline.<br>• Caregivers receives booklet outlining same themes. | Non-specialist local facilitators/ 1 session |

| | | | |
|---|---|---|---|
| Haar et al. (2020) | *N* = 72; mean child age 9.6<br><br>Afghanistan | **(2) Psychological difficulties**<br>• Caregiver curricula focus on parenting difficulties, dealing with stress, positive caregiver-child interactions, and setting and enforcing limits.<br>• Children curriculum covers learning about stress, following rules, and appreciating caregivers. | Non-specialist local facilitators/ 3 weeks |
| Jordans et al. (2013) | *N* = 120 children; mean child age 12.3<br><br>Burundi | **(2) Psychological difficulties**<br>• Caregiver curriculum designed to aid in managing children's problem behaviors without the use of physical punishment | Non-specialist local facilitators/ 2 sessions |
| Miller et al. (2020) | *N* = 151 caregivers; index children 3-12<br><br>Syria/ Lebanon | **(2) Psychological difficulties**<br>• Caregiver modules emphasizing own well-being<br>• Modules related to positive parenting and effective discipline. | Non-specialist local facilitators and social worker/ 9 weeks |
| O'Callaghan et al. (2014) | *N* = 159 children; mean child age 13.4<br><br>DRC | **(2) Psychological difficulties**<br>• Joint caregiver and child sessions including short video clips introducing the concepts of stigma, discrimination, and re-integration; and relaxation techniques.<br>• For children, youth life skills and leadership development; | Non-specialist local facilitators/ 3 weeks |
| Wieling et al. (2015) | *N* = 14 parents; mean child age 9.4<br><br>Uganda | **(2) Psychological difficulties**<br>• Nine three-hour-long caregiver training sessions covering topics such as understanding family dynamics, giving directions, and teaching through encouragement. | Researchers with translators/ 4 weeks |
| † Separate reports on the same program<br>‡ Separate reports on the same program | | | |

### (1) Economic hardship and adaptation

Two interventions sought to alleviate stressful economic circumstances brought on by armed conflict. Glass et al. (2020) implemented a livestock/animal asset transfer intervention with adolescents and caregivers to improve individual health and household economic security in the Eastern Democratic Republic of the Congo (DRC). Stark et al., (2018a, 2018b, 2018c) evaluated Creating Opportunities though

Mentorship, Parental Involvement, and Safe Spaces (COMPASS), an IRC-developed program carried out in Pakistan, Ethiopia, and the DRC, whose core curriculum included life skills sessions held in safe spaces and conducted by female mentors for adolescent girl participants; caregiver discussion groups focused on positive parenting and identifying risk factors for adolescent gender-based violence (GBV); and support for service providers caring for adolescent girls (91). Stark et al. (2018a) devote much of their article to evaluating the impact of COMPASS on adolescent participants' economic and educational outcomes.

**(2) Psychological difficulties**

Most interventions in this study (*n* = 11) attempted to address the psychological difficulties that adolescents and their families experience as a result of armed conflict and displacement. To address this pathway's damaging effects on early adolescent health and well-being interventions emphasized strategies designed to facilitate family recovery and skills building and to promote youth empowerment. Family recovery and skills building interventions centered around curriculums designed to support caregivers and adolescents to manage emotional reactions to traumatic events, increase positive caregiver-child interactions, augment parenting capacities, and increase family warmth (57, 92-102).

Improving parenting quality and decreasing the use of harsh punishment was one means by which interventions attempted to enhance family recovery and skills building. The theoretical foundation of many of these interventions was described as being Social Learning Theory (92-96, 100) and Social Interaction Learning Theory (101).

Social Learning and Social Interaction Learning theories propose that children's behavior and acquisition of emotional management techniques and life skills is heavily influenced by caregiver-child and family relationships and social and environmental contexts (103, 104). As children within these studies have experienced significant disruptions in safety and stability in response to armed conflict, studies sought to enhance the quality of caregiver-child interactions in order to buffer against the damaging effects of traumatic events on adolescent mental health.

In Thailand, social learning based interventions were delivered to Burmese migrants using interactive activities including demonstrations, role play, and live practice to address stressors related to poverty and displacement that negatively affect caregiver-child relationships (92, 95). In Turkey (El-Khani et al., 2018), the West Bank (El-Khani et al., 2020), and Afghanistan (Haar et al., 2020), these theories guided the development of interventions meant to help caregivers cultivate parenting skills based on positive caregiver-child interactions and consistent, effective discipline techniques. In the DRC, Jordans et al. (2013) and Wieling et al. (2015) devoted much of their time with caregivers to developing skills in positive parenting and to teach alternative discipline strategies meant to reduce coercive parenting. For children, family recovery and skills training-focused programs included components such as effective communication and appreciating caregivers (92-94, 97).

In recognition of the reciprocal influence that the emotions of one member of the caregiver/child dyad exerts on the other member, a number of interventions invested substantial time in addressing the emotional sequelae of armed conflict

exposure. Two interventions integrated psychoeducation components to address caregiver stress by providing sessions on self-help strategies and attempting to normalize emotional support seeking behaviors (96, 99). In Turkey, the basis for El-Khani et al.'s (2018) intervention for Syrian refugee families was a curriculum aimed at teaching children how to manage negative emotions and memories related to war. Helping participants to identify and confront the stigma and trauma of having been abducted by rebel groups played a central role in O'Callaghan et al.'s (2014) intervention in the DRC. Lastly, Annan et al., (2017) and Puffer et al., (2017) integrated children's emotional regulation skills training into their intervention for Burmese migrants.

Youth empowerment interventions sought to improve adolescent health and well-being by providing access to mentors, acquisition of life skills, and construction of a sense of community (57, 98, 102, 105). Along with youth empowerment activities, studies included a range of caregiver support activities designed to enhance adolescent outcome measures as well as improve caregiver well-being. Interventions in the Occupied Palestinian Territories, DRC, and Ethiopia developed interventions based on theories of change positing that strengthening family warmth and connectivity and community stability and safety would improve children's psychosocial well-being. In Gaza and the West Bank this involved use of structured cultural and recreational activities for children and first-aid and parenting skills training for caregivers (98). The COMPASS intervention in DRC and Ethiopia devoted significant time and attention to facilitating the cultivation of friendships between adolescent girl participants and with

their female mentors and guiding the participants in developing and carrying community action events (106).

**(3) Lack of safety**

The COMPASS programs in DRC and Ethiopia were the two studies explicitly addressing lack of safety, the final pathway theorized to link armed conflict and displacement to negative early adolescent health and well-being outcomes (57, 102). As described in the outset of this article, armed conflict is destructive of many community structures protective to early adolescents' health and well-being. Adolescent girls, in particular, are at increased risk of gender-based violence (GBV) as a consequence of a loss to these structures (24, 71). COMPASS curriculum in both locations addressed the risks of GBV for adolescents with both adolescent and caregiver participants. In separate caregiver and adolescent girl discussion groups facilitators discussed how restrictive gender norms formed the basis of many of the risk factors for GBV. Discussion went on to help caregivers to recognize these risks and respond to abuse (106).

**Intervention Outcomes**

Articles reported on an array of early adolescent and family focused outcomes. Despite the numerous scales used by researchers, many of the outcomes could be considered as measuring similar concepts. In order to improve results interpretation between interventions we have combined individual outcomes into adolescent and family outcome domains (table 3).

| **Table 3:** Adolescent & family outcomes by domain | |
|---|---|
| **Domain** | **Adolescent & Family Outcomes** |
| ***Adolescent outcomes*** | |
| **Economic Security** | **Improvement*:** Asset building (Glass et al., 2020); paid employment (Stark et al., 2018b) |
| | **No difference:** HDDS (Glass et al., 2020); transactional, last 12 months (Stark et al., 2018b); transactional, last 12 months (Stark et al., 2018c) |
| **Education** | **Improvement:** School attendance (Glass et al., 2020); school enrollment; not enrolled in school but working for pay (Stark et al., 2018b); intent to complete grade (Stark et al., 2018c) |
| | **No difference:** |
| **Internalizing Behaviors** | **Improvement:** CBC: caregiver-report internalizing (Loughry et al., 2006); CRIES-13: child-report intrusion (El-Khani et al., 2018); SDQ: Caregiver-report emotional problems (El-Khani et al., 2020); SDQ: Caregiver-report emotional (Haar et al., 2020); DSRS: child-report depression (Jordans et al., 2013); CRIES-8: child-report PTSS (O'Callaghan et al., 2014) |
| | **No difference:** APAI: internalizing problems; experiences of stigma (Glass et al., 2020); CBCL: caregiver-report internalizing; YSR: child-report internalizing (Annan et al., 2017); CRIES-13: child-report avoidance, and arousal; DSRS: child-report depression; SCARED: child-report anxiety disorders and caregiver-report anxiety disorders; SDQ: caregiver-report emotional difficulties; CAPES: caregiver-report emotional maladjustment (El-Khani et al., 2018); AYPA: child-report of internalizing (O'Callaghan et al., 2014) |
| **Externalizing Behaviors** | **Improvement:** CBCL externalizing and attention problems; YSR: child-report externalizing problems (Annan et al., 2017); CBC: caregiver-report externalizing (Loughry et al., 2006); CAPES: caregiver-report behavioral problems (El-Khani et al., 2018); SDQ caregiver-report hyperactivity and prosocial problems (El-Khani et al., 2020); SDQ: Caregiver-report conduct, hyperactivity, and prosocial problems (Haar et al., 2020) |
| | **No difference:** YSR: child-report attention problems (Annan et al., 2017); APAI: prosocial behavior (Glass et al., 2020); SDQ: caregiver-report behavioral difficulties (El-Khani et al., 2018); SDQ: caregiver-report conduct problems (El-Khani et al., 2020); Aggression Questionnaire: child-report aggression (Jordans et al., 2013); AYPA: child-report conduct problems and prosocial behaviors and caregiver-report conduct problems (O'Callaghan et al., 2014) |
| **Psychosocial Well-being** | **Improvement:** Child-report child protective factors (Annan et al., 2017); Hopefulness Scale: child-report degree of future orientation (Loughry et al., 2006); Burmese Family Functioning Scale: negative interactions (Puffer et al., 2017); Kid-KINDL: caregiver-report psychosocial well-being (Miller et al., 2020) |
| | **No difference:** Caregiver-report child protective factors (Annan et al., 2017); Kid-KINDL: child-report psychosocial well-being (Miller et al., 2020) |
| **Violence** | **Improvement:** PBI: caregiver-report family violence (Wieling et al., 2015) |
| | **No difference:** Sexual violence, last 12 months; physical violence, last 12 months (Stark et al., 2018a); Sexual violence, last 12 months; physical violence, last 12 months (Stark et al., 2018c) |
| **Abuse & Neglect** | **Improvement:** CTS-PC: caregiver aggression (Wieling et al., 2015) |
| | **No difference:** Emotional abuse and neglect (Stark et al., 2018a) |

| | |
|---|---|
| **Health & Well-being Promotive Behaviors** | **Improvement:** Report of social supports: friends and trusted female mentor; adolescent attitudes: age of marriage, age at first child (Stark et al., 2018c) |
| | **No difference: M**arriage less than 15 years of age, last 12 months; caregiver attitudes toward gender inequitable norms (Stark et al., 2018a); marriage less than 15 years of age, last 12 months (Stark et al., 2018c) |
| ***Family outcomes*** | |
| **Parenting Quality** | **Improvement:** CAPES: caregiver-report parenting efficacy; PS: laxness and over reactivity (El-Khani et al., 2018); PAFAS: parenting consistency, coerciveness, encouragement, and teamwork (El-Khani et al., 2020); PAFAS: parenting consistency, coerciveness, and encouragement, and teamwork (Haar et al., 2020); Parenting Scale: caregiver knowledge (Miller et al., 2020); APQ: caregiver involvement and positive parenting (Wieling et al., 2015) |
| | **No difference:** PA: verbosity (El-Khani et al., 2018); APQ: parental monitoring (Wieling et al., 2015) |
| **Caregiver-Child Relationship Quality** | **Improvement:** PSS: child-report satisfaction with caregiver support (Loughry et al., 2006); Burmese Family Functioning Scale: child-report family cohesion and communication; PBI: caregiver-report relationship quality and child-report relationship quality; PARQ: caregiver-report relationship quality and child-report relationship quality (Puffer et al., 2017); PAFAS: family relationships (El-Khani et al., 2020); PAFAS: family relationships (Haar et al., 2020) |
| | **No difference:** PAFAS: caregiver-child relationship (El-Khani et al., 2020); PAFAS: caregiver-child relationship (Haar et al., 2020); child-report family social support (Jordans et al., 2013) |
| **Family Warmth** | **Improvement:** PARQ: caregiver-report caregiver-child warmth and child-report caregiver-child warmth (Puffer et al., 2017); PARQ: caregiver-report caregiver-child warmth (Stark et al., 2018a); Parenting Scale: warmth-responsiveness (Miller et a., 2020); PARQ: caregiver-report caregiver-child warmth (Stark et al., 2018a); PBI: caregiver-report warmth (Wieling et al., 2015) |
| | **No difference:** |
| **Positive Discipline Strategies** | **Improvement:** Discipline Interview: caregiver-report negative discipline (Puffer et al., 2017); Parenting Scale: harsh parenting (Miller et al., 2020) |
| | **No difference:** Discipline Interview: caregiver-report positive discipline and child-report negative and positive discipline, MICS: caregiver-report discipline strategies (Puffer et al., 2017); APQ: discipline consistency (Wieling et al., 2015); Caregiver attitudes toward physical discipline (Stark et al., 2018a) |
| **Caregiver Psychosocial Well-being** | **Improvement:** PAFAS: caregiver adjustment (El-Khani et al., 2020); K10: perceived caregiver stress; WEMWBS: caregiver-report stress and well-being; caregiver-report ability to manage stress (Miller et al., 2020) |
| | **No difference:** IES-R: caregiver report on own intrusion, avoidance, and arousal; DASS: depression, anxiety, and stress (El-Khani et al., 2018) |

APAI Acholi Psychosocial Assessment Instrument; APQ Alabama Parenting Questionnaire; AYPA African Youth Psychosocial Assessment Instrument; CAPES Child Adjustment and Parenting Efficacy Scale; CBCL Ackenbach Child Behavior Checklist; COMPASS Creating Opportunities through Mentorship, Parental Involvement, and Safe Spaces; CRIES Children's Revised Impact of Events; CTS-PC Conflict Tactics Scale; DASS Depression-Anxiety-Stress Scale DSRS Depression Self-Rating Scale for Children; HDDS Household Dietary Diversity Scale; IES-R Impact of Events Scale Revised; K10 Kessler Psychological Distress; MICS Multiple Indicator Cluster Survey; PAFAS Parenting and Family Adjustment Scales; PARQ Parental Acceptance-Rejection Questionnaire; PBI Parent Behavior Inventory; PS Parenting Scale; PSS Parental Support Scale; SCARED Screen for Childhood Anxiety Related Disorders; SDQ Strengths and Difficulties Questionnaire; WEMWBS Warwick-Edinburgh Mental Wellbeing Scale; YSR Youth Self Report

*"Improvement" = significant difference at end line, $p \leq 0.05$

Within each outcome domain study outcome measures that saw a statistically significant improvement ($p \leq .05$) following the intervention were listed under "improvement" while those that did not were listed under "no difference." The most frequently reported early adolescent health and well-being outcomes reported by articles were mental and behavioral health outcomes categorized under the *internalizing* (*n* = 8) and *externalizing* (*n* = 7) *behavior* domains. Internalizing behaviors include a range of inwardly directed symptoms, such as sadness or withdrawal, and are associated with a number of psychological disorders (e.g., anxiety, depression, posttraumatic stress disorder) (107). Externalizing behaviors are comprised mainly of antisocial acts that contravene social norms and/or are harmful to others (e.g., aggression, hyperactivity) and have been associated with family dysfunction and inconsistent parenting (108). The two domains are a widely used means of conceptualizing behavior problems in youth and can occur independently or together (109). Less frequently reported were measures of early adolescent health and well-being associated with physical safety, education, and economic security.

Family outcomes most frequently reported by articles fell into the domains of *parenting quality* (*n* = 5), *caregiver-child relationship quality* (*n* = 5), *family warmth* (*n* = 5), and *positive discipline strategies* (*n* = 4). These domains each fit into one of the fundamental three components of positive parenting (i.e., warmth, respect for individuality, and regulation of behavior) and typify authoritative parenting, a form of parenting that encourages independence, negotiation, communication, and

consideration of other viewpoints (41, 42). While articles aimed to measure outcomes related to a wide array of positive parenting practices, only one measured parental monitoring (101), an aspect of regulation of behavior. Regulation of behavior, a key practice of positive and authoritative parenting styles, deals with parental knowledge of how and with whom adolescents spend their time.

**Program Adaptation**

Adaptation of existing programs to account for resource constraints, cultural norms, and armed conflict characteristics was described as an important step for a number of these interventions (28, 57, 93, 94). In Turkey, due to security concerns limiting researchers' field visits, local research colleagues supported the adaption of an evidenced-based manual for use with Syrian refugee families designed to guide facilitators working with conflict-affected children to learn practical techniques for coping with the psychological effects of war and violence. The adaption included adding three modules to aid caregivers in understanding children's behavioral changes, improving communication, and adopting consistent discipline approaches (93). Similarly, Afghani stakeholders collaborated to adapt a family training intervention to the local context. The intervention included weekly sessions with both caregivers and children separately and then together and covered stress management; use of non-physical, but consistent, forms of discipline; and showing affection through praise and communication (94). Finally, while a global program design was developed by IRC for the COMPASS program, implementing teams at each of the three site consulted with

adolescent girls, caregivers, and community members to adapt the program to local context and needs (106).

## Discussion

Design of caregiver and family-focused interventions requires an appraisal of the components most necessary to meet the needs of early adolescent-aged children. Many interventions sought to improve and measure changes in children's internalizing and externalizing behaviors; however, only one study aimed to improve caregivers' regulation of behavior of children – the degree of interest that caregivers take in knowing how, where, and with whom their children spend their time – an increasingly important parenting task as children enter adolescence and gain additional independence (45, 47, 59).

Additionally, relatively few interventions aimed to achieve or capture improvements in other conceptual model pathways outside of psychological difficulties. While the deleterious cognitive and neuroendocrine effects of armed conflict on adolescents is evident, research suggests that chronic economic hardship and poverty have perhaps an even greater impact on adolescent cognitive development (110). Combatting the ongoing adversity that families frequently endure following armed conflict is a goal supported by researchers across disciplines:

> *[P]arenting is difficult, and no doubt many parents can benefit from the additional knowledge and competencies acquired in parent-training programs. However, notably absent from the emphasis on increasing knowledge and skills is a recognition of*

> *the powerful impact of chronic adversity on parental wellbeing, and in turn on parenting behavior.*
>
> Miller et al. (2020, p. 2)

> *Social empowerment programs for adolescent girls may prove most effective when implemented alongside programs that empower households economically.*
>
> Stark et al (2018a, p. S19)

The literature included in this narrative review examined an array of interventions conducted in a variety of geographic and political contexts that have experienced conflict. Authors of several studies emphasized the importance of analyzing local contexts and available resources before developing and implementing programs within a specific region (57, 96, 100, 102). Early adolescents living in regions experiencing prolonged periods of instability typified by the presence of numerous loosely organized armed militias engaged in sporadic conflict and civilian abduction such as in northern and eastern DRC have different experiences and support needs than those adolescents living in regions enduring sudden, violent bouts of conflict, such as the Syrian or Yemeni Civil War. The studies in this review generally reported that interventions were either newly designed or adapted to target the specific population of interest experiencing the localized conflict. Tailoring interventions to meet the circumstances of the armed-conflict context may be as important as adapting to the local language and culture.

Relatedly, it is important to note a well-established trend in global health research carried out LMICs is that programs are frequently funded, developed, led, and

evaluated by donors and researchers from high-income countries (111). Similarly, global health and humanitarian aid organizations oftentimes deploy expatriate staff to supervise and train local national staff in host countries. However, collaboration between expatriate and local staff often falls short, leading to culturally inappropriate care, resource use inefficiencies, weak capacity building, and damaged working relationships (112, 113). A number of studies included in this review attempted to counter the harmful effects of these customary power dynamics by integrating national staff into program leadership positions and adapting programs based on stakeholder input. Three studies described programs that were managed principally by national staff, limiting the amount of direct supervision and control that expatriate researchers exerted over national staff (El-Khani et al., 2018; El-Khani et al., 2020; Haar et al., 2020). Additionally, authors of a number of studies relied heavily on contributions by national staff and other local stakeholders when developing or adapting programs to the local context (106, 114). Integrating national staff and other stakeholders into the program development phase as well as the management of interventions is an important approach to adapting programs and improving the likelihood of achieving desired aims.

**Recommendations for Future Research**

Researchers should aim to further adapt programs to the unique needs of early adolescents and their families. This includes expanding the scope of outcomes that programs seek to improve. Increasing caregivers' understanding of the importance of regulation of behavior during adolescence would be a valuable addition to any program curriculum. Arguably, even more important, addressing families' economic status could

have tremendous benefits on early adolescents' well-being. Integration of economic empowerment programs, similar to Glass et al.'s (2020) asset/livestock transfer program, offers a means of improving the economic status and resource availability of caregivers and their early adolescents and, by extension, a host of well-being outcomes.

Future caregiver- and family-focused interventions should commit to applying community-based participatory research (CBPR) methods so as to create productive collaborations with local partners and stakeholders (115). In order to produce real and lasting effects in humanitarian settings, it is essential to equip local individuals with the means to recognize problems and develop interventions to meet their needs. This may be particularly important in communities exposed to armed conflict, as many humanitarian organizations are unable to carry out their normal activities during periods of intense instability. The ability of local actors to implement effective interventions in the absence of expatriate training and supervision could ultimately expand the scope of an intervention. Along with empowering national staff, the use of CBPR can serve to respond to power dynamics that have historically favored those in the Global North over those in the Global South (116).

**Limitations**

The relatively low number of articles meeting the review's inclusion criteria and the high proportion of those included being characterized as pilot or feasibility studies limits the generalizability of the review's findings. Additionally, while the wide variety of armed conflict contexts, interventions, and outcome measures included in this review provides and overview of what is possible when seeking to address the health and well-

being needs of early adolescents and their families, the heterogeneous nature of studies makes it challenging to compare across studies. Conclusions regarding the effectiveness of interventions in this review should be considered within the cultural and geopolitical contexts in which they were deployed.

## Conclusion

Exposure to armed conflict serves as a powerful stressor and can profoundly impact children's sense of safety and security during early adolescence, a developmentally sensitive period of life. Caregivers play a critical role in buffering against these adverse events and are a key source of resilience for early adolescents. Supporting early adolescents demands that intervention programs are adapted to meet the diverse emotional and material needs of the family. Doing so will have beneficial effects directly on early adolescents and indirectly by improving caregiver resources. It is hoped that this review will reframe discussions around early adolescent health in humanitarian settings by broadening readers' horizons on what is possible when striving to promote health and well-being of early adolescents and their families following armed conflict.

## CHAPTER 2 ADDENDUM: What is known about how caregiver's gender attitude influence the health adolescents affected by armed conflict?

The central question of this dissertation research is, "Within humanitarian settings, how might community-held inequitable gender norms be operationalized through caregiver gender attitudes and what are their associations with adolescent health?" In order to answer this question, a review of the existing literature was conducted to learn how researchers had previously approached this question. Seven peer-reviewed articles were identified that examined caregiver gender attitudes and adolescent health in humanitarian emergency-affected populations. Identified studies employed quantitative and qualitative methods and were conducted with populations who had experienced armed conflict in Syria, the Democratic Republic of Congo, Sudan, and South Sudan.

The existing literature focuses primarily on reducing adolescent girls' vulnerabilities to early marriage and GBV and improving their sexual and reproductive health. Adolescent girls' safety is an important priority during and following humanitarian emergencies. Under normal circumstances, adolescent girls are disproportionately affected by restrictive gender norms that severely limit the range of behaviors considered acceptable for women due to their age (39). Threats to their safety for perceived breaches of these norms are exacerbated in humanitarian settings as traditional protective kinship networks and social structures are disrupted (117).

Research conducted with populations living in the DRC and Ethiopia give us a view of how adolescent girls' safety is affected, in part, by caregivers' gendered attitudes. A study of the prevalence of violence against adolescent girls in eastern DRC and in refugee camps in Ethiopia concluded that approximately half of all participants reported experiencing at least one form of violence victimization in the previous 12 months. Additionally, about one-fourth of girls reported at least one type of sexual abuse victimization in the previous 12 months. The most frequent victimizers were intimate partners and family members (117). In response to these high rates of GBV against girls living in humanitarian settings, the IRC introduced the COMPASS intervention. As described in the previous manuscript, the COMPASS program sought to improve adolescent girls' safety through a life skills course curriculum held in safe spaces and conducted by female mentors for adolescent girl participants and through caregiver discussion groups focused on positive parenting and identifying risk factors for adolescent GBV.

Results from the intervention were largely non-significant, suggesting that intervening at the level of the individual was not sufficient to reduce reports of physical or sexual violence against girls (57, 102). In both the DRC and Ethiopian intervention sites, girls receiving the treatments were just as likely as those in the control arms to report experiencing sexual violence, unwanted sexual touching, coerced sex, forced sex, all forms of violence, neglect, child marriage, and transactional sexual exploitation in 12-months follow-up period. Qualitative findings from the study sites contextualized the challenges faced by caregivers and adolescent girls to preventing such forms of violence.

Caregivers frequently cited concerns about adolescent girls' vulnerability to GBV and barriers to discussions about pubertal development and preventing sexual violence (118). Further, caregivers and girls interviewed stated that incidents of GBV against girls are oftentimes blamed on the victims instead of on perpetrators. Participants often described girls' appearance or behavior as the inciting factors of GBV. Caregivers serve to reinforce these attitudes by avoiding discussions around GBV and using parenting tactics based on fear and threats of family shame in order to control adolescent girls' behavior, thereby normalizing GBV and IPV (119). These parenting tactics, while not empowering for adolescent girls, are an understandable response to perceived risks to safety outside of the home. As Sommer et al. (2018) note that caregivers equip children with the essential initial tools to navigate the world outside the home environment. However, caregivers in conflict-affected settings have limited control over the social environment and public spaces outside the home. Further, they may have little access to the types of social networks or formal laws needed to create safe social and physical environments for their children (118). Warning their daughters about their behavior or appearance or limiting their movement outside of the home is a more feasible approach to ensuring their safety than is challenging existing hegemonic gender norms that tolerate and propagate GBV.

In Egypt, researchers interviewed Syrian refugees about the drivers of child marriage. Many participants acknowledged that financial and physical insecurity were salient factors in their decision to push daughters to marry while adolescents. However, while Syria has relatively strong norms around girls marrying during adolescence,

Egyptian norms around the acceptability of child marriage are weaker. Disruptions in the influence of grandparents, due to displacement, and the presence of weaker norms around the practice were factors that dissuaded caregivers from seeking to marry daughters before age 18, participants reported.

In the DRC, researchers examined whether caregivers' gendered attitudes were associated with adolescent girls' attitudes toward IPV and experiences with violence. Results indicated that caregivers' more equitable gender attitudes were associated with lower odds of sexual abuse among girls and a lower likelihood of girls' acceptance of IPV. Additionally, greater acceptance of negative discipline techniques by caregivers was associated with lower odds of reported sexual violence (56). These findings from Egypt and DRC illustrate how community-held gender norms and caregivers' endorsement of these norms (i.e., gendered attitudes) can have profound impacts on the health and safety of adolescent girls.

There remain numerous gaps in our understanding of how caregivers' gender attitudes influence adolescent health and well-being in humanitarian settings. Qualitative research has been conducted that explores caregivers' perspectives on protecting girls from GBV and improving their resilience and life skills assets (118); further exploration into these themes is warranted and must include caregivers' perspectives on how caregiver gender attitudes and living in protracted humanitarian settings might affect adolescent boys' health and well-being. Further, psychosocial health and other related measures of well-being should also be examined. As described, many caregivers resort to negative or fear-based parenting tactics and threats of family

shame to control their daughters' behavior (119). However, little is known about the emotional toll that these parenting tactics may have on children. This research will seek to answer some of these questions and to further our understanding of how caregivers' gender attitudes might influence adolescents' health and well-being in humanitarian settings.

**Table 1:** Caregiver gender attitudes and adolescent health in humanitarian settings

| Author (year) | Conflict Country/Region | Purpose | Methods | Findings |
|---|---|---|---|---|
| Elnakib (2021) (120) | Syria | Examine drivers of child marriage in refugee Syrian families living in Egypt | Focus group discussions (n=15) with girls and caregivers | In Syria, caregivers saw early marriage as a way to protect family honor and girls' reputation. However, Egyptian customs don't promote norm as much. As such, some participant caregivers reported not feeling as hurried to marrying girls off while still young. Risks of early child marriage well known, but key informants confirmed that it was associated with poor family planning, disruption in education and mobility of girls, and challenges with marriage and birth registration. |
| Falb (2017) (56) | Democratic Republic of the Congo | Examine whether caregivers' gendered and parental attitudes were associated with adolescent girls' attitudes toward IPV and experiences with violence | Cross-sectional; adolescent girls aged 10-14 (n=869) and their caregivers (n=764) | In adjusted models caregivers' equitable attitudes were associated with lower odds of sexual abuse among girls (aOR 0.28; 95% CI:0.13-0.64; $p$ = 0.002) and lower likelihood of girls' acceptance of IPV (aOR 0.35; 95%CI: 0.16-0.9; $p$ = 0.03). Greater acceptance of negative discipline techniques by caregivers was associated with lower odds of reported sexual abuse (aOR 0.9; 95%CI: 0.83-0.99; $p$ = 0.03). |

| | | | | |
|---|---|---|---|---|
| Sommer (2018) (118) | Democratic Republic of the Congo & Ethiopia | Examine local attitudes and social norms around responding to physical and sexual abuse of girls | Focus group discussions with girls 10-14 in DRC and 13-19 in Ethiopian camps and their caregivers. | Caregivers' concerns about adolescent girls vulnerability make it difficult to have practical discussions about pubertal development, sex, and preventing sexual violence. Caregivers reported fearing that discussing these topics might encourage sexual risk taking. |
| Sommer (2018) (119) | Democratic Republic of the Congo & Ethiopia | Explore caregivers and adolescent girls' perceptions of safety and risk-prone community areas and the role of fear in caregiving strategies. | In-depth interviews with girls 12-14 in DRC and 13-19 in Ethiopian camps and their caregivers (n=66 girls & 58 caregivers). | Communication issues between caregivers and girls was a barrier to discussing sexual development. Girls' behavior and appearance in both sites are seen as factors for girls' safety and GBV. Caregivers serve to reinforce attitudes around girls' responsibility for their safety, the normalization of GBV and IPV due to acceptance of the dominance of masculinity over femininity; and the avoidance of discussing GBV. |
| Stark (2017) (117) | Democratic Republic of the Congo & Ethiopia | Estimate the prevalence and predictors of violence against adolescent girls in a humanitarian setting | Cross-sectional; adolescent girls aged 13-14 from DRC (n=377) and aged 13-19 from Ethiopia (n=919) | Approximately half of all participants reported experiencing at least one form of violence victimization in the previous 12 months. About one-fourth of girls reported at least one type of sexual abuse victimization in the previous 12 months. The most frequent victimizers were intimate partners and family members. In Ethiopia, girls living with only their father were twice as likely to report physical or sexual violence, compared to those living with both biological parents. Pathways through which increased vulnerability occurs are unclear. |
| Stark (2018) (102) | Democratic Republic of the Congo & Ethiopia | Investigate the effectiveness of a safe spaces intervention designed to reduce adolescent girls' | Cluster randomized control trial with | After one year the intervention was not significantly associated with a reduction in exposure to sexual violence, other forms of violence, transactional sex, or improved feelings of safety. The intervention was associated with an increase in identified social supports. |

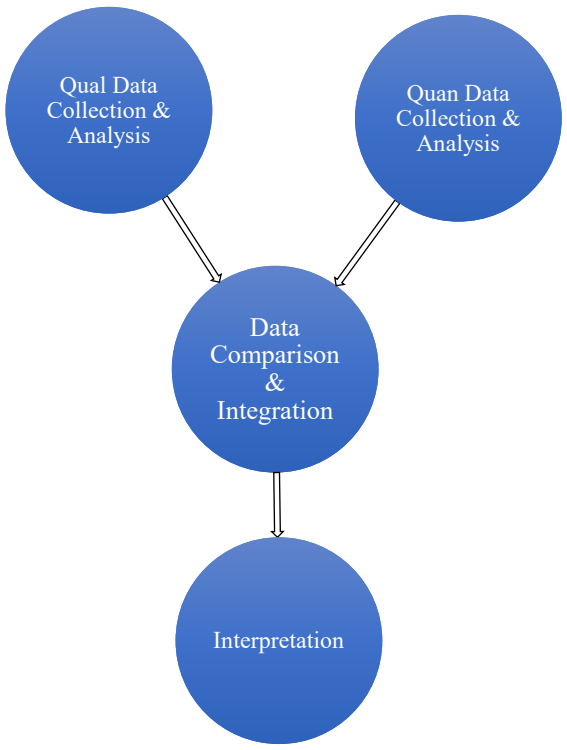
| | | | | |
|---|---|---|---|---|
| | | experiences of IPV | | |
| Stark (2018) (57) | Democratic Republic of the Congo | Investigate the impact of a caregiver life skills program on adolescent girls' exposure to violence and caregiver' gender attitudes and parenting behaviors | Cluster randomized control trial with adolescent girls aged 10-14 (n=869) and their caregivers (n=764) | Girls in the treatment were just as likely as those in the control arm to report experiencing sexual violence (aOR 0.95; 95%CI: 0.65-1.37), unwanted sexual touching, coerced sex, forced sex, all forms of violence, neglect, child marriage, and transactional sexual exploitation in 12-months follow-up. Parents in the treatment arm exhibited parenting styles characterized by greater warmth and affection and lower overall rejection than those in control arm. |

# CHAPTER 3: METHODS

## Study Design

This research utilized a parallel mixed methods design (figure 1). Within this design quantitative and qualitative data are analyzed in parallel and findings are synthesized from the results of the two streams of data (121). Quantitative data was extracted from an existing data set and analyzed while qualitative research questions were developed that would lend further insight into quantitative results. Quantitative data analysis consisted of a cross-sectional analysis of survey data collected from caregiver/adolescent dyads at the 12-month follow-up period of the comparative effectiveness trial study. Qualitative data was collected was conducted in the same ten villages in South Kivu Province, DRC as quantitative data were originally collected.

**Figure 1:** Parallel mixed methods design




### Study Site

The study site for this research is a cluster of 10 villages in the Walungu Territory of South Kivu Province, Democratic Republic of the Congo (approximately 40 to 80 km south of Bukavu,

the capital of South Kivu Province) (Appendix A) (122).

## Aim 1

**Examine how level of caregiver endorsement of equitable gender attitudes is associated with adolescent anxiety/depression, prosocial behavior, school attendance, and food security.** *Hypothesis: Caregivers' endorsement of more equitable gender attitudes will be associated with lower scores on scales of adolescent anxiety/depression, and higher scores on scales prosocial behavior, school attendance, and food security.*

**Quantitative Parent Study**

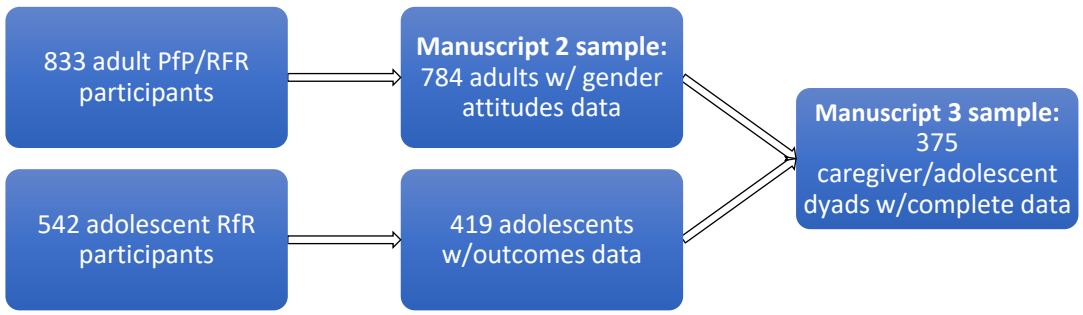
Quantitative data for this study come from cross-sectional survey data of adult and adolescent participants enrolled in a series of randomized control trials whose aims were to improve a number of outcomes related to economic well-being, family functioning, and gender equality. The first study, Pigs for Peace (PfP), evaluated the effectiveness of a livestock asset transfer program for adults living in the ten study villages (122). Within the study, each adult participant randomized to receive the intervention received a female piglet, care instructions, and ongoing technical support by the local non-governmental organization (NGO) implementing partner. In exchange for the piglet, participants agreed to repay the local NGO with the first two piglets it birthed and these repayment piglets served as asset loans for other households in the program. After meeting this program requirement, participants were mentored to continue the livestock project as an ongoing income source to meet basic needs. The second study compared the relative effectiveness of PfP with that of a second

animal/livestock asset transfer program targeting adolescents aged 10 to 15 years titled Rabbits for Resilience (RfR). In a similar scheme, adolescents and their families were randomized to one of three arms (rabbit only, pig only, rabbit and pig) and technical support from the local NGO in exchange for agreeing to repay the first two offspring of the animal/livestock provided to the household to the partner NGO (114). The PfP and RfR interventions' effectiveness in improving adolescent well-being outcomes were compared after a 24 month trial period.

**Quantitative Samples**

Of the 833 adult participants enrolled in one or both of the RCTs, 784 had data available regarding their attitudes towards gender equality. These 784 participants formed the

**Figure 2:** Development of quantitative samples




sample analyzed in Manuscript 2 (123). Three hundred seventy five of these adults also had an adolescent participating in the RfR comparative effectiveness trial and had outcomes data collected at the follow-up period of interest. These 375 caregiver/adolescent dyads form the sample of quantitative analyses for Manuscript 3 (figure 2).

**Power Analysis**

The power analysis determined the effect size detectable, assuming an intra-class correlation (ICC) of .004 based on the data, power=0.80, alpha=.05. With 10 villages and N=375, we can detect significant betas $\geq$.213 when comparing the *Gender Equitable except Tolerant of Husbands' Home-life Dominance* class (N=140) with the reference group of *Tolerant of IPV* (N=53) in the linear regression models with continuous outcomes and odds ratios $\leq$ 0.366 for the logistic regression model with a binary outcome. We can detect significant betas $\geq$.192 when comparing the *Fully Gender Equitable* class (N=140) with the reference group of *Tolerant of IPV* (N=53) for the continuous outcomes and odds ratios $\leq$ 0.382 for the binary outcome.

**Independent Variable**

As a first step to analyzing the association between parents' gender attitudes and their early adolescents' measures of health and well-being, I adapted the attitude items from the Social Norms and Beliefs About Gender Based Violence scale to serve as a predictor variable that captures the concepts most relevant to this association (13). These analyses use data from the 24-month PfP data collection period and include all adult participants, both those who were caregivers of adolescents and those who were not, who responded to scale questions. I identified theoretical and operational definitions of gender equality that would help to guide the selection of scale items. The conceptual definition of gender equality comes from the Inter-Agency Standing Committee and states that gender equality is the *"equal enjoyment of women, girls, men, and boys – of all age, sexual orientations and gender identities – of rights, goods,*

*opportunities, resources, rewards and quality of life"* (124). In order to operationalize this definition, I selected eight items from the social norms scale that aligned with targets of Goal 5 of the *Sustainable Development Goals: Achieving gender equality and empowering all women and girls* and that were thought to influence adolescent health and well-being (125). Figure 4 lists the scale items lists the scale items included in the final measure of caregiver gender equality and the Sustainable Development Goal Targets to which they correspond.

**Figure 3:** Scale items and corresponding SDG goal 5 targets:

**Item 1: It is more important to send a son to school than to send a daughter to school**
*Target 5.1 – End all forms of discrimination against all women and girls everywhere*
**Item 2: Women should not participate equally with their husbands in making decisions about the household**
*Target 5.4 – Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate*
**Item 3: It is acceptable for girls to be married before 15 years of age**
*Target 5.3 – Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation*
**Item 4: Men are more important than women in the family**
*Target 5.4 – Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate*
**Item 7: It is ok for a husband to beat his wife to discipline her**
*Target 5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation*
**Item 12: A man has the right to beat/punish his wife**
*Target 5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation*
**Item 20: Wives should not express their opinion when she disagrees with what her husband is saying**
*Target 5.5 – Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic, and public life*
**Item 21: Men should support women in leadership roles in the community**
*Target 5.5 – Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic, and public life*

Similar to the development of the original scale, I initially sought to use exploratory factor analysis to create a measure of caregiver gender attitudes. However, many of the

items in the models attempted had very low correlations. Additionally, whenever I removed an item that had low correlations with all available factors other items' correlations would be negatively affected. In short, all factor analysis models were unstable and poorly fit the available data.

Latent class analysis (LCA) offered more stable and coherent models than factor analysis. LCA allowed me to classify participants into gender attitude groups. LCA identifies unobservable characteristics—latent classes—in participants based on observable variables. Latent classes cannot be directly measured and typically represent complex constructs (e.g., happiness or behavior patterns). A participant's response pattern to a set of observable variables generates a probability of belonging to each of the latent classes. Participants are classified into the latent class to which they have the highest likelihood of belonging.

LCA was performed using the generalized structural equation model. Using responses to the eight gender attitude items related to the acceptability of husband's IPV and gender equality, we first estimated models with 2, 3, and 4 classes. We examined Akaike's information criterion (AIC) and Bayesian information criterion (BIC) information statistics for each model to aid in final model selection. Smaller AICs and BICs are more desirable and represent better fit and more parsimonious models. Model selection was also done in consultation with experts in gender attitudes in Eastern DRC in order to select the number of classes that most appropriately fit the data.

The final latent class model contained three gender attitudes classes: *Tolerant of IPV*, *Gender Equitable except Tolerant of Husband's Home-life Dominance*, and *Fully*

*Gender Equitable*. Manuscript 2 provides additional details of the LCA, the response patterns shared by participants in each class, and associations between class membership and experiences with IPV perpetration and victimization and mental health problems.

**Independent Variables**

I selected for analysis quantitative measures that aligned with Blum et al.'s (2014) goals for early adolescence, as described in the research's conceptual model (17). All quantitative outcome variable data was collected from adolescent participants except for caregiver age, sex, marital status, and Household Food Insecurity Access Scale Score which were collected from caregivers.

**Table 1: Quantitative Dependent Variables & Covariates**

| Research Variable | Measurement |
|---|---|
| **Outcome Variables** | |
| Anxiety/Depression | **Related to *Emotional & Physical Safety* and *Positive Sense of Self/Self-Efficacy* outcomes in Blum et al.'s Framework's goals for healthy early adolescence.** Ordinal: Internalizing behaviors subscale of the African Youth Psychosocial Assessment (AYPA), a psychosocial health measurement tool validated in Northern Uganda (126). Measures anxiety-like and depression-like symptoms. Symptom severity over the previous 7 days is assessed using a 4-point Likert scale (i.e., never, sometimes, often, always). Higher scores indicate greater problems with internalizing behavior problems. Cronbach's alpha within this sample was 0.77. |
| Prosocial Behavior | **Related to *Positive Sense of Self/Self-Efficacy* and *Life & Decision-Making Skills* outcomes in Blum et al.'s Framework's goals for healthy early adolescence.** Ordinal: Prosocial subscale of the AYPA. The 8-item prosocial subscale captures positive social behaviors demonstrated in past 7 days using a 4-point Likert scale (i.e., never, sometimes, often, always). Calculation of score: Mean scores from prosocial subscale. Higher scores indicate more positive social behaviors. Prosocial subscale Cronbach's alpha within this sample was 0.81. |
| School Attendance | **Related to *Engagement in Learning* outcome in Blum et al.'s Framework's goals for healthy early adolescence.** Dichotomous: Number of days missed of school in month before survey. Responses were dichotomized for the purposes of these analyses (i.e., ≤ 2 or > 2 days missed). Those not enrolled in school but of school age coded as having missed > 2 days. |
| Food Security | **Related to *Emotional & Physical Safety* outcome in Blum et al.'s Framework's goals for healthy early adolescence.** Ratio: The Household Dietary Diversity Scale assesses total number of food groups consumed by household members in |

| | |
|---|---|
| | previous day and night as reported by the adolescent (127). Calculation of scores: Summative score ranging from 0 to 12. Higher scores indicate greater food security and higher socioeconomic status. |
| **Potential Covariates** | |
| Caregiver sex | Dichotomous: male or female |
| Caregiver age | Categorical: 20-34, 35-44, or 45+ |
| Marital status | Dichotomous: married or not married |
| Child sex | Dichotomous: male or female |
| Adolescent age | Interval: age range 10 to 19 years |
| Socioeconomic status | Ratio: Household Food Insecurity Access Scale. Range 0 to 3 |
| Number of adults in household | Ratio: number of adults over 18 years |
| Number of girls in household | Ratio: number of girls under 18 years |
| Number of boys in household | Ratio: number of boys under 18 years |

## Analysis

Prior to conducting the main analyses, the distribution of the variables was examined for outliers and to determine whether they met the assumptions of planned analyses. If they had not met the assumptions, models allowing for alternative distributions (generalized linear models) would have been considered for the main analyses. Differences between those with and without missing data were examined using *t*-tests and chi-square tests. Variables on which they differ were included in adjusted analyses to reduce bias related to missingness. Alternative approaches to handling missing data (e.g., multiple imputation, mean imputation) were not used as all analyzed variables were missing less than 15 percent of all observations. The significance level was set at .05 for all analyses.

Quantitative data analysis was conducted using Stata 15 (128). Mean and frequency values were calculated for all covariates in the overall sample and then for each caregiver latent class. $\chi^2$ and ANOVA tests were used to compare differences in

covariates across classes. To compare differences in adolescent outcomes by caregiver latent class assignment mixed effects regression models were used to account for nesting of caregivers and adolescents within the 10 villages. Normal Gaussian distribution models were used for all analyses except for school attendance which required a logistic model. Both unadjusted models and adjusted models were estimated to control for differences between the latent classes by caregiver and household characteristics.

## Aim 2

**Examine how adolescent gender moderates the association between caregivers' gender attitudes and adolescents' anxiety/depression, prosocial behavior, school attendance, and food security.** *Hypothesis: Caregivers' endorsement of more equitable gender attitudes will be more strongly associated with lower scores on scales of adolescent anxiety/depression, and higher scores on scales of prosocial behavior, school attendance, and food security for girls than for boys.*

For Aim 2, similar mixed effects linear and logistic regression models as those used in Aim 1 were employed to examine the moderating effect of adolescent sex on the association between caregivers' gender attitudes and adolescent outcomes (internalizing, prosocial behavior, school attendance, and food security). However, for Aim 2, the overall sample was stratified by adolescent sex first. Stratified analyses were initially not believed to be sufficiently powered to detect moderating effects and so effect sizes rather than *p*-values were to focus of interpretation. The magnitude and

direction of the regression coefficients derived from these sub analysis models were planned to be compared qualitatively for boys and girls.

## Aim 3

**Explore how adolescents and caregivers perceive that caregiver gender attitudes influence adolescent mental health, school attendance, and nutrition.**

### Qualitative Sample Recruitment

During the initial conceptualization of this research the intent was to recruit adolescent participants alone for qualitative activities. However, after consultation with our Congolese research partner, Programme d'Appui aux Initiatives Economique du Kivu (PAIDEK), it was decided to recruit both adolescents and caregivers. A new sample of participants were recruited from the same 10 villages in which the parent comparative effectiveness trial was conducted. It is important to know that participants in this qualitative portion were different from those who took part in comparative effectiveness trial from which the quantitative portion of this study draws its data. The decision to recruit new participants for the qualitative arm of this study was made because Congolese and US research team members believed that relocating participants for the PfP and RfR trials to participate in qualitative activities would be time-consuming and logistically complex. Additionally, as data collection on the comparative effectiveness trial had been completed several years before this dissertation research was initiated, adolescent RfR participants would have since aged out of the age range of interest.

Before beginning recruitment, the Congolese and US research team members met several times to discuss the methods of qualitative inquiry to be used. Based on their previous experiences conducting qualitative data collection on the subject of gender and GBV, Congolese colleagues expressed a preference for focus group discussions (FGDs) over individual interviews. Given their established use in exploring such topics, US members of research teams agreed that FGDs were an appropriate approach to exploring how caregivers' gender attitudes affect adolescent health and well-being (65, 129). Despite the potentially sensitive nature of the research topics, researchers believed that the interaction between interviewees would yield better responses than those provided in individual interviews.

In order to adequately address the research topic the authors chose to conduct five FGDs, a sample size that has been shown in other contexts to reveal around 90 percent of discoverable themes (130, 131). FGDs were composed of 6 to 10 participants. Groups of this size were thought to be large enough to allow for lively conversation while still being small enough for all interviewees to participate. Similar group sizes have been used in other focus group discussion studies on gender norms conducted with adolescents and their caregivers (66, 120).

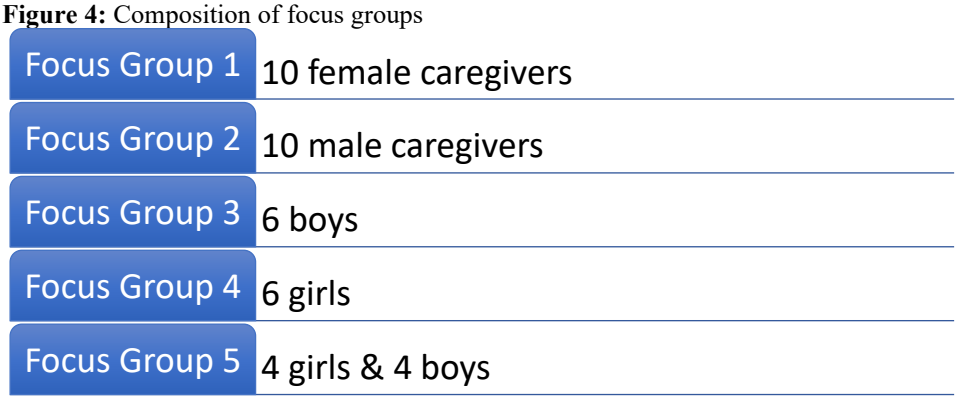
Adolescents were purposively recruited based on age, sex, and geographic location. All adolescents were between 13 and 15 years of age. Children were enrolled if they (1) expressed an interest in participating in an interview; (2) were between 10 and 15 years of age; and (3) had resided in one of the ten study villages for at least the past 12 months. Children were excluded from the study if (1) they were uninterested in

participating; (2) were unable to speak Mashi, Swahili, or French; or (3) their parent of guardian was unwilling to provide consent or was deemed by the primary investigator or research assistant not to understand the potential risks in participating in the study.

Adolescent participants were asked to invite a caregiver to participate in one of the adult FGDs. Similar inclusion and exclusion criteria existed for caregiver participation as those for the early adolescents. Before beginning any data collection caregivers provided oral consent for themselves and their children and children provided oral assent. Adolescents completing interviews received approximately $1.50 and caregivers $3.00 for their time, an amount recommended by PAIDEK partners. The study was approved by the Institutional Review Boards of Catholic University of Bukavu and Johns Hopkins University.

Recruitment of FGDs (*N*=5) with 20 adolescents and 20 of their caregivers were carried out in November and December 2020. Two FGDs were made up of adult caregivers and three FGDs were made up of adolescent participants. Caregiver groups were divided by sex, with 10 female caregivers forming one group and 10 male caregivers forming the second. Based on recommendations by PAIDEK research team members, two of the adolescent FGD groups were made up of female or male adolescent participants while the third group was mixed sex. Eight female and male adolescents made up each of the single sex groups and four male and four female participants formed the mixed sex group (figure 3).

**Figure 4:** Composition of focus groups




**Qualitative Data Collection Procedures**

Due to ongoing travel restrictions, US-based researchers carried out all study development and training activities with DRC-based PAIDEK research team members remotely. Congolese and American team members held videoconference meetings in order to develop the FGD guide and study procedures and to debrief following pilot testing of the FGD guides.

All FGDs were facilitated by at least two PAIDEK research assistants (RAs). RAs were fluent in French and two widely used local languages, Mashi and Swahili. FGD guides were developed in partnership with PAIDEK research team members and employed a body mapping exercise and vignettes. Early adolescence is a time in which children are beginning to develop the reasoning abilities necessary to reflect on abstract topics, such as gender norms (77, 78). These immature critical reasoning abilities frequently compel researchers who work with early adolescents to employ qualitative methods meant to supplement the more traditional open-ended question approaches frequently used in qualitative inquiry. Body mapping is a qualitative method that seeks

to capture data related to bodily experiences and is an approach that has been shown to be particularly useful in child and adolescent populations that benefit from assistive tools to discuss complex thoughts and opinions (132, 133). At the beginning of the exercise each participant will be given a piece of paper with an outline of a man or woman and a box of colored pencils. The participant will then be asked to color in and clothe the figure however they would like. While the participant is coloring, the interviewer will begin posing a series of questions about various parts of the figure that relate to gendered norms and parenting. During FGDs PAIDEK RAs took notes and recorded audio of participants responses to questions being posed. Pictures that adolescents colored in during the activity were retained and sent to US researchers; however, these pictures were not analyzed when reviewing focus group transcripts.

Vignettes are short stories describing hypothetical individuals or situations that aid participants in considering the effect that different types of gender norms have on their well-being (134, 135). Vignettes are a common qualitative data technique used when interviewing young people on abstract topics, such as gender norms (7, 135, 136). Additionally, vignettes can help to create distance between the interview questions being posed and adolescent participants' personal experiences. As the focus of a vignette is on a third person, this method of qualitative data collection can allow participants to discuss sensitive topics without having to reveal their own experiences. Through the course of an interview, vignettes serve to normalize topics and help participants to speak about their own situations when they feel comfortable to do so

(135, 136). Vignettes for this study explored how early adolescents perceive that caregivers' treatment may differ between hypothetical groups of boys and girls.

Five vignettes were included in the FGD guide and covered concepts related to depression, anxiety, prosocial behavior, school attendance, and sexual and reproductive health. Each vignette detailed a scenario that an adolescent might find themselves in and then was followed by two to three questions for focus group participants. For example, in a vignette related to school attendance, a boy from a poor family considers leaving school in order to find work so that he could help financial support his family. After reading the scenario focus group participants were asked how his caregivers might respond to his consideration of leaving school. Participants were then asked in a second question if caregivers' responses would be any different if the scenario involved a girl and whether it was equally important for girls to stay enrolled in school as long as boys. In-depth discussion with the participants following the exercise allows for investigation of these relationships (137). PAIDEK RAs were instrumental in the development and credibility testing of the FGD guides and provided invaluable feedback during the initial writing of the guides and following pilot testing. Different adolescent and caregiver versions of guides were developed and available in appendix 2 and 3.

**Analysis**

I employed Sandelowski's qualitative descriptive approach to the study of the qualitative arm of this study. Qualitative description (QD) is useful for research that is descriptive in nature and can help investigators to gain insights about a poorly understood phenomenon. QD has been characterized as being a low-inference

approach that may or may not begin with a theory of the targeted phenomenon that draws data from purposefully sampled FGDs or induvial interviews (138-140). Following translation from Mashi or Swahili into French by PAIDEK RAs and then into English, transcripts were coded by the author and another doctoral student using f4analyse, a qualitative data analysis software (141). Participants were assigned pseudonyms to protect anonymity.

Before beginning coding, I created three overarching domains that aligned with the four main goals of early adolescent development, as described by Blum et al. (2014) in their conceptual framework for early adolescent research (17). The three overarching domains included psychosocial well-being, school attendance, and food security. These overarching domains similarly aligned with the study's quantitative outcomes of adolescent internalizing and prosocial behaviors; food security; and school attendance. The goal was to identify salient quotes and emergent themes that could be categorized under these overarching domains and that would help explain or simply further contextualize associations between caregiver gender attitudes and adolescents' outcomes in the quantitative arm of the study.

We used thematic analysis to code the focus group discussion transcripts. Thematic analysis roughly followed Braun and Clarke's six phases of thematic analysis (142). In phases 1 and 2 my colleague and I read through FGD transcripts and coded any participants responses thought to be relevant to our domains of research inquiry. In phases 3 we separately created lists of themes that appeared to emerge from our identified codes. In phase 4, through a series of meetings we developed a final list of

emergent themes that were seen as clarifying to our understanding of the overarching domains. During phase 5 we wrote brief descriptions of each theme and categorized them under their overarching domains. Last, phase 6 occurred as we wrote the final results manuscript and selected the quotes most meaningful to our understanding of the qualitative data and the quantitative outcomes.

In order to establish the validity of qualitative findings I sought to meet the credibility, transferability, dependability, and confirmability criteria of Lincoln and Guba's (1985) refined concept of trustworthiness (143). Credibility was obtained through triangulation as we posed similar questions to multiple groups of focus group participants of various ages and by having multiple authors code resulting transcripts. Efforts to triangulate findings also included communicating with PAIDEK representatives to determine if our analytical findings were in line with their impressions from facilitating the FGDs and their previous experiences working with individuals from the study villages. To improve findings' transferability, sample inclusion and exclusion criteria, interview guides, and a description of the data analysis process was published in Manuscript 3. I tried to achieve dependability in findings by creating, maintaining, and frequently reviewing an analysis codebook and reviewing it with my mentorship team to discuss discrepancies, reduce bias, and to group codes into emerging themes. Lastly, confirmability was maintained by documenting the numerous steps taken and decisions made throughout the course of study activities.

**Findings Synthesis**

The final step of a parallel mixed methods research design is to merge and synthesize findings from the study's quantitative and qualitative data strands. The goal in this study was to search for possible explanations for associations between caregivers' gender attitudes and adolescents' outcomes in the quantitative arm by reviewing the qualitative research's emergent themes and quotes. Themes and quotes that appeared to offer context for quantitative findings or possible explanations were further scrutinized by reviewing the existing literature related to these concepts. The most relevant quotes to quantitative findings were included in Manuscript 3's results section and synthesized findings presented in the discussion section.

# CHAPTER 4: RESULTS

## Introduction

Results of this research are presented in two manuscripts. Manuscript 2 (Corley, Glass, Remy, Perrin, 2021) describes the results of a latent class analysis in which the authors classified participants based on responses to a gender attitudes survey and examined associations between latent class membership and measures of intimate partner violence perpetration or victimization and mental health problems. In Manuscript 3, these same latent classes are used to classify caregivers' gender attitudes and to explore associations between caregiver gender attitudes and adolescent health and well-being.

# MANUSCRIPT TWO: A latent class analysis of gender attitudes and their associations with intimate partner violence and mental health in the Democratic Republic of Congo

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## Abstract

Gender role attitudes, views held by individuals regarding the roles men and women should play in society, are a powerful social determinant of health. However, work remains in elucidating the associations between gender attitudes and intimate partner violence (IPV) perpetration or victimization and mental health problems. We used latent class analysis to classify patterns of responses on survey items on gender attitudes by male and female adults in households that participated in an economic empowerment intervention and evaluation in rural villages in the Democratic Republic of Congo. Attitudes about IPV and gender equality were two subdomains to emerge from analysis and a 3-class model solution was found to best fit response patterns. Results indicated that, as compared to the least gender equitable class, individuals in the moderately gender equitable and fully gender equitable classes had lower odds of having experienced or perpetrated psychological abuse. Individuals within the moderately gender equitable class were at lower odds of having experienced or perpetrated physical or sexual violence. Further, individuals in the moderately gender equitable and fully gender equitable classes had significantly lower mean scores on symptoms associated with PTSD than individuals in the least gender equitable class. Future research should explore the relationships between gender attitudes, partner violence and mental health to build resilient families.

## Introduction

Inequitable gender attitudes result from differences in views held by individuals regarding the roles men and women should play in society and are an important social determinant of health (3, 20, 144). For women, beginning at a young age inequitable gender attitudes frequently restrict independence, educational opportunities, and the roles that they may occupy in public life. This narrowed scope of possibilities combines with beliefs about the importance of female subservience, leading to fewer economic opportunities; increased risks for early marriage and violence in the relationship; and reduced mental and physical health (1, 145). For men, inequitable gender attitudes are the foundation for notions of masculinity that favor toughness and dominance over other personality characteristics considered less socially valuable (1). Such hegemonic masculinities can be damaging to individuals' and families' health and well-being by predisposing men to violence and substance abuse; discouraging their participation in caregiving and household chores; promoting risky sexual behaviors; and permitting intimate partner violence (4, 5, 146).

The different social roles and expectations of men and women in a society that simultaneously shape and are reinforced by gender inequitable attitudes often create unequal power dynamics in which one gender is empowered to subordinate the other (147). Often, the maintenance of these power dynamics is achieved by acts of violence by men against women. Gender-based violence (GBV), violence against women, is a global public health threat and a consequence of gender inequitable norms (1). Intimate

partner violence (IPV)—emotional, verbal, economic, physical or sexual abuse perpetrated by a domestic partner—is estimated to affect one in three ever-partnered women worldwide, making it one of the most frequently reported forms of GBV (148). IPV oftentimes leads to negative mental health outcomes, including post-traumatic stress disorder, anxiety, depression, low self-esteem, suicidality, and substance abuse (149).

Despite the existence of dominant gender attitudes within a society, community member attitudes that are informed by and reinforce them are not monolithic (150). Within a community, individuals may express an array of different attitudes toward gender and gender roles. Such attitudes are learned through a process of socialization that occurs within families, between peers, at workplaces, and through interactions with individuals and institutions at every level of one's social ecological environment (151, 152). Exposure to armed conflict and the widespread use of physical and sexual violence against both women and men is a critical life event that can profoundly impact both individuals' gender attitudes and the psychological health of whole communities (153). While research suggests that gender inequality and armed conflict reciprocally exacerbate one another (154), it remains necessary to further explore the lasting impact of living in a physically and economically insecure post-conflict setting on attitudes toward gender and IPV and their associations with mental health. The importance of conducting such research becomes increasingly clear as scholarship continues to clarify how gender attitudes and emotional trauma are transmitted intergenerationally to influence the health of future generations (80, 155, 156). In order to help meet this gap

in research, this study will draw upon data from economic empowerment studies conducted in the eastern Democratic Republic of the Congo (DRC), an area that has experienced nearly three decades of insecurity and widespread reports of sexual and gender-based violence (157). While its post-colonial history has been marked by numerous periods of violence, many of the DRC's current-day conflicts have roots can be traced back to the 1994 Rwandan Genocide and Congo Wars. Since the end of these largescale conflicts, the eastern DRC has been site of a series of armed conflicts between non-state and state actors (157).

The objectives of this study are to classify men and women in households living in a post-conflict setting based on their responses to a survey on gender attitudes and to examine associations between these classes and their demographic characteristics, histories of IPV victimization or perpetration, and mental health outcomes. To accomplish this, we use latent class analysis (LCA), a model-based clustering approach, to classify people into distinct patterns of gender attitudes based on responses to items on a gender equality survey. Creating this classification structure provides the opportunity to estimate the proportion of the overall sample that may share similar gender attitudes and to unearth the associations such attitudes have with demographic characteristics, past histories with experiencing or perpetrating IPV, and current mental health problems. We hypothesize that those classes characterized by more restrictive gender attitudes will be associated with greater odds of having experienced or perpetrated IPV and worse mean scores on measures of current mental health problems.

## Methods

### Parent Study

Data for this analysis comes from cross-sectional survey data of adult participants (*n* = 784) enrolled in a related series of randomized control trials whose aims were to improve a number of outcomes related to economic well-being, family functioning, and gender equality. The first study, Pigs for Peace (PfP), evaluated the effectiveness of a livestock asset transfer program for adults living in ten rural villages in South Kivu, DRC (122). Within the study, each adult participant randomized to receive the intervention received a female piglet, care instructions, and ongoing technical support by the local non-governmental organization (NGO) implementing partner. In exchange for the piglet, participants agreed to repay the local NGO with the first two piglets it birthed and these repayment piglets served as asset loans for other households in the program. After meeting this program requirement, participants were mentored to continue the livestock project as an ongoing income source to meet basic needs. The second study compared the relative effectiveness of PfP with that of a second animal/livestock asset transfer program targeting adolescents aged 10 to 15 years titled Rabbits for Resilience (RfR). In a similar scheme, adolescents and their families were randomized to one of three arms (rabbit only, pig only, rabbit and pig) and technical support from the local NGO in exchange for agreeing to repay the first two offspring of the animal/livestock provided to the household to the partner NGO (114). The PfP and RfR interventions' effectiveness in improving adolescent well-being outcomes were compared after a 24 month trial period. All survey data was translated into French and

administered verbally in participants' preferred language (French, Mashi, or Swahili) by experienced Congolese research assistants. Responses were recorded in French and then translated into English before analyses.

**Measures**

**Attitudes towards Gender Equality**

Gender attitudes were collected using an adapted version of the Social Norms and Beliefs about Gender-Based Violence Scale, a 30-item scale designed to measure changes over time in personal beliefs and social norms thought to maintain tolerance of sexual violence and related forms of gender-based violence in low-resource and complex humanitarian settings (13). As the present study's objective was to classify individuals in the parent study based on their gender equality attitudes rather than attitudes specific to sexual violence, we included only the items on the scale that related to the construct of gender equality. We adopted the Inter-Agency Standing Committee's (IASC) definition of gender equality as our guiding theoretical construct. The IASC states that gender equality is the "equal enjoyment of women, girls, men, and boys—of all age, sexual orientations and gender identities—of rights, goods, opportunities, resources, rewards and quality of life" (124). In order to operationalize this definition, we selected scale items that aligned with targets of Goal 5 of the Sustainable Development Goals (SDGs): achieving gender equality and empowering all women and girls that were culturally relevant to the study population and viewed as influencing partner violence and mental health (158). Following discussion between the three authors, eight scale items were retained for inclusion in the latent class analysis. These items were then

arranged to reflect the two subdomains: “husbands’ use of intimate partner violence” and “gender equality.” In order to conduct the analysis, it was necessary to dichotomize the four-point Likert scales of each item. Scales were divided in half and the lower two possible responses of the original scale expressing disagreement with an item’s gender equitable attitude were rescored as 0. The remaining two possible responses expressing agreement with this attitude were rescored as 1. A score of 0 represented disagreement with an item’s statement and 1 represented agreement.

**Demographic Characteristics**

Participants’ age, sex, education, marital status, and food insecurity were collected. Food insecurity and relative socioeconomic status were captured using the Household Food Insecurity Access Scale (HFIAS), an experience-based food insecurity scale covering a 30 day recall period (159). In previous research, the HFIAS has been shown to be strongly related to socioeconomic status, indicating improved food access with higher socioeconomic status (160, 161). The nine scale items were used to measure the frequency of occurrence of behavioral and psychological manifestations of food insecurity using a 4-point Likert scale from 0 “never” to 3 “often” with higher scores representing greater food insecurity. Mean scores were then calculated for each participant.

**IPV Experiences**

Female participants were also asked whether they had ever experienced controlling behaviors or psychological abuse and/or, physical, and/or sexual violence by their male partners. Male participants were asked about their perpetration of any of

these IPV behaviors against their female partners. Data was collected using an 18-item measurement tool with a dichotomous yes/no scale for each item. Items asked about experiences of (1) jealous; (2) accuse of being unfaithful; (3) does not allow you to see friends; (4) limits contact with your family; (5) insists on knowing where you are; (6) does not trust you with money; (7) humiliate; (8) threaten to hurt; (9) insult; (10) push; (11) slap; (12) twist arm or pull hair; (13) punch; (14) kick, drag, or beat; (15) choke or burn; (16) threaten or attack with a weapon; (17) force to have sexual intercourse; and (18) force to perform sexual acts. Items 1 through 6 measured controlling behavior, items 7 to 9 correspond to psychological abuse, items 10 through 18 correspond to physical violence, and items 11 and 12 correspond to sexual violence. A participant reported IPV experienced or perpetrated if they responded affirmatively to any of its corresponding questions. For the purposes of this analysis, physical and sexual violence were combined into a single form of IPV due to the relative rarity of reported sexual violence.

**Mental Health**

Participants were asked to describe any recent or ongoing feelings of anxiety or depression. The Hopkins Symptom Checklist-25 (HSCL-25) was used to detect symptoms of anxiety and depression. With a reference period of the past month and composed of a 10-item anxiety subscale and a 15-item depression subscale, each item is scored on a Likert scale from 1 (not at all) to 4 (extremely). The instrument has been used as both a self-report inventory as well as an interviewer-administered scale for non-literate populations. The HSCL-25 is a frequently used scale for detecting cases of anxiety and

depression and has been used in Western populations (162) and in cross-cultural research (163, 164). The researchers employed a version of the HSCL-25 previously translated into French and used in Eastern DRC (165). In this sample, the Cronbach's alpha was 0.86 for anxiety and 0.85 for depression. Mean symptom scores for anxiety and depression were calculated for each participant.

The 16-item version of section four of the Harvard Trauma Questionnaire (HTQ) was used to evaluate for post-traumatic stress disorder-related symptoms in the last seven days. Post-traumatic stress disorder (PTSD) syndrome is composed of a constellation of symptoms, including frequent intrusive memories of a traumatic event, avoidance of its reminders, emotional blunting, and frequent hyperarousal (166). Refugees and similar populations who experience conflict, natural disasters, and other complex humanitarian emergencies are at a high risk of developing PTSD and associated disability and dysfunction (167). The HTQ is one of the most frequently used screening instruments for trauma symptoms in clinical and research work with refugee populations (168). Similar to the HSCL-25, participants respond to each question on the HTQ using a 4-point Likert scale, ranging from 1 (not at all) to 4 (a lot). For this sample, Cronbach's alpha was 0.89. A mean symptom score was calculated for each participant.

**Statistical Analyses**

Classification of participants into patterns of gender attitudes was performed using LCA. LCA identifies unobservable characteristics—latent classes—in participants based on observable variables. Latent classes cannot be directly measured and typically represent complex constructs (e.g., happiness or behavior patterns). A participant's

response pattern to a set of observable variables generates a probability of belonging to each of the latent classes. Participants are classified into the latent class to which they have the highest likelihood of belonging. LCA has been called a person-centered approach to psychosocial measurement for its ability to group individuals who exhibit similar response patterns and not assume all individuals follow the same pattern (169).

LCA was performed using the generalized structural equation model. Using responses to the eight gender attitude items related to the acceptability of husband's IPV and gender equality, we first estimated models with 2, 3, and 4 classes. We examined Akaike's information criterion (AIC) and Bayesian information criterion (BIC) information statistics for each model to aid in final model selection. Smaller AICs and BICs are more desirable and represent better fit and more parsimonious models. Model selection was also done in consultation with experts in gender attitudes in Eastern DRC (authors NG, MMR, and NP), in order to select the number of classes that most appropriately fit the data.

Pearson's chi-square test and analysis of variance were used to compare differences in demographic characteristics between classes within the final model. Simple and multivariable logistic regression was used to estimate the unadjusted and adjusted odds ratios of experiencing or perpetrating different forms of IPV between a reference class and the remaining classes within the final latent class model. Differences between the classes in the final model on anxiety, depression, and PTSD were tested with adjusted and unadjusted linear regression. Statistical significance was set at an $\alpha$

level ≤ 0.05. All analyses were conducted in Stata 15 (128). Ethical approval was obtained from the Johns Hopkins Medicine Institutional Review Board.

## Results

Table 1 provides demographics, experiences with IPV, and mean anxiety, depression, and PTSD scores for the overall study sample. The majority of the sample was female and married. A large portion of the sample were 45 years or older and experienced occasional food insecurity. Most participants reported experiencing or perpetrating controlling behaviors and approximately one-quarter reported experiencing or perpetrating at least one form of psychological abuse and/or, physical, or sexual violence.

**Table 1.** Demographic characteristics of sample (*n* = 784)

| | Total no. (%) or Mean (SD) | Missing (%) |
|---|---|---|
| **Participant sex** | | |
| Number female | 674 (86%) | 0 (0%) |
| **Age** | | |
| 20–34 | 241 (31%) | |
| 35–44 | 201 (26%) | |
| 45+ | 342 (43%) | 0 (0%) |
| **Marital status** | | |
| Married | 543 (69%) | |
| Not currently married | 241 (31%) | 0 (0%) |
| **Household Food Insecurity Access Scale** | | |
| Mean score (range 0–3) | 1.38 (0.65) | 0 (0%) |
| **Experienced or perpetrated controlling behaviors** | | |
| Yes | 478 (61%) | 12 (2%) |
| **Experienced or perpetrated psychological abuse** | | |
| Yes | 200 (25%) | 12 (2%) |
| **Experienced or perpetrated physical or sexual abuse** | | |
| Yes | 218 (28%) | 12 (2%) |
| **Anxiety** | | |
| Mean score (range 1–4) | 1.64 (0.55) | 0 (0%) |
| **Depression** | | |
| Mean score (range 1–4) | 1.62 (0.46) | 0 (0%) |
| **PTSD** | | |
| Mean score (range 1–4) | 1.77 (0.56) | 0 (0%) |

Information criteria were calculated for 2-, 3-, and 4-class models. AIC and BIC values had sizeable decreases between the 2- and 3-class models (2-class: AIC 5408.969 and BIC 5488.264; and 3-class: AIC 5345.608 and BIC 5466.883). Only a marginal decrease in the AIC was observed between the 3- and 4-class models (4-class: AIC 5344.955; BIC 5508.209), while an increase in the BIC was noted. Based on low AIC and BIC values and interpretability of the classes, three classes were selected. Table 2 provides the three-class model class sample sizes and the percent who of participants who agreed with each item statement by class.

**Table 2.** Latent classes and percent agreement

| | **Tolerant of IPV** | **Gender Equitable Except Tolerant of Husband's Home-Life Dominance** | **Fully Gender Equitable** |
|---|---|---|---|
| | *n* = 103 | *n* = 307 | *n* = 374 |
| **Husbands' use of intimate partner violence (IPV)** | | | |
| It is not okay for a husband to beat his wife to discipline her | 49% | 90% | 99% |
| A man does not have the right to beat/punish his wife | 14% | 93% | 97% |
| **Gender equality** | | | |
| It is not more important to send sons to school than send a daughter to school | 88% | 88% | 97% |
| Women should participate equally with their husbands in making decisions about the household | 83% | 40% | 96% |
| It is not acceptable for girls to be married before 15 years of age | 93% | 89% | 97% |
| Men are not more important than women in the family | 58% | 69% | 92% |
| A wife should express her opinion when she disagrees with what her husband is saying | 74% | 51% | 85% |
| Men should support women in leadership roles in the community | 85% | 76% | 92% |

The first class was made up 13% of the overall sample and titled Tolerant of IPV, and men and women in this class were more likely to disagree with statements related to the inappropriateness of husbands' use of IPV against their wives. The majority of

participants in the second class, comprising 39% of all participants and titled Gender Equitable except Tolerant of Husband's Home-Life Dominance, expressed agreement with statements related to the inappropriateness of husbands' use of physical violence against their wives. While a majority of members of this class broadly agreed with statements advocating for gender equality, they were also likely to report believing that women should not participate equally with their husbands in making decisions about the household and that a wife's opinions should not be equal to her husband's opinions. Finally, the third class, composed of the remaining 48% of all participants, was named Fully Gender Equitable. Participants in this class expressed agreement with statements regarding the inappropriateness of husbands' use of IPV and the vast majority endorsed statements related to the importance of gender equality.

Table 3 examines differences in the three classes on participant demographics and experiences with or perpetration of different forms of abuse. The classes differed significantly by marital status and on mean household food insecurity scores. A greater proportion of those in Fully Gender Equitable class reported being currently married than in either of the other two groups. Members of Tolerant of IPV had a higher mean household food insecurity score, indicating more frequent experiences with food insecurity and, possibly, lower economic security. The classes did not differ significantly on sex or age.

**Table 3.** Comparison of demographic characteristics by latent class

| | Tolerant of IPV | Gender Equitable Except Tolerant of Husband's Home-Life Dominance | Fully Gender Equitable | $X^2$ or ANOVA *p*-value |
|---|---|---|---|---|
| | *n* = 103 | *n* = 307 | *n* = 374 | |
| **Participant sex** | | | | |
| number female | 88 (85%) | 274 (89%) | 312 (83%) | 0.092 |
| **Age** | | | | |
| 20–34 | 23 (22%) | 98 (32%) | 120 (32%) | 0.062 |
| 35–44 | 29 (28%) | 66 (21%) | 106 (28%) | |
| 45+ | 51 (50%) | 143 (47%) | 148 (39%) | |
| **Marital status** | | | | |
| Married | 71 (69%) | 194 (63%) | 278 (74%) | 0.007 * |
| Not currently married | 32 (31%) | 113 (37%) | 96 (26%) | |
| **Household Food Insecurity Access Scale** (range 0–3) | | | | |
| Mean score (*SD*) | 1.54 (.50) | 1.38 (.71) | 1.33 (.63) | 0.018 * |

* *p*-value ≤ 0.05

Table 4 disaggregates by latent class the frequency of ever having had experienced or perpetrated any of the different forms of IPV assessed and mean scores (range 1–4) of participants' reported anxiety, depression, and PTSD. Using simple and multivariable logistic and regression, Table 5 compares the unadjusted and adjusted odds of experiencing or perpetrating different forms of IPV by class membership. Table 5 also explores associations between class assignment and mean scores for measures of anxiety, depression, and PTSD through simple and multivariable linear regression. For all analyses Tolerant of IPV serves as the reference group with adjusted models controlling for marital status and household food insecurity status.

**Table 4.** Prevalence of ever-experienced IPV and mean mental health outcomes scores by latent class

| Latent Class | *n* | Controlling Behaviors Yes (*%*) | Psychological Abuse Yes (*%*) | Physical or Sexual Violence Yes (*%*) |
|---|---|---|---|---|
| **Tolerant of IPV** | 99 | 66 (67%) | 34 (34%) | 35 (35%) |
| **Gender Equitable except Tolerant of Husband's Home-Life Dominance** | 306 | 180 (59%) | 71 (23%) | 73 (24%) |
| **Fully Gender Equitable** | 367 | 232 (63%) | 95 (26%) | 110 (30%) |
| **Latent Class** | ***n*** | **Anxiety *M*(*SD*)** | **Depression *M*(*SD*)** | **PTSD *M*(*SD*)** |
| **Tolerant of IPV** | 103 | 1.72 (0.55) | 1.7 (0.43) | 2.04 (0.61) |
| **Gender Equitable except Tolerant of Husband's Home-Life Dominance** | 307 | 1.7 (0.59) | 1.66 (0.48) | 1.75 (0.58) |
| **Fully Gender Equitable** | 374 | 1.57 (0.51) | 1.57 (0.46) | 1.7 (0.51) |

Abbreviations: n, class sample; %, percentage of class; M, mean; SD, standard deviation.

**Table 5.** Unadjusted and adjusted odds ratios (*n* = 772) and linear regressions (*n* = 784) with Tolerant of IPV as the reference group

| | Gender Equitable Except Tolerant of Husband's Home-Life Dominance | | Fully Gender Equitable | |
|---|---|---|---|---|
| **Ever-Experience IPV Outcome** | **OR (95% CI)** | **aOR (95% CI)** † | **OR (95% CI)** | **aOR (95% CI)** † |
| **Experienced or perpetrated controlling behaviors** | 0.71 (0.44 to 1.15) | 0.68 (0.35 to 1.31) | 0.86 (0.54 to 1.37) | 0.53 (0.27 to 1.01) |
| **Experienced or perpetrated psychological abuse** | 0.58 (0.35 to 0.95) * | 0.59 (0.35 to 0.99) * | 0.67 (0.41 to 1.07) | 0.59 (0.35 to 0.98) * |
| **Experienced or perpetrated physical or sexual violence** | 0.57 (0.35 to 0.93) * | 0.59 (0.35 to 0.99) * | 0.78 (0.49 to 1.25) | 0.70 (0.43 to 1.15) |
| **Mental Health Outcome** | **β (95% CI)** | **aβ (95% CI)** † | **β (95% CI)** | **aβ (95% CI)** † |
| **Anxiety** | −0.02 (−0.14 to 0.1) | 0.01 (−0.1 to 0.12) | −0.15 (−0.27 to −0.03) * | −0.09 (−0.2 to 0.02) |
| **Depression** | −0.03 (−0.14 to 0.07) | −0.001 (−0.09 to 0.09) | −0.12 (−0.22 to −0.02) * | −0.05 (−0.14 to 0.04) |
| **PTSD** | −0.29 (−0.41 to −0.17) * | −0.25 (−0.36 to −0.13) * | −0.34 (−0.46 to −0.21) * | −0.27 (−0.38 to −0.16) * |

Abbreviations: IPV, intimate partner violence; OR odds ratio; β, slope coefficient. † The adjusted regression controlled for participant marital status and household food insecurity status. * *p*-value ≤ .05.

In this sample, those classified as belonging to Gender Equitable except Tolerant of Husband's Home-Life Dominance were nearly half as likely as those in the Tolerant of IPV class to have reported experiencing or perpetrating psychological abuse, even after adjusting for marital status and food insecurity (aOR = 0.59, *p*-value = .048). This same association was found to be statistically significant in the adjusted model comparing the Fully Gender Equitable class with Tolerant of IPV (aOR 0.59, *p*-value = .041). Additionally, those in the Gender Equitable except Tolerant of Husband's Home-Life Dominance class have a lower odds of experienced or perpetrated physical or sexual violence than the Tolerant of IPV class (aOR 0.59, *p*-value = .046). There were no differences among the three classes in experiencing/perpetrating controlling behaviors.

In unadjusted models, membership in the Fully Gender Equitable class was associated with statistically significantly lower scores on measures of anxiety (β = −0.15, *p*-value = .014) and depression (β = −0.12, *p*-value = .022) than the Tolerant of IPV class. These associations, however, were not significant in adjusted models. Membership in the Gender Equitable except Tolerant of Husband's Home-Life Dominance class was associated with significantly lower PTSD scores in both the unadjusted and adjusted models (β = −0.25, *p*-value < .001), when compared to the Tolerant of IPV class. Similarly, membership in the Fully Gender Equitable class was associated with significantly lower PTSD scores in both the unadjusted and adjusted models ((β = −0.34, *p*-value < .001), when compared to the Tolerant of IPV class.

## Discussion

In this study, we were able to classify participants based on their gender attitudes and measure associations between these attitudes and histories of experiencing or perpetrating IPV and current mental health problems. The analysis identified three classes, *Tolerant of IPV*, *Gender Equitable except Tolerant of Husband's Home-Life Dominance* and *Fully Gender Equitable*. The distribution of individuals within these three classes indicates that, despite living in a post-conflict, cultural context favoring gender attitudes of hegemonic masculinity, nearly half of all participants expressed preferences that classified them as belonging to the Fully Gender Equitable class, a group opposed to men's use of IPV and favorable of gender equality. This opposition to IPV is higher than previous scholarship conducted in the DRC in which approximately two-thirds of male and female participants reported believing that husbands' physical punishment of their spouses was acceptable in at least some circumstances (170). Despite largely condoning husbands' physical punishment against their spouses, members of Tolerant of IPV agreed in equal proportion to members of Gender Equitable except Tolerant of Husband's Home-Life Dominance that it was important to send both daughters and sons to school and in similar proportions with both the other classes that daughters should not be married before 15 years age. Additionally, members of Tolerant of IPV reported greater agreement with statements relating to the importance of equal decision-making in the home and supporting women in leadership roles than members of Gender Equitable except Tolerant of Husband's Home-Life Dominance.

Attitudes of agreement and disagreement across different gender equitable behaviors highlight the multidimensional, rather than unitary, nature of gender equality as a construct, and suggest that participants' level of acceptance or rejection of gender equality does not exist along a single continuum. For example, 83% of those classified as Tolerant of IPV while only 40% of those classified as Gender Equitable except Tolerant of Husband's Home-Life Dominance agreed with the statement, "Women should participate equally with their husbands in making decisions about the household." Individuals' gender equality attitudes are contextually dependent and sometimes inconsistent. These incongruities in attitudes reflect complex balances of power between men and women and diverse manifestations of patriarchy (171). As Glick and Fisk (1996) observe through the Ambivalent Sexism Theory, hegemonic masculinities and inequitable gender attitudes can be operationalized through hostile or benevolent forms of sexism. While hostile sexism refers to overt attempts to subordinate women in order to preserve men's power, benevolent sexism seeks to "protect" women's purity and beauty. This more socially acceptable form of sexism emphasizes the complementarity of men and women and has demonstrated greater acceptance across sexes than hostile sexism (172). These overlapping yet distinct forms of sexism could help to explain unexpected levels item agreement and disagreement in the Tolerant of IPV and Gender Equitable except Tolerant of Husband's Home-Life Dominance classes.

An area of agreement across all three classes, however, was the importance of girls attending school and of delaying their marriage until after age 15. Increasing girls' educational opportunity and delaying marriage until after adolescence are known to

have many beneficial effects on individual and community economic development and on the health and well-being of girls and their future children (173-176). Participants within this region of the DRC have been exposed to multiple years of humanitarian and development programing that has included messaging by government and NGO authorities regarding the benefits of educating girls and avoiding forced/early marriage and see adopting these behaviors as critical to improving family socioeconomic mobility. Broad acceptance of statements related to girls' education and avoidance of adolescent marriage, regardless of other gendered beliefs, becomes a pragmatic decision once parents appreciate how it can enhance family health and wealth.

While a significant portion of the sample expressed attitudes intolerant of IPV, numerous participants in the overall sample reported ever experiencing or perpetrating acts of IPV. Over 60% of participants reported experiences with controlling behaviors, 25% with psychological abuse, and 28% with physical and/or sexual violence. These rates are similar to those reported by sample of Tanzanian adolescent and young women but lower than other samples of conflict-affected adolescent girls and women in South Sudan and the DRC (117, 177, 178). Attitudes towards men's perpetration of violence against women is a factor known to influence IPV's acceptability, its overall incidence rate, and the responses of survivors and those close to them (179). Flynn and Graham (2010) have previously conceptualized such gendered attitudes as a stable personality trait that, when interacting with more proximal factors (e.g., stressful life circumstances, desires to assert power or authority) lead to increased risks for IPV (180).

In this study, membership to Gender Equitable except Tolerant of Husband's Home-Life Dominance or Fully Gender Equitable was associated with lower odds of experiencing or perpetrating psychological abuse in adjusted models. Further, membership to Gender Equitable except Tolerant of Husband's Home-Life Dominance, a class expressing gender equitable attitudes but accepting of men's primacy within the domestic sphere, had nearly half the odds of reporting ever experiencing or perpetrating physical and/or sexual violence as compared to those in the reference group, Tolerant of IPV. While more gender equitable attitudes were found to be associated with lower odds of ever experiencing or perpetrating violence, these results should not be interpreted as a causal relationship beginning with a woman's gender inequitable attitudes and leading to a higher likelihood of being a victim of psychological or physical abuse of sexual violence. To do so would be to blame the victim.

Within the study of IPV, status inconsistency theory has been used to explain how women in gender inequitable, low-resource households are at increased risk for IPV due to relationship strain related to these resource constraints and limited alternatives for safety. The theory also argues that women in high status and resource households might be at similar risks for IPV because of perceived challenges to social norms around male superiority. The risk for IPV is actually the lowest for women in households that have sufficient resources but whose status does not threaten traditional patriarchal practices (181). The U-shaped decrease in odds of reporting physical and/or sexual violence perpetration in Gender Equitable except Tolerant of

Husband's Home-Life Dominance or Fully Gender Equitable could be evidence in support of the status inconsistency theory (182).

These findings support existing scholarship that indicates that endorsement of hegemonic masculine and tolerance of violence attitudes are associated with increased odds of IPV perpetration and victimization (183, 184). Within the classes that endorse gender inequitable attitudes, such as the Tolerant of IPV class, IPV has been described as a tool to punish female spouse behavior that contravenes strict gender roles. Women's endorsement of attitudes tolerant of IPV is the result of socialization within home environments that support men's right to use IPV as a form of discipline (170). This use of IPV by men against their spouses is not only an enormous threat to the mental and physical health of women globally, but also an influential factor in the future attitudes and behaviors of children who witness it (185, 186). Children who observe violence against their mothers or are victims of it themselves internalize the lesson that violence is an acceptable conflict resolution tool and may go on to model these behaviors later in life (187).

Associations between class membership and mental health outcomes were also detected. Within unadjusted models, those in the Fully Gender Equitable class had statistically significantly lower symptoms of anxiety, depression, and PTSD scores. However, differences between classes on measures of symptoms of anxiety and depression were no longer found to be significant after controlling for marital status and food insecurity (i.e., socioeconomic status). Membership in either Gender Equitable except Tolerant of Husband's Home-Life Dominance or Fully Gender Equitable was

associated with lower mean PTSD symptom scores in both unadjusted adjusted models, however. Masculinity-related constructs have been previously positively associated with negative mental health outcomes across numerous samples (188, 189). In men, this is frequently attributed to gender role conflicts that restrict emotionality and discourage help-seeking. Rather than being taught as boys to deal productively with upsetting emotions arising from traumatic experiences by expressing and exploring their feelings, men who endorse traditional, restrictive gender roles are socialized to respond outwardly. These physical responses, as our IPV analyses support, include more frequent perpetration of IPV than by those men who demonstrate weaker adherence to strict gender roles (190). While men experience greater lifetime prevalence of traumatic events, women exhibit higher rates of PTSD (191). Arguments have been made that differences are the result of a biological predisposition in females of experiencing more severe psychological reactions to such events (192). However, a systematic undercounting of GBV as a key trigger for PTSD is perhaps a more compelling explanation for the disparity in rates as GBV is more strongly associated with adverse social and personal repercussions, such as self-blame, stigma, and guilt, than are other forms of violence (149, 191, 193, 194). The relationship between significantly lower PTSD scores and class membership to either Gender Equitable except Tolerant of Husband's Home-Life Dominance or Fully Gender Equitable than as compared to membership to Tolerant of IPV is likely conceptually complex but could in part be attributed to lower odds of enduring traumatic IPV experiences.

**Implications**

Our results highlight important associations between individuals' gender attitudes and experiences with IPV and mental health. This research supports previous scholarship arguing that restrictive gender norms negatively affect the health trajectories of both women and men (3). Research is beginning to give a clearer picture of when gender attitudes become salient constructs in the minds of young people and the methods by which gendered behaviors are passed down from one generation to the next (4, 5, 145). More research is needed to clarify the complex relationship between restrictive gender attitudes and poorer mental health. This research should aim to consider the entire family by examining parent/child dyads in order discover how such restrictive attitudes affect mental health during adolescence, a developmentally sensitive period of life.

Gender transformative interventions have been developed to help communities confront the harmful effects of restrictive gender attitudes and norms (195-197). Such transformations are slow to occur and take patience and long-term commitment. Changes in gender attitudes are possible, though. Within this study, a majority of participants in all three classes reported believing that it was equally important to send girls to school as it was boys. Families seem to be acting on these beliefs. Female enrollment in secondary school (ages 12–17) in the DRC has also steadily increased, with most recent figures indicating a female secondary enrollment rate increase from approximately 30% in 2010 to nearly 36% in 2015 (198). Ongoing inquiry is needed to inform the development of future gender transformative programs designed to help

communities confront the damaging consequences of gender inequality and IPV by discovering how to engage men and boys more effectively as agents of change (199).

**Strengths and Limitations**

The primary strength of our analysis is its use of LCA to assign participants to different gender attitudes classes. As previously mentioned, gender equality is a complex, multifaceted construct that is difficult to accurately represent along a single-domain continuum. Using a person-centered approach to class membership identification allowed us to consider and integrate the various attitudes participants hold into our final model solution.

The following limitations should be considered when interpreting the results of this present study. Due to the cross-sectional nature of the data, it is not possible to infer a direction of causation between gender attitudes and ever experiencing or perpetrating IPV and symptoms of anxiety, depression, or PTSD. Second, social desirability bias in self-reported gender attitudes, experiences with IPV, or mental health measures could drive some findings. Third, as a secondary data analysis, the gender attitudes independent variable used in this study was not purposely designed for these analyses. As such, adaptation of the original questionnaire to meet this study's requirements could have eliminated some response pattern nuances. Finally, as only a small segment of the study population was male, it was not possible to stratify by sex.

**Conclusions**

Within this study, significant associations were detected between gender attitudes, IPV and mental health. This research contributes to the expanding body of

literature supporting the notion that gender attitudes exert a strong influence on physical and emotional health. Addressing gender inequitable attitudes and their negative health effects will take commitment. However, devoting time and resources to ensuring that gender equality is addressed in all global health programming will yield future dividends and enhance human development and well-being.

# MANUSCRIPT THREE: Exploring caregivers' gender attitudes' influence on adolescent health in the eastern Democratic Republic of Congo: A mixed methods study

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## Abstract

**Introduction:** Adolescence is a developmentally important phase in one's life. However, restrictive gender attitudes that gain increased importance during adolescence prevent many from reaching their health and development potential. The objective of this study is to explore associations between caregiver gender attitudes and adolescent psychosocial health, educational attendance, and food security in a sample living in the eastern Democratic Republic of Congo, a region that has experienced persistent poverty and nearly thirty years of insecurity. **Methods:** A mixed methods design was selected for this research. Quantitative results were combined with qualitative focus group discussion results to provide new insight into how caregiver gender attitudes might influence adolescent health and development. **Results:** Findings from the research suggest that more gender equitable caregiver attitudes are associated with fewer reports of internalizing behavior and greater food security in adolescent girls. No significant associations were found between caregiver gender equality attitudes and adolescent prosocial behavior or school attendance. **Discussion:** Focus group discussions supported some quantitative findings but refuted others. Participants suggested that adolescent girls with caregivers who endorse more equitable gender attitudes experiences less psychological control and witness less conflict and violence between caregivers in their home.

## Introduction

Adolescence is a period of rapid physical, cognitive, and social development (77). In many cultural contexts, the increased physical maturation gives adolescence important social significance in many cultural contexts, frequently marking it as an individual's transition into adulthood (5, 7). A complex interaction of rapidly developing hormonal and neurological systems and changing sociocultural expectations make adolescence a developmentally sensitive period of life. So significant is this period that is has come to be known as a "second window of opportunity" for improving the development trajectory of young people and as a time to mitigate the potential negative effects of adverse life circumstances experienced in younger childhood (200). However, as a time of increased psychosocial vulnerability, adolescents are also at higher risk for developing mental health problems, such as depression and anxiety, than at other times of life (79). It has been reported that half of all mental illnesses begin by age 14 (201).

Gender is a complex social system that structures the life experience and is an important social determinant of health that gains increased saliency beginning in adolescence (1, 145). The process of gender socialization is life-long; however, the process is accelerated in adolescence as children become more attuned to sex differences and face increased pressure to conform to culturally permissive gender norms (32). Gender norms are social constructs held by communities that govern attributes and behaviors that are valued and considered acceptable for men and women

(1, 5). While gender norms are constructs shared at the community level, gender attitudes are individually-held beliefs about and endorsement of gender norms (4).

Inequitable gender norms create and maintain power hierarchies and can exert a negative effect on the health and well-being of children. At puberty in some settings, gender norms exist that may prohibit a girl from attending school or interacting with those outside of her home as a means of "protecting" her purity for marriage (7). Such restrictions limit her future economic opportunities and increases her risk for school dropout, early marriage, violence in the relationship, and poor mental and physical health (11, 12). For boys, decreased parental monitoring can combine with hazardous notions of masculinity, leading to poor sexual reproductive health practices; greater risks for use of tobacco, alcohol, and other harmful substances; and for more frequent exposure to violent and dangerous situations (146, 202). Both girls and boys are harmed by inequitable gender norms (1, 4).

Much of the scholarship exploring the effects of gender norms on adolescent health focuses on those living in politically stable environments (19, 20, 22, 145). However, an estimated 125 million adolescents—approximately one-tenth of the world's adolescent population—live in countries affected by conflict (23). Adolescent girls living in such areas are particularly at risk for sexual violence; abuse and exploitation; and forced or early marriage due to the destruction of protective family and community structures and a lack of economic options available to them and their families (25). While research supports theories positing that inequitable gender norms further harm the emotional well-being of adolescents' living in humanitarian contexts, work remains to elucidate

how caregivers' gender attitudes might influence the health and well-being of adolescents in humanitarian crisis contexts (24, 57).

Since the early 1990s the eastern Democratic Republic of Congo (DRC) has been the site of numerous armed conflicts. The international community's attention was fixed on the DRC during the aftermath of the 1994 Rwandan Genocide and two pursuant Congo Wars. However, less attention is given to the eastern DRC today, despite an ongoing spate of armed conflicts between non-state and state actors that have plagued the region since the end of the Second Congo War in 2003 (30, 31). These armed conflicts, rooted in long-standing political grievances and economic incentives, represent a threat to peace and safety of the eastern DRC and were responsible for displacing an estimated 1.8 million people in 2018 alone (203). Recently, the threat of armed conflict has combined with and been exacerbated by the dual health security threats of COVID-19 and an ongoing Ebola Virus Disease outbreak, leaving nearly 30 percent (1.7 million people) of the South Kivu province in need of humanitarian assistance (204, 205).

This study's objective is to report the findings of mixed methods research designed to examine overall associations between caregivers' gender attitudes and adolescents' measures of internalizing and prosocial behaviors, school attendance, and food security; to examine these same association after stratifying by child sex; and to contextualize these findings through participants' perceptions on how caregiver gender attitudes influence adolescents' behaviors and health trajectories in a sample living in South Kivu, DRC. The study adopts a strengths-based approach to the analysis of

parents' gender attitudes by hypothesizing that parents' greater endorsement of equitable gender attitudes are associated with improved outcomes on measures of early adolescent mental health, school attendance, and food security in those living in a protracted, conflict-affected humanitarian setting.

## Methods

### *Overview*

In order to reflect the fact that many children's primary caregivers are grandparents, older siblings, or extended family members, parents and other primary caregivers will be referred collectively to as caregivers in the remainder of this article. A mixed methods approach was selected for this research. Mixed methods research integrates quantitative and qualitative streams of data to offer a multidimensional exploration of the phenomenon under study (121). A mixed methods approach provides a contextually rich perspective on how caregivers' attitudes around gender roles and expectations both might directly affect the adolescent development and indirectly influence future health and well-being as children receive and adopt messages about gender from their caregivers.

All study activities were conducted in 10 villages in Walungu Territory, a primarily rural region located in South Kivu, DRC. Quantitative data (*N*=375) for this analysis comes from a comparative effectiveness trial of a livestock asset transfer program carried out with adolescent/caregiver dyads and designed to improve a number of economic empowerment and adolescent well-being outcomes (114). Caregiver independent variable and adolescent outcomes data were collected at the 12-

month follow-up period (114). Quantitative data were collected between February and March 2016 through a series of site visits by trained Congolese research assistants (RAs). Qualitative data were conducted in 2020 with 40 new caregivers and adolescents living in the same 10 villages as the parent comparative effectiveness study took place. All study activities were conducted in participants' preferred language (Mashi, Swahili, or French). The study was approved by the Institutional Review Boards of Catholic University of Bukavu and Johns Hopkins University.

***Quantitative Procedures***

The independent variable of this study's quantitative arm was a measure caregivers' gender attitudes. Gender attitudes were collected using an adapted version of the *Social Norms and Beliefs about Gender-Based Violence Scale*, a 30-item scale designed to measure changes over time of the personal beliefs and social norms theorized as necessary to maintain tolerance for sexual violence and other forms of gender-based violence in low-income and humanitarian settings (13). The authors selected for analysis eight scale items that related to the construct of gender equality.

Classification of caregivers based on their response patterns to these items was done using latent class analysis (LCA). LCA is a psychosocial statistical method used to model unmeasurable class membership based on observable response patterns. Participants' responses to the observable variables generates a probability of belonging to each of the predetermined number of classes within a given model. Participants are then assigned to the class to which they have the highest membership probability. LCA requires an iterative approach in which models with varying numbers of classes are

applied to the data. The model that most appropriately represents the sample's response patterns to the observable variables is then selected. The authors have previously described the development of the latent class model that serves as the independent variable for this analysis (123). The selected model was comprised of three classes: *Tolerant of Intimate Partner Violence (IPV)*, *Gender Equitable except Tolerant of Husband's Home-Life Dominance*, and *Gender Equitable*.

***Quantitative Measures***

*Outcomes*

Quantitative outcomes were collected from adolescents.

*Internalizing behavior.* Anxiety and depression were measured using the 19-item Internalizing Problems subscale of the African Youth Psychosocial Assessment (AYPA), a psychosocial health measurement tool validated in Northern Uganda, which measures anxiety-like and depression-like symptoms. Symptom severity over the previous 7 days is assessed using a 4-point Likert scale (i.e., never, sometimes, often, always). During development, no absolute boundaries between depression-like and anxiety-like syndromes within could be detected and so the two concepts were combined into the single outcome of internalizing behavior (206). Cronbach's alpha within this sample was 0.77.

*Prosocial behavior*. Prosocial behavior was measured using the 8-item Prosocial subscale of the AYPA, a measure of positive social behaviors in the past week. Frequency of performing specific prosocial behaviors was measured using the same 4-point Likert scale as the Internalizing subscale. Prosocial behavior benefits others and is

promotive of positive social relationships. It is also related to subjective well-being in children and is inversely related to negative externalizing behaviors (126). Cronbach's alpha in this sample was 0.81.

*School attendance*. School attendance was assessed by examining the number of school days missed in the last month. As the theoretical age of completion for most secondary school streams in the DRC is 17, only adolescents less than 18 were included in school attendance analyses (207). School-aged participants were asked if they were enrolled in school at present and the number of days they had missed in the last month. Responses were dichotomized for the purposes of these analyses (i.e., ≤ 2 or > 2 days missed). Those not enrolled in school were coded as having missed greater than 2 days.

*Food security*. Food security was measured using the Household Dietary Diversity Score (HDDS). The HDDS assesses the number of different food groups a household has consumed in the last 24 hours. Dietary diversity is closely associated with not only food security, but also greater caloric and protein adequacy (127). A summative score for each participant was calculated from responses to questions about 12 food groups, resulting in a score range of 0 to 12, with a higher score representing greater food security.

*Covariates*

Adolescents reported demographic information, including their sex and age. Caregivers reported their sex; age; marital status; number of adults, girls, and boys living in the household; and household food insecurity status. Household food insecurity was measured using the Household Food Insecurity Access Scale (HFIAS), an experienced-

based food-insecurity scale with a recall period of the last 30 days (159). Previous scholarship has shown the HFIAS to be strongly correlated to household socio-economic status (SES), with higher food security linked to greater SES (161). A score of 0 corresponds to never experiencing a given food security situation, while a score of 3 corresponds to frequent experiences. Mean scores for each participant were calculated.

***Qualitative Procedures***

The authors collaborated with the same local partners responsible for implementing the comparative effectiveness livestock asset transfer program to conduct qualitative interviews in the same 10 villages in Walungu Territory in order to explore adolescents' and caregivers' views on how caregiver gender attitudes influence adolescent health and well-being. Focus group discussions (FGDs; *N*=5) with 20 adolescents and 20 of their caregivers were carried out in November and December 2020. Adolescents were purposively recruited based on age, sex, and geographic location. All adolescents were between 13 and 15 years of age. Before beginning any data collection caregivers provided oral consent for themselves and their children and children provided oral assent.

Two FGDs were comprised of adult caregivers and three FGDs were made up of adolescent participants. Caregiver groups were divided by sex; 10 female caregivers formed one group and 10 male caregivers formed the second. Based on recommendations by the partner NGO, two of the adolescent FGD groups were made up of female or male adolescent participants while the third group was mixed sex. Eight female and male participants made up each of the single sex groups and three male and

three female participants formed the mixed sex group. All FGDs were facilitated by at least two Congolese RAs employed by the partner NGO. RAs were fluent in French and two widely used local languages, Mashi and Swahili. RAs were also instrumental in the development and credibility testing of the interview guides.

Semi-structured focus group discussion guides containing a body-mapping exercise and a series of vignettes were employed. Body mapping is a qualitative method that seeks to capture data related to bodily experiences and has been shown to be useful in child and adolescent populations that benefit from assistive tools to discuss complex thoughts and opinions (132). Vignettes are short stories describing hypothetical individuals or situations that aid participants in considering the effect that different types of gender attitudes have on their well-being. Vignettes are a common qualitative data technique used when interviewing young people on abstract topics, such as gender norms (135). Versions of the interview guide were adapted for the adolescent and caregiver FGDs. Following group activities RAs translated and transcribed FGD audio transcripts from local languages to French.

***Data Analysis***

Quantitative data analysis was conducted using Stata 15 (128). Mean and frequency values were calculated for all covariates in the overall sample and then for each caregiver latent class. $\chi^2$ and ANOVA tests were used to compare differences in covariates across classes. To compare differences in adolescent outcomes by caregiver latent class assignment mixed effects regression models were used to account for nesting of caregivers and adolescents within the 10 villages. Normal Gaussian

distribution models were used for all analyses except for school attendance which required a logistic model. Both unadjusted models and adjusted models were estimated to control of differences between the latent classes by caregiver and household characteristics. To examine if the relationship between caregiver latent class and adolescent outcomes differed for girls and boys, analyses were then run on samples after stratifying by child sex.

The power analysis determined the effect size detectable, assuming an intra-class correlation (ICC) of .004 based on the data, power=0.80, alpha=.05. With 10 villages and N=375, we can detect significant betas $\geq$.213 when comparing the *Gender Equitable except Tolerant of Husbands' Home-life Dominance* class (N=140) with the reference group of *Tolerant of IPV* (N=53) in the linear regression models with continuous outcomes and odds ratios $\leq$ 0.366 for the logistic regression model with a binary outcome. We can detect significant betas $\geq$.192 when comparing the *Fully Gender Equitable* class (N=140) with the reference group of *Tolerant of IPV* (N=53) for the continuous outcomes and odds ratios $\leq$ 0.382 for the binary outcome.

Sandelowski's qualitative descriptive approach to qualitative inquiry was used to analyze FGD transcripts (138). Qualitative description (QD) is useful for research that is descriptive in nature and can help investigators to gain insights about a poorly understood phenomenon. QD has been characterized as being a low-inference approach that may or may not begin with a theory of the targeted phenomenon that draws data from purposefully sampled FGDs or induvial interviews (138-140). Following translation from Mashi or Swahili into French by PAIDEK RAs and then into English,

transcripts were coded by two authors (AC & KG) using f4analyse, a qualitative data analysis software (141). Participants were assigned pseudonyms to protect anonymity.

Three overarching domains psychosocial well-being, school attendance, and food security were defined before beginning transcript coding. These overarching domains aligned with the study's quantitative outcomes of adolescent internalizing and prosocial behaviors; food security; and school attendance. The goal was to identify salient quotes and emergent themes that could be categorized under these overarching domains and that would help explain or further contextualize associations between caregiver gender attitudes and adolescents' outcomes in the quantitative arm of the study.

We used thematic analysis to code the focus group discussion transcripts. Thematic analysis roughly followed Braun and Clarke's six phases of thematic analysis (142). In phases 1 and 2 authors read through FGD transcripts and coded any participants responses thought to be relevant to our domains of research inquiry. In phases 3 we separately created lists of themes that appeared to emerge from our identified codes. In phase 4, through a series of meetings authors developed a final list of emergent themes that were seen as clarifying to our understanding of the overarching domains. During phase 5 we wrote brief descriptions of each theme and categorized them under their overarching domains. Last, phase 6 occurred as we wrote the final results manuscript and selected the quotes most meaningful to our understanding of the qualitative data and the quantitative outcomes.

A codebook was created and reviewed by the authors in order discuss discrepancies, reduce bias, and to group codes into emerging themes. Throughout the

analysis phase, reflexivity was maintained through written memos and trustworthiness was achieved through frequent communication between the authors and through the help of an audit trail. A convergent parallel mixed methods design was used in which the quantitative and qualitative strands of research were performed independently and then integrated during results interpretation (121). Mixed results are presented in the discussion section.

## Results

### *Quantitative results*

A total of 375 caregiver/adolescent dyads were analyzed. Most caregiver participants were female (88%) and currently married (71%). Adolescents were evenly split by sex and had an average age of 13.6 years (SD 2.15). Table 1 provides demographic, covariate, and outcome data for the overall sample.

**Table 1:** Demographic characteristics of sample (*N*=375 caregiver/adolescent dyads)

| | Total no. (%) or mean (SD) | Missing (%) |
|---|---|---|
| **Caregiver sex** | | |
| Number female | 329 (88%) | 0 (0%) |
| **Caregiver age** | | |
| 20-34 | 111 (30%) | |
| 35-44 | 113 (30%) | |
| 45+ | 151 (40%) | 0 (0%) |
| **Marital status** | | |
| Married | 266 (71%) | |
| Not married | 109 (29%) | 0 (0%) |
| **Child sex** | | |
| Number female | 184 (49%) | 0 (0%) |
| **Child age** | | |
| Mean age | 13.6 (2.15) | 0 (0%) |
| **Household Food Insecurity Access Scale** | | |
| Mean score (reported by caregiver; range 0-3) | 1.37 (0.63) | 0 (0%) |
| **Number of adults in house** | | |
| Over 18 years of age | 2.8 (1.4) | 0 (0%) |

| | | |
|---|---|---|
| **Number of girls in household**<br>Under 18 years of age | 2.2 (1.7) | 0 (0%) |
| **Number of boys in household**<br>Under 18 years of age | 2.1 (1.6) | 0 (0%) |
| **Adolescent anxiety/depression**<br>APAI Internalizing subscale mean (range 1-4) | 1.2 (0.2) | 0 (0%) |
| **Adolescent prosocial behavior**<br>APAI Prosocial subscale mean (range 1-4) | 3 (0.5) | 0 (0%) |
| **Household Dietary Diversity Scale**<br>Mean score (range 0-12) | 3.6 (1.5) | 0 (0%) |
| **School-age (<18yo) enrollment status**<br>Enrolled<br>Not enrolled<br>Older than school-age | 305 (81%)<br>59 (16%)<br>11 (3%) | 0 (0%) |
| **School days missed in last month**<br>≤ 2 days<br>> 2 days<br>Above school-age | 202 (54%)<br>162 (43%)<br>11 (3%) | 0 (0%) |

Table 2 examines differences in demographics and additional covariates by the three caregiver latent classes: *Tolerant of IPV* (14% of caregivers); *Gender Equitable except Tolerant of Husband's Home-Life Dominance* (37% of caregivers), and *Fully Gender Equitable* (49% of caregivers). The classes differed significantly by HFIAS. The classes did not differ significantly by caregiver sex, age, or marital status; child sex or age; or the number of adults, girls, or boys living in the household. In the adjusted regression models, we controlled for household SES using HFIAS scores.

**Table 2:** Comparison of demographic characteristics by caregiver latent class

| | **Tolerant of IPV** | **Gender Equitable except Tolerant of Husband's Home-life Dominance** | **Fully Gender Equitable** | ***X²* or *ANOVA* *p*-value** |
|---|---|---|---|---|
| | *n*=53 | *n*=140 | *n*=182 | |
| **Caregiver sex**<br>number female | 47 (89%) | 124 (88%) | 158 (87%) | *.87* |
| **Caregiver age**<br>20-34<br>35-44 | 9 (17%)<br>19 (36%) | 45 (32%)<br>33 (24%) | 57 (31%)<br>61 (34%) | *.062* |

| | | | | |
|---|---|---|---|---|
| 45+ | 25 (47%) | 62 (44%) | 64 (35%) | |
| **Caregiver marital status** | | | | |
| Married | 36 (68%) | 94 (67%) | 136 (75%) | *.29* |
| Not currently married | 17 (32%) | 46 (33%) | 46 (25%) | |
| **Child sex** | | | | |
| Number female | 27 (51%) | 63 (45%) | 94 (52%) | *.476* |
| **Child age** | | | | |
| Mean age (*SD*) | 14.1 (2.2) | 13.3 (2.1) | 13.6 (2.1) | *.089* |
| **Household Food Insecurity Access Scale** (range 0-3) | | | | |
| Mean score (*SD*) | 1.64 (0.4) | 1.42 (0.7) | 1.25 (0.6) | ***<.001*** |
| **Number of adults in house** | | | | |
| Over 18 years of age (*SD*) | 2.8 (1.3) | 2.6 (1.4) | 2.8 (1.5) | *.43* |
| **Number of girls in household** | | | | |
| Under 18 years of age (*SD*) | 2.1 (1.5) | 2 (1.8) | 2.4 (1.6) | *.117* |
| **Number of boys in household** | | | | |
| Under 18 years of age (*SD*) | 2 (1.4) | 1.9 (1.6) | 2.3 (1.7) | *.079* |

Table 3 presents adolescents' outcomes by caregiver latent class by overall sample and stratified by child sex. Using multivariable mixed-effects linear and logistic regression, table 4 compares unadjusted and adjusted main effect and sex-moderated associations between caregivers' gender attitudes latent class assignments and their adolescents' well-being outcomes. In this sample, the main analyses examining associations between caregiver gender attitudes class and adolescents' internalizing behavior indicate a non-significant association. However, in stratified analyses, girls whose caregivers belonged to the *Gender Equitable except Tolerant of Husband's Home-life Dominance* (*b*=-0.14, *p*-value=.007; a*b*=-0.14, *p*-value=.008) and *Fully Gender Equitable* (*b*=-0.11, *p*-value=.018; a*b*=-0.11, *p*-value=.023) classes were found to have lower internalizing behavior scores than girls with caregivers classified as *Tolerant of IPV* in both unadjusted and adjusted models. Boys' internalizing behavior scores did not

differ across classes. However, boys with caregivers classified as *Tolerant of IPV* showed the opposite pattern for internalizing behavior than the girls with the lowest internalizing behavior scores in the *Tolerant of IPV* class.

**Table 3:** Comparison of adolescent outcomes by caregiver latent class, stratified by child sex

| | Tolerant of IPV | Gender Equitable except Tolerant of Husband's Home-life Dominance | Fully Gender Equitable |
|---|---|---|---|
| **Internalizing Behavior** (mean) | | | |
| Overall sample (*SD*) | 1.26 (0.25) | 1.23 (0.23) | 1.23 (0.23) |
| Girls (*SD*) | 1.32 (0.31) | 1.18 (0.19) | 1.22 (0.22) |
| Boys (*SD*) | 1.19 (0.16) | 1.26 (0.24) | 1.24 (0.23) |
| **Prosocial Behavior** | | | |
| Overall sample (*SD*) | 3.06 (0.54) | 3.07 (0.59) | 3 (0.46) |
| Girls (*SD*) | 3.04 (0.64) | 2.99 (0.56) | 3.02 (0.52) |
| Boys (*SD*) | 3.08 (0.42) | 3.14 (0.64) | 2.99 (0.4) |
| **Household Dietary Diversity Scale** | | | |
| Overall sample (*SD*) | 3.13 (1.32) | 3.75 (1.61) | 3.62 (1.4) |
| Girls (*SD*) | 2.96 (1.31) | 3.65 (1.77) | 3.53 (1.56) |
| Boys (*SD*) | 3.3 (1.32) | 3.83 (1.47) | 3.71 (1.2) |
| **Missing >2 days school last month** (percent) | | | |
| Overall sample | 50% | 41% | 45% |
| Girls | 50% | 40% | 45% |
| Boys | 50% | 42% | 46% |

**Table 4:** Unadjusted and adjusted associations between caregiver latent class and adolescent outcome main analyses and test of moderation by child sex with *Tolerant of IPV* as the reference group

| | Gender Equitable except Tolerant of Husband's Home-life Dominance | | Fully Gender Equitable | |
|---|---|---|---|---|
| **Linear Regression** | ***b* (95% CI)** | **a*b* (95% CI)** [†] | ***b* (95% CI)** | **a*b* (95% CI)** [†] |
| **Internalizing Behavior** | | | | |
| Overall sample (*n*=375) | -0.03 (-0.1 to 0.04) | -0.03 (-0.1 to 0.04) | -0.03 (-0.1 to 0.04) | -0.03 (-0.1 to 0.04) |
| Girls (*n*=184) | -0.14 (-0.24 to -0.04)[*] | -0.14 (-0.24 to -0.04)[*] | -0.11 (-0.21 to -0.02)[*] | -0.11 (-0.21 to -0.02)[*] |

| | | | | |
|---|---|---|---|---|
| Boys (*n*=191) | 0.07 (-0.03 to 0.17) | 0.07 (-0.03 to 0.17) | 0.05 (-0.05 to 0.15) | 0.04 (-0.06 to 0.14) |
| **Prosocial Behavior** | | | | |
| Overall sample (*n*=375) | 0.06 (-0.1 to 0.23) | 0.07 (-0.1 to 0.24) | 0.0 (-0.15 to 0.15) | 0.02 (-0.13 to 0.18) |
| Girls (*n*=184) | -0.02 (-0.27 to 0.22) | -0.01 (-0.26 to 0.24) | 0.0 (-0.23 to 0.24) | 0.02 (-0.21 to 0.26) |
| Boys (*n*=191) | 0.15 (-.07 to 0.37) | 0.15 (-.06 to 0.37) | 0.04 (-0.17 to 0.25) | 0.06 (-0.15 to 0.27) |
| **Food Security** | | | | |
| Overall sample (*n*=375) | 0.51 (0.06 to 0.96)* | 0.46 (0.01 to 0.92)* | 0.3 (-0.12 to 0.72) | 0.22 (-0.21 to 0.65) |
| Girls (*n*=184) | 0.74 (0.07 to 1.41)* | 0.78 (0.09 to 1.46)* | 0.46 (-0.17 to 1.09) | 0.5 (-0.15 to 1.15) |
| Boys (*n*=191) | 0.38 (-0.21 to 0.97) | 0.35 (-0.23 to 0.93) | 0.28 (-0.29 to 0.84) | 0.12 (-0.43 to 0.68) |
| **Logistic Regression** | **OR (95% CI)** | **aOR (95% CI)†** | **OR (95% CI)** | **aOR (95% CI)†** |
| **School Attendance** | | | | |
| Overall sample (*n*=364) | 0.7 (0.36 to 1.32) | 0.76 (0.4 to 1.46) | 0.83 (0.45 to 1.55) | 0.98 (0.52 to 1.86) |
| Girls (*n*=179) | 0.67 (0.27 to 1.7) | 0.83 (0.32 to 2.14) | 0.82 (0.34 to 1.96) | 1.07 (0.43 to 2.64) |
| Boys (*n*=185) | 0.64 (0.24 to 1.68) | 0.65 (0.25 to 1.72) | 0.77 (0.31 to 1.95) | 0.84 (0.33 to 2.15) |

Abbreviations: IPV, intimate partner violence; OR odds ratio; *b*, unstandardized slope coefficient

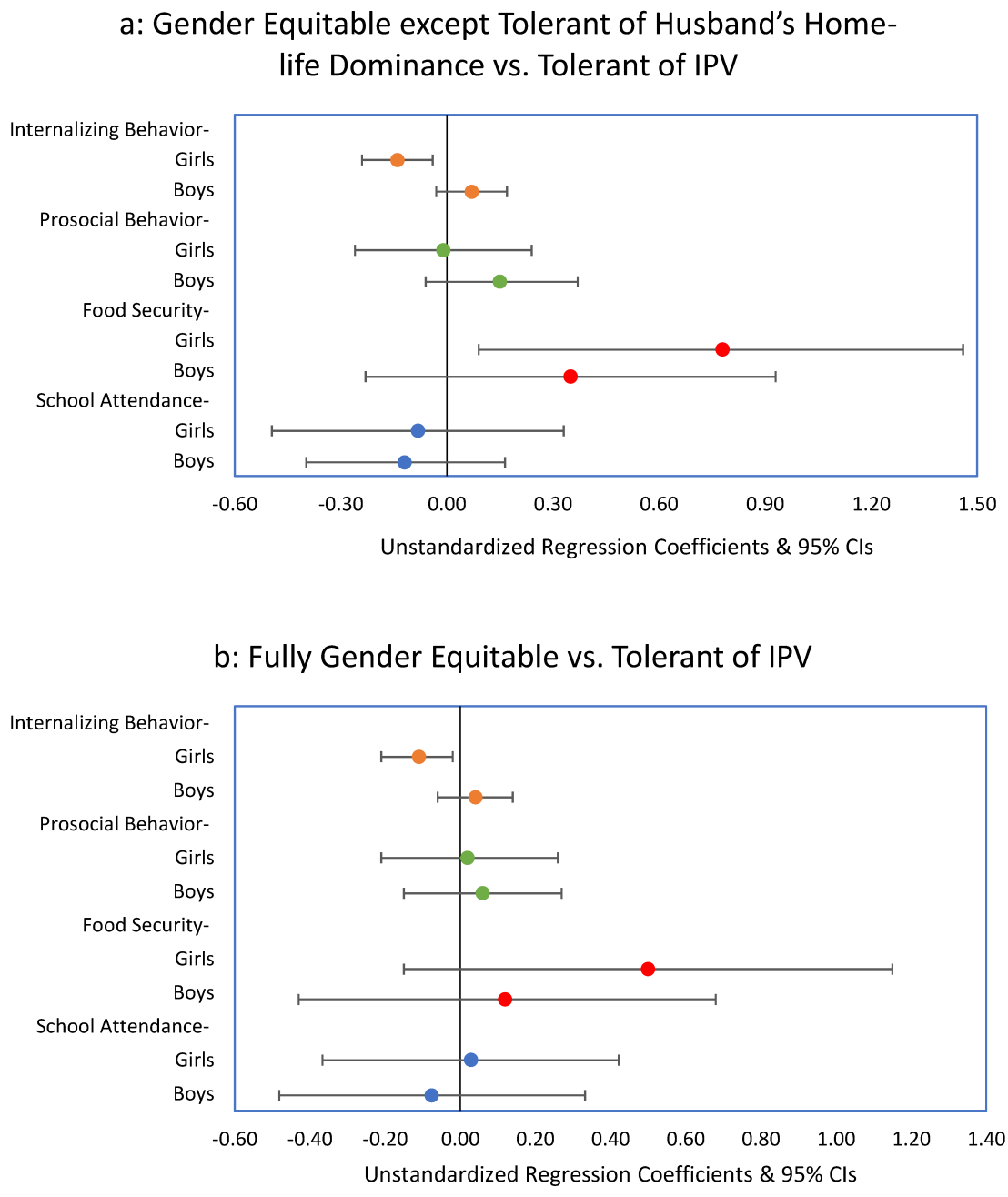
† Adjusted models controlled for family SES using HFIAS scores.

*$p$-value≤.05

Caregivers' gender attitudes class was not significantly associated with adolescents' prosocial behavior in the overall sample or when stratifying by child sex. In analyses of the overall sample, adolescents food security was greater for those with caregivers classified as *Gender Equitable except Tolerant of Husband's Home-life Dominance* in unadjusted and adjusted models (*b*=0.51, *p*-value=.027; a*b*=0.46, *p*-value=.045) compared to those adolescents with caregivers classified as *Tolerant of IPV*. This association was similarly true in stratified analyses wherein girls' whose caregivers

were classified as *Gender Equitable except Tolerant of Husband's Home-life Dominance* had significantly better food security (*b*=0.74, *p*-value=.03; a*b*=0.78, *p*-value=.026) than reference group girls. While adolescent girls with caregivers classified as *Fully Gender Equitable* and boys in both of the comparison classes had higher mean food security scores than those adolescents in the references groups, these differences were statistically insignificant. Adolescents with caregivers classified as *Gender Equitable except Tolerant of Husband's Home-life Dominance* had the highest rates of school attendance, with 41 percent of children missing more than two days of school in the last month while those in the *Tolerant of IPV* class had the highest (50%). Again though, differences in school attendance between classes were not found to be statistically significant in overall sample of stratified analyses. Figures 1a and b illustrate associations between caregiver gender class by child sex.

**Figure 1:** Associations between caregiver gender class and adolescent outcomes stratified by sex[†]



***Qualitative results***

Quotes that gave voice to participants' perspectives on how caregiver gender attitudes affect adolescent well-being were extracted from transcripts. Extracted quotes were subcategorized into seven emergent themes under the three overarching domains. Overarching domains, their sub themes, and illustrative quotes follow here. An expanded list of extracted quotes are provided in appendix d.

*Psychosocial well-being domain*

*Theme of "Caregivers' gendered roles and behaviors influence adolescents' own future behaviors and attitudes."* Participants' responses give a glimpse into how gendered behaviors and messages by caregivers may influence adolescent well-being. Participants from all FGDs agreed that caregivers' gendered attitudes, responsibilities, and behaviors influence adolescents' own attitudes and future behaviors:

> *"Like father like son, like mother like daughter, as we say. Children inherit many of their behaviors from their parents. The father did poorly by taking the money, he should wait for his wife in order to make a joint decision on how to spend it."* – Augustin, male caregiver (when responding to a vignette about how who makes spending decisions in them home)

> "*The advice given to girls and boys is different but one must give it all the same. One must give more advice to a girl in order to prepare her for her future life elsewhere, while a boy will stay at his home."* – Joceline, female adolescent

*Theme of "Girls' behavior may cast shame on their families."* Participants from all five FGDs indicated that girls' behavior becomes a potential source of shame as they enter adolescence, and more specifically at menarche. The risk of bringing shame upon their family means that girls' behavior must be tightly controlled by caregivers:

> *"The lessons that parents teach girls and boys are very different. To girls, parents ask them not to cause shame and to study before getting married. I don't know what they teach boys."* – Nsimba, female adolescent

> *"There are many bad things that a girl can do that a boy cannot. Girls can go out and sleep with boys and create all kinds of problems for their parents."* – Félix, male adolescent

*Theme of "Intimate partner violence threatens adolescents' emotional well-being."* Participants in caregiver FGDs also agreed that children's exposure to IPV could be emotionally damaging for adolescents and might lead to perpetration of these same behaviors later in life. One caregiver described the risks in this way:

> *"The [boy] will conclude that hitting or slapping a woman is not bad, but also, he might become angry from witnessing this situation and jump atop his father who is hitting his moth."* – Albert, male caregiver

Some believe, though, that the problem was not husbands' use of IPV against their spouses, but merely that children observe these actions:

> "*You can hit your wife while still loving her, it doesn't mean you hate her."* – Michel, male caregiver

*Education domain*

*Theme of "Education as a means to a better life."* One issue that participants in all five FGDs were broadly in agreement on was the importance of education. Most participants viewed an education as a means to improve family prosperity and an asset that should be sought by girls and boys alike:

> "*I work hard to farm someone else's field so that my child may go to school.* – Tshilobu, female caregiver

> *"…education is so important for a child's life. One day, after he finishes his education, this child will be able to construct for his parents a beautiful house."* – Charlotte, female caregiver

*Theme of "Girls face additional barriers to school attendance."* Despite broad support, though, some participants noted that girls face additional barriers to completing secondary school:

> *"A girl will destroy her future when she leaves school and becomes a mother."* – Thérèse, female caregiver

*Food security domain*

*Theme of "Families share food."* Participants from all FGDs agreed that children should eat together and share the same foods, regardless of sex. Similar to most cultures, mealtime was viewed as a social occasion and time to teach important life skills, such as politeness, sharing, and negotiation. Interestingly, FGD participants did not comment on the gender and intra-household power relations that might affect the division of food resources:

> *"Sometimes I eat with my children in order to show them how to behave at the table so that they know how to politely eat in front of others."* – Charlotte, female caregiver

> *"They eat together because when children have the habit of eating alone when they are not at home, they may become malnourished. They will no longer be used to [competing for food]."* – André, male adolescent

*Theme of "Food shared by age."* As previously mentioned, no participants mentioned dividing shares of food based on sex. More frequently, age was mentioned as a reason to give different amounts of food:

> *"You can also separate your children according to age so that there aren't those who would eat more than others."* – Joceline, female adolescent

## Discussion

This article contributes to an expanding body of research around gender and adolescent health. While existing scholarship from low- and middle-income countries provides us valuable insights into how gender norms pose risks to and opportunities for improved adolescent health, these studies have been purposively conducted primarily in politically stable regions (145, 208, 209). Additionally, these studies have largely been

concerned with how health and development are affected during adolescence by gender norms – socially constructed references for the roles, traits, power, and status related to femininity and masculinity. Alternatively, the present study focuses specifically on caregiver/adolescent dyads living in a cluster of villages in a post armed-conflict setting and examined how health and development during adolescence were influenced by gender attitudes – individually-held beliefs about and endorsement of gender norms. These differences in geographic settings and operationalization of the concept of gender serve to triangulate the mechanisms by which adolescent health and development trajectories are affected by inequitable gender norms.

***Mixed methods synthesis***

Our research indicated that more gender equitable attitudes by caregivers are associated with lower scores of internalizing behavior in adolescent girls. Here, our qualitative results provide two explanations for this association. The first explanation for this association suggests that lower caregiver psychological control predicts fewer internalizing behaviors by their children. As numerous FGD participants noted, a girl's entrance into adolescence, and emergence into sexual maturity, is often accompanied by restrictions in her movement and behaviors by caregivers. These reductions are based on strong cultural associations between women's virtue and family honor (7). Girls perceived as immodest risk bringing shame upon their households. However, autonomy and low psychological control are promotive of adolescent self-esteem, which itself is predictive of greater psychosocial well-being (210, 211). Caregivers in the *Tolerant of IPV* class perhaps rely on psychological control tactics, such as threats of

family shame, to influence adolescent girls' behavior, thereby reducing girls' feelings of autonomy, self-esteem, and psychosocial well-being. Findings here align with previous research conducted in Ethiopia and Bangladesh in which girls endorsing weaker restrictive gender attitudes reported greater levels of self-esteem. Authors similarly theorized links between reduced restrictive gender attitudes; fewer mobility restrictions and less social isolation; and greater self-esteem (145). Caregivers' concerns for daughters' movement outside of the home are not without merit, though, as eastern DRC remains a site for ongoing, sporadic armed conflicts (205). Additionally, many public areas are viewed by women and girls as male-dominated spaces in which girls' safety cannot be guaranteed (118).

A second, complementary explanation for associations between more equitable caregiver attitudes and fewer internalizing behaviors in girls relates to fewer observed incidences of IPV. Children who are exposed to IPV between caregivers are at greater risk of developing short- and long-term mental health problems, including mood and anxiety disorders (212). FGD participants' comments about the risks to adolescents exposed to IPV aligned with previous research. Earlier research in this same population concluded that, as compared to the *Tolerant of IPV* reference group, those participants classified as *Fully Gender Equitable* had significantly lower odds of experiencing or perpetrating intimate partner psychological abuse, while those in the *Gender Equitable except Tolerant of Husband's Home-life Dominance* class had significantly lower odds of experiencing or perpetrating intimate partner psychological or physical abuse or sexual violence (123). Qualitative findings suggest that lower average internalizing behavior

scores in adolescent girls with caregivers in one of the two more gender equitable classes might be explained by greater perceived autonomy, lower levels of caregiver psychological control, and less exposure to caregiver IPV.

While mean scores across classes for prosocial behavior did not vary significantly in analyses of the overall sample or sub-analyses by adolescent sex, it is worth commenting on the qualitative trend towards better scores for boys with caregivers classified as *Gender Equitable except Tolerant of Husband's Home-Life Dominance*. Traditional masculine norms of frequently prescribe that boys and men are aggressive, strong, dominant, and coercive (213). Caregivers who express more egalitarian gender norms might place less importance on these traditional notions of masculinity and, instead, emphasize more prosocial forms of behavior, such as sharing, cooperation, and respect for others. It is conceivable that a larger sample of boys would provide the power necessary to detect a significant difference between boys within this class and the reference class.

In quantitative analyses adolescents with caregivers classified as *Gender Equitable except Tolerant of Husband's Home-life Dominance* were estimated to have greater food security than those adolescents in the reference group. Stratified analyses indicate that higher mean food security scores in this group appear to be largely the driven by greater food security in girls. FGD participants addressed the importance of children receiving similar foods as caregivers but did not illuminate our understanding of differences in girls' and boys' access to food. Women are key actors in food production, however, their daughters' food consumption habits are frequently negatively affected

when restrictive gender norms dictate that they eat less food, after men, or less nutritious foods (214). Families who are less likely to possess gender attitudes reflective of such restrictive gender attitudes seem less likely to operationalize these behaviors, resulting in daughters with greater foods security. Beyond providing evidence of the critical role that caregivers play in transmitting and operationalizing the harmful effects of community-held restrictive gender norms on to their adolescent children, these variances in adolescent girl and boy food security scores among classes underscores the importance of stratifying analyses by sex in order to better understand gendered differences.

No differences were observed between adolescent groups in overall or stratified analyses of school attendance. Similar to other outcomes, though, adolescents with caregivers classified as *Gender Equitable except Tolerant of Husband's Home-life Dominance*, the moderately gender equitable class, showed the greatest trend towards a reduced odds of missing two or fewer days of school in the last month. There was broad support by caregivers and adolescents alike for school attendance during FGDs. However, some adolescents suggested through their quotes that girls faced more barriers to attending school than boys. While no differences in school attendance were evidenced in these quantitative results, girls throughout sub-Saharan Africa face numerous barriers to secondary school attendance, including a lower perceived importance of educating girls as compared to boys when restricted when restricted family finances prevent all children from attending school; difficulties for girls who marry or have unplanned pregnancies to continue their studies; and an increasing

number of domestic responsibilities for girls beginning in adolescence. Education is one of the most powerful engines for economic development and empowerment and girls' education is strongly associated with reduced future health risks related to early or unintended pregnancy and childhood malnutrition (215).

Adolescents with caregivers classified as *Gender Equitable except Tolerant of Husband's Home-life Dominance* had either statistically significantly better or insignificant but qualitatively better outcomes for all four outcomes – internalizing and prosocial behaviors; food security; and school attendance – as compared to adolescents with caregivers classified as belonging to the reference group, *Tolerant of IPV*. However, the magnitude of difference in outcome scores between adolescents with caregivers classified as belonging the most gender equitable class, *Fully Gender Equitable*, and the reference group was smaller. When viewed along a single gender equality continuum – from those holding the least to those holding the most gender equitable attitude – this produces a curvilinear pattern in which adolescents with caregivers classified as belonging to the moderately gender equitable class, *Gender Equitable except Tolerant of Husband's Home-life Dominance*, have the best outcome scores for all four measures. A similar U-shaped pattern was observed in previous analyses of this same sample when examining associations between gender attitudes and experiences of intimate partner abuse and violence and histories (123). Analyses concluded that those participants classified as belonging to the *Gender Equitable except Tolerant of Husband's Home-life Dominance* had the lowest odds of ever having experienced or perpetrated intimate partner psychological or physical abuse of sexual violence.

This curvilinear or upside down U-shaped pattern is challenging to interpret. This and related evidence creates the strong argument that increasingly equitable gender attitudes are associated with better health and safety outcomes for adolescents (56, 145). However, behaviors and opinions that reflect weaker endorsement of traditional restrictive gender norms and more equitable gender attitudes might also trigger harmful social sanctions (3). Social sanctions directed at adult caregivers and adolescents alike resulting from non-conformity with traditional gender norms can include ostracism, stigmatization, scolding, and bullying (216). While we know that there is enforcement of dominant norms, we have yet to fully understand who enforces norms within communities and how challenges to dominant gender norms might counteract the positive health and development benefits that adolescents experience by having caregivers who hold more equitable attitudes towards gender (3). With this in mind, the U-shaped pattern in study outcomes suggests a limit to the health and development benefits of more equitable gender attitudes. Adolescents whose caregivers express moderately gender equitable attitudes (i.e., *Gender Equitable except Tolerant of Husband's Home-life Dominance*) might reap the health benefits from these more egalitarian attitudes without facing the social sanctions that caregiver/adolescent dyads in the *Fully Gender Equitable* class experience for their more overt challenges to prevailing gender norms. Eliminating the social sanctions that undermine the positive health effects of more equitable gender attitudes and supporting the individuals who endeavor to challenge restrictive gender norms will come from helping communities to critically analyze and change the norms (217, 218).

There is a temptation to view gender equality attitudes as a single continuum, with highly inequitable attitudes on one end of the spectrum and highly equitable attitudes on the other. For the purposes of analysis, this is how much of the exiting scholarship, including this present study, conceptualizes gender equality. However, it does not accurately reflect the multidimensional nature of individuals' attitudes toward gender roles and their feelings towards equality of the sexes. Gender scholars frequently delineate between attitudes around male primacy – attitudes that privilege men over women – and gender essentialism – the belief that men and women have fundamentally different traits (219). Gender essentialism also suggests there is gender role symmetry, certain types of work and behavior for which men and women are better suited given these fundamental trait differences. Over the last several decades any number of countries have seen declines in attitudes endorsing male primacy. Gender essentialism, though, has shown greater resilience (220). To add to this, individuals may hold different opinions on the roles that men and women should hold in the public and private spheres of life. Even this brief introduction into a handful of gender concepts throws into stark relief the multidimensional nature of gender attitudes and makes apparent the challenge of measuring such attitudes.

Similar to this study, other researchers have used LCA to model gender equality attitudes. Knight and Brinton' (2017) 4-class model of participants' gender attitudes in 17 European countries found three distinct forms of gender egalitarian attitudes that showed little sign of convergence on one dominant form (221). Future research into gender roles and their influence on adolescent health must carefully consider the many

different axes of gender and the numerous forms of gender egalitarianism that may exist within a society. It is time to advance our understanding of how gender influences adolescent health by adopting a more nuanced approach to the analysis of the multiple dimensions of individuals' gender attitudes. To do this researchers should consider being more explicit in their intent to measure gender attitudes towards egalitarianism and gender essentialism and roles of men and women in public and private spheres of life. Simultaneously, researchers must also seek to measure widespread community-held gender norms and investigate their enforcement mechanisms. Doing so will help us better understand which constellations of gender attitudes most overtly challenge such norms and risk social sanction.

***Qualitative methods***

There were a number of strengths and weaknesses in deployment of the body mapping exercises and vignettes during qualitative data collection. The major strength of the two data collection methods was their ability to increase participant adolescents' insights while responding to facilitators' questions. The abundance of quotes from adolescent focus groups suggest that during body mapping exercise children felt sufficiently at ease to provide candid answers to questions related to their autonomy and differential gender role expectations. Additionally, based on transcripts, both adolescent and caregiver focus groups had lively discussions when answering vignette questions.

Weaknesses in these methods were also evident. Neither the body mapping exercise nor the vignettes offered many insights into in adolescents' food security. This

lack of discussion around gendered behaviors related to sharing food. Despite one of the focus group guide's vignettes being dedicated to the topic, participants did not discuss how gender roles affect the food security of boys and girls. The focus group guide's insufficient probing of the food security domain of the study could be in part due to the research's team inability to travel to the study site. While much of the focus group discussion guide was developed remotely in collaboration with our Congolese research partners, U.S. research team members were not able to debrief in real time with Congolese research facilitators. This delay in debriefing and reviewing transcripts meant that the lack of data around food security was not discovered until several weeks after qualitative data collection had finished. Unfortunately, a lack of time and funds limited the team's ability to return to the field to conduct additional FGDs. Despite weaknesses in carrying out qualitative data collection, the chosen methods yielded numerous interesting and insightful participant quotes that helped to shed new light on the quantitative findings.

***Limitations***

There are limitations to this study. The cross-sectional nature of the quantitative data does not allow us to infer a direction of causation between gender attitudes and adolescent well-being. Additionally, all quantitative data from caregivers and adolescents was self-reported and subject to the risk of social desirability bias. Focus group discussions were conducted several years after the two randomized control trials and in a different sample of participants living in the 10 study villages, limiting our ability to link qualitative findings with quantitative participants' results.

## Conclusion

Our mixed methods research showed that caregivers' gender equitable attitudes are associated with lower levels of internalizing behaviors and improved food security in girls. FGDs suggested that fewer internalizing symptoms might be attributed to greater feelings of autonomy and self-esteem and fewer experiences with caregiver IPV. This study expands our understanding of gender as social determinant of adolescent health and development by examining the potentially unique experiences of growing up in a rural setting whose recent history is marked by conflict and insecurity.

# CHAPTER 5: CONCLUSION

## Introduction

The goal of this research was to contribute to our understanding of how community-held inequitable gender norms, operationalized as caregiver gender attitudes, might influence adolescent health. The social-ecological environment surrounding adolescents living in protracted, conflict-affected settings is complex, and caregivers' attitudes are but one of a multitude of factors that affect adolescents' health and development. However, their influence is undeniable and deserves focused attention. This chapter presents a summary of the results presented by study aim. Findings are discussed for each study aim followed by the strengths and limitations of the study. The chapter concludes with the implications of the study's findings in regard to research and practice.

## Summary of Findings

**Aim 1: Examine how level of caregiver endorsement of equitable gender attitudes is associated with adolescent anxiety/depression, prosocial behavior, school attendance, and food security**. *Hypothesis: Caregivers' endorsement of more equitable gender attitudes will be associated with lower scores on scales of adolescent anxiety/depression, and higher scores on scales prosocial behavior, school attendance, and food security.*

A series of multivariable mixed-effects linear and logistic regressions were used to test the hypothesis that adolescents with caregivers classified as have for gender-equitable attitudes would have better scores on outcome measures. The final adjusted

model controlled for household SES with the addition of the Household Food Insecurity Access Scale (HFIAS). In the study's overall sample (*n*=375), there was no significant difference between adolescents in the three gender attitudes classes on measures of internalizing or prosocial behavior or school attendance. For food security, adolescents with caregivers classified as *Gender Equitable except Tolerant of Husband's Home-life Dominance* had significantly better scores than those in the reference group, the least gender equitable class, in unadjusted and unadjusted models (*b*=0.51, *p*-value=.027; a*b*=0.46, *p*-value=.045). Overall, the first hypothesis was only partially supported.

**Aim 2: Examine how adolescent gender moderates the association between caregivers' gender attitudes and adolescents' anxiety/depression, prosocial behavior, school attendance, and food security.** *Hypothesis: Caregivers' endorsement of more equitable gender attitudes will be more strongly associated with lower scores on scales of adolescent anxiety/depression, and higher scores on scales prosocial behavior, school attendance, and food security for girls than for boys.*

Using similar multivariable mixed-effects linear and logistic regressions as those for Aim 1, sub analyses were conducted to test the moderating effect of adolescent sex on associations between caregiver gender attitudes and adolescent outcomes. After stratifying, girls (*n*=184) whose caregivers belonged to the *Gender Equitable except Tolerant of Husband's Home-life Dominance* (*b*=-0.14, *p*-value=.007; a*b*=-0.14, *p*-value=.008) and *Fully Gender Equitable* (*b*=-0.11, *p*-value=.018; a*b*=-0.11, *p*-value=.023) classes were found to have lower internalizing behavior scores than girls

with caregivers classified as *Tolerant of IPV* in both unadjusted and adjusted models. Boys' (*n*=191) internalizing behavior scores were insignificantly different across classes.

Caregivers' gender attitudes class was not significantly associated with adolescents' prosocial behavior or school attendance in sub analyses by child sex. Similar to analyses of the overall sample, stratified analyses indicated that girls' whose caregivers were classified as *Gender Equitable except Tolerant of Husband's Home-life Dominance* had significantly better food security (*b*=0.74, *p*-value=.03; a*b*=0.78, *p*-value=.026) than reference group girls. While adolescent girls with caregivers classified as *Fully Gender Equitable* and boys in both of the comparison classes had higher mean food security scores than those adolescents in the references groups, these differences were statistically insignificant. Aim 2's hypothesis was partially supported by findings from this sample; more gender equitable attitudes of caregivers were more strongly associated with better measures of internalizing behavior and food security in girls than in boys.

**Aim 3: Explore how adolescents and caregivers perceive that caregiver gender attitudes influence adolescent mental health, school attendance, and nutrition.**

FGDs with adolescents and caregivers serve to contextualize data from the quantitative portion of this study. Salient quotes from the five FGDs were categorized into eight emerging themes that each fit into one of the three main domains: psychosocial well-being; school attendance; and food security. Quotes by participants about how caregivers' gendered behaviors might affect adolescent health and well-being were insightful and telling. Themes from this domain were:

- *Girls' behavior may cast shame on their families*
- *Intimate partner violence threatens adolescents' emotional well-being*
- *Listening is an important component of parenting*
- *Caregivers' gendered roles and behaviors influence adolescents' own future behaviors and attitudes*

Similarly, education was widely believed by participants to be the path to future prosperity. However, despite caregivers' insistence that both boys and girls attend school, a number of adolescents admitted that girls face additional barriers to attending school than do boys. The two main themes to emerge from questions and activities related to education were as follow:

- *Education as a means to a better life*
- *Lack of financial resources and pregnancy can limit school attendance, mostly for girls*

Participants' responses to questions and activities related to food security bore little relevance to disparities in caregiver gender attitudes. Perhaps as a result of a lack of follow-up or probing or difficulties encountered by participants in linking gendered attitudes to food and nutrition, emergent themes under the food security domain dealt more with the importance of nutrition for all children than with gendered differences in access to sufficient and nutritious food. Rather, differences by participants were noted in food availability by age. The two emergent themes under food security are listed here:

- *Families sometime eat together*
- *Food shared by age*

## Limitations and Strengths

A number of limitations and strengths related to this research should be remarked upon. The first of these limitations relates its source of quantitative data. As cross-sectional secondary quantitative data was used in this research it is not possible to infer a direction of causation between caregivers' gender attitudes and adolescents' health and well-being outcomes. Consequently, care was taken not to draw inappropriate conclusions beyond the scope of the cross-sectional data. In order to enhance the quantitative data's interpretability qualitative data was also collected that would help to contextualize quantitative results.

Another limitation of using existing data was the limited sample size and imperfect outcomes data. Regarding the sample size, the power analysis demonstrated that the sample size was sufficient to test the hypothesis in aim 1, but the sample size was much less sensitive to differences between groups when testing moderation. It is possible that a larger sample size would have yielded additional significant differences between groups during moderation analyses. Therefore, future research should build on these preliminary findings using larger sample sizes in order to investigate potential moderation.

Regarding adolescent outcomes, while many of the measures were appropriate for the context, food security was a challenging concept to measure given the lack of variability seen across households in the study area. This invariability made it challenging to detect differences among groups when using the HDDS, a measure of

dietary diversity at the household level rather than the individual level. A measure such as the Food Insecurity Experiences Scale (FIES), which focuses on food-related behaviors and experiences associated with difficulties in accessing food due to resource constraints, might offer more granular detail related gendered disparities in nutrition and food security.

During the planning and development phases of this research project, the author intended on traveling to the eastern DRC in order to oversee collection of qualitative data collection. However, a global coronavirus pandemic and localized Ebola virus disease outbreak prevented the author from taking any university-sponsored international travel. As a result, I was obliged to carry out all quantitative data collection remotely. Collaborating with PAIDEK partners via videoconference was an acceptable workaround to these travel limitations. During meetings I was able to discuss important data collection goals and strategies with PAIDEK leadership and to receive feedback while developing the qualitative data collection guide. The negative effects of being unable to travel to the research site were felt most acutely during the initial phases of data collection. As I was unable to be present during pilot testing and for the first few focus groups, I was constrained in being able to make real-time changes to FGD guide sections that were not useful in eliciting the types of information I was hoping to collect. Additional, as I was unable to review transcripts until several weeks after interviews had been completed, the study RAs and I could not debrief following interviews.

There are a number of study strengths that also warrant consideration. This research is one of the first studies to examine the direct associations between

caregivers' endorsed gender attitudes and the psychosocial health, school attendance, and nutrition of adolescent children living in a post-conflict humanitarian setting. While existing scholarship from low- and middle-income countries provides us valuable insights into how gender norms pose risks to and opportunities for improved adolescent health, these studies have been purposively conducted primarily in rapidly expanding, low-income urban neighborhoods (145, 208, 209). Additionally, these studies have largely been concerned with how health and development are affected during adolescence by gender norms – socially constructed references for the roles, traits, power, and status related to femininity and masculinity. Alternatively, research focuses specifically on caregiver/adolescent dyads living in a cluster of rural villages and examined how health and development during adolescence were influenced by gender attitudes – individually-held beliefs about and endorsement of gender norms. These differences in geographic settings and operationalization of the concept of gender serve to triangulate the mechanisms by which adolescent health and development trajectories are affected by inequitable gender norms. I believe results from this research could significantly contribute to global health practitioners' ability to facilitate gender transformative programming with designed to help communities to critical reflect upon and challenge harmful, inequitable gender norms and to them with norms that value gender equality.

## Implications: Research

The results from this study increase our understanding of the complex relationships between caregiver gender attitudes; displacement and humanitarian

settings; and adolescent health and development. However, future research should seek scrutinize findings from this study that suggest an association between caregiver gender attitudes and adolescent psychosocial health. This research also should be conducted in a way that offers new theoretical links between caregivers' gendered behaviors and their children's mental health.

The curvilinear pattern in outcomes in which adolescents with caregivers classified into the moderately gender equitable class, *Gender Equitable except Tolerant of Home-life Dominance*, had among the best outcomes scores on all four measures is an interesting finding. This and related evidence creates the strong argument that increasingly equitable gender attitudes are associated with better health and safety outcomes for adolescents (56, 145). However, behaviors and opinions that reflect weaker endorsement of traditional restrictive gender norms and more equitable gender attitudes might also trigger harmful social sanctions (3). Social sanctions directed at adult caregivers and adolescents alike resulting from non-conformity with traditional gender norms can include ostracism, stigmatization, scolding, and bullying (216). While we know that there is enforcement of dominant norms, we have yet to fully understand who enforces norms within communities and how challenges to dominant gender norms might counteract the positive health and development benefits that adolescents experience by having caregivers who hold more equitable attitudes towards gender (3). With this in mind, the U-shaped pattern in study outcomes suggests a limit to the health and development benefits of more equitable gender attitudes. Adolescents whose caregivers express moderately gender equitable attitudes (i.e., *Gender Equitable except*

*Tolerant of Husband's Home-life Dominance*) might reap the health benefits from these more egalitarian attitudes without facing the social sanctions that caregiver/adolescent dyads in the *Fully Gender Equitable* class experience for their more overt challenges to prevailing gender norms. Learning how to help communities critically analyze and confront the harmful effects of restrictive gender norms remains a priority on social norms research (217, 218).

There is a temptation to view gender equality attitudes as a single continuum, with highly inequitable attitudes on one end of the spectrum and highly equitable attitudes on the other. For the purposes of analysis, this is how much of the exiting scholarship, including this present study, conceptualizes gender equality. However, it does not accurately reflect the multidimensional nature of individuals' attitudes toward gender roles and their feelings towards equality of the sexes. Gender scholars frequently delineate between attitudes around male primacy – attitudes that privilege men over women – and gender essentialism – the belief that men and women have fundamentally different traits (219). Gender essentialism also suggests there is gender role symmetry, certain types of work and behavior for which men and women are better suited given these fundamental trait differences. Over the last several decades any number of countries have seen declines in attitudes endorsing male primacy. Gender essentialism, though, has shown greater resilience (220). To add to this, individuals may hold different opinions on the roles that men and women should hold in the public and private spheres of life. Even this brief introduction into a handful of

gender concepts throws into stark relief the multidimensional nature of gender attitudes and makes apparent the challenge of measuring such attitudes.

Similar to this study, other researchers have used LCA to model gender equality attitudes. Knight and Brinton' (2017) 4-class model of participants' gender attitudes in 17 European countries found three distinct forms of gender egalitarian attitudes that showed little sign of convergence on one dominant form (221). Future research into gender roles and their influence on adolescent health must carefully consider the many different axes of gender and the numerous forms of gender egalitarianism that may exist within a society. It is time to advance our understanding of how gender influences adolescent health by adopting a more nuanced approach to the analysis of the multiple dimensions of individuals' gender attitudes. To do this researchers should consider being more explicit in their intent to measure gender attitudes towards egalitarianism and gender essentialism and roles of men and women in public and private spheres of life. Simultaneously, researchers must also seek to measure widespread community-held gender norms and investigate their enforcement mechanisms. Doing so will help us better understand which constellations of gender attitudes most overtly challenge such norms and risk social sanction.

## Implications: Practice

While the results of this study open up new avenues of research inquiry, global and humanitarian health practitioners can also integrate these results into programmatic planning to the more immediate benefit of their clients. Monitoring and evaluation (M&E) are key components to any health program life-cycle. As collecting

useful, actionable data is the goal of M&E, this research serves to underscore the importance of disaggregating data by key characteristics. Important characteristics include sex, age, and SES. As these results demonstrated, unstratified outcomes on measures of adolescent internalizing behavior were similar across groups, while food security was found to be only slightly significantly better in adolescents with caregivers classified as *Gender Equitable except Tolerant of Husband's Home-life Dominance*. However, after disaggregating by adolescent sex, we discovered that girls in the two comparison groups had significantly better internalizing scores as compared to those in the reference class and that increased food security in the *Gender Equitable except Tolerant of Husband's Home-life Dominance* class driven almost entirely by better girl scores. Such insights matter and can aid decisionmakers to better understand who is benefitting from the health promotion program.

This research also serves to inform global and humanitarian health practitioners on the powerful effect that caregivers and their gendered attitudes may have on their adolescent children's health. Health promotion programs targeting adolescents should be designed to account for the influence that caregivers' gender attitudes may have on the program's success. For instance, the intended beneficiaries of reproductive health and GBV prevention programs may be adolescent girls and boys, but their caregivers are important stakeholders whose involvement is key to success. If a GBV prevention program had as one of its goals to reduce barriers experienced by adolescent girls in reporting such abuse, program managers would do well to consider how caregivers' gender attitudes and notions of family honor might pose unforeseen barriers. In many

contexts characterized by notions of hegemonic masculinity, caregivers' sense of powerless against social norms permissive of GBV may motivate them to employ control tactics that can ultimately prove damaging to adolescent girls' physical and emotional health and, in fact, further reinforce these already entrenched inequitable gender norms. In order to keep girls safe and to safeguard the perceived respect of the family, caregivers may have strong incentives to use fear-based messages to protect girls in conflict-affected communities. However, these tactics can impede girls' freedom to engage with their larger community and to dissuade them in reporting cases of violence and abuse (118). In this case, program staff must address limitations experienced by caregivers' in protecting their adolescent girls during conflict and displacement so as to effectively prevent GBV against adolescent girls in the future.

Finally, this numerous aspects of this research support adolescent health promotion programs that intervene at multiple levels of their ecological-social environments. As mentioned earlier, adolescent health promotion programs must engage not only adolescents, but also caregivers and community stakeholders. Programs must consider and attempt to address the immediate and long-term impacts of growing up in an ongoing armed-conflict setting by combining a suite of interventions. At the community level, gender transformation strategies that help communities to address the harmful inequitable gender norms that permit GBV are an important addition to a comprehensive adolescent health promotion program (14). Investing in efforts aimed at disrupting norms tolerant of GBV can create a lived environment that is safer for girls (118, 119, 222).

For caregivers, program implementors should invest in parenting skills and cash and other asset transfer strategies. The psychological toll on adolescents of experiencing armed conflict can be profound. Parenting skills programs implemented that emphasize positive parenting that increases family warmth and caregiver monitoring of their children, while reducing the frequency of harsh punishment. To add to parenting skills, program implementors should integrate cash and other asset transfer components to help families meet their economic requirements. While the deleterious cognitive and neuroendocrine effects of armed conflict on adolescents is evident, research suggests that chronic economic hardship and poverty have perhaps an even greater impact on adolescent cognitive development (110).

For adolescents, providing programs meant to improve resilience and development outcomes would be a useful addition to this overall suite of interventions. This could involve youth empowerment programs that teach important life skills and bolster feelings of self-efficacy and mastery. Finally, the addition of mentorship programs and the availability of safe spaces for girls can facilitate the development of a sense of community and valuable friendships that can improve safety (106).

## REFERENCES

1. Heise L, Greene ME, Greene ME, Opper N, Stavropoulou M, Harper C, et al. Gender inequality and restrictive gender norms: framing the challenges to health. The Lancet. 2019 May 30,.

2. Heymann J, Levy JK, Bose B, Ríos-Salas V, Mekonen Y, Swaminathan H, et al. Improving health with programmatic, legal, and policy approaches to reduce gender inequality and change restrictive gender norms. The Lancet. 2019 May 30,.

3. Weber AM, Cislaghi B, Meausoone V, Abdalla S, Mejía-Guevara I, Loftus P, et al. Gender norms and health: insights from global survey data. The Lancet. 2019 Jun 15,;393(10189):2455-68.

4. Kågesten A, Gibbs S, Blum RW, Moreau C, Chandra-Mouli V, Herbert A, et al. Understanding Factors that Shape Gender Attitudes in Early Adolescence Globally: A Mixed-Methods Systematic Review. PLoS One. 2016 Jun 1,;11(6):e0157805.

5. Blum RW, Mmari K, Moreau C. It Begins at 10: How Gender Expectations Shape Early Adolescence Around the World. Journal of Adolescent Health. 2017 Oct;61(4):S3-4.

6. Okojie CEE. Gender inequalities of health in the third world. Social Science & Medicine. 1994;39(9):1237-47.

7. Mmari K, Moreau C, Gibbs SE, De Meyer S, Michielsen K, Kabiru CW, et al. 'Yeah, I've grown; I can't go out anymore': differences in perceived risks between girls and boys entering adolescence. Culture, Health & Sexuality. 2018 Jul 3,;20(7):787-98.

8. European Commission. Toolkit on Mainstreaming Gender Equality in EC Development Cooperation: Section 1: Handbook on Concepts and Methods for Mainstreaming Gender Equality. Luxembourg: 2004.

9. Nordman CJ, Robilliard A, Roubaud F. Decomposing Gender and Ethnic Earnings Gaps in Seven West African Cities. 2009 Oct.

10. Wodon QT, La Brière B. Unrealized Potential: The High Cost of Gender Inequality in Earnings. Washington, DC: World Bank; 2018 May 1,.

11. Kuépié M. Determinants of labour market gender inequalities in Cameroon, Senegal and Mali. Canadian Journal of Development Studies. 2016;37(1):66-82.

12. Kane S, Rial M, Matere A, Dieleman M, Broerse JEW, Kok M. Gender relations and women's reproductive health in South Sudan. Global Health Action. 2016 Dec 1,;9(1):33047-11.

13. Perrin N, Marsh M, Clough A, Desgroppes A, Yope Phanuel C, Abdi A, et al. Social norms and beliefs about gender based violence scale: a measure for use with gender based violence prevention programs in low-resource and humanitarian settings. Conflict and health. 2019;13(1):6.

14. Glass N, Perrin N, Marsh M, Clough A, Desgroppes A, Kaburu F, et al. Effectiveness of the Communities Care programme on change in social norms associated with gender-based violence (GBV) with residents in intervention compared with control districts in Mogadishu, Somalia. BMJ Open. 2019 Mar;9(3):e023819.

15. Sawyer SM, Afifi RA, Bearinger LH, Blakemore S, Dick B. Adolescence: a foundation for future health. Lancet, The. 2012;379(9826):1630-40.

16. Patton GC, Sawyer SM, Santelli JS, Ross DA, Afifi R, Allen NB, et al. Our future: a Lancet commission on adolescent health and wellbeing. The Lancet. 2016 Jun 1,;387(10036):2423-78.

17. Blum RW, Astone NM, Decker MR, Mouli VC. A conceptual framework for early adolescence: a platform for research. International Journal of Adolescent Medicine and Health. 2014 Aug 1,;26(3):321-31.

18. Sommer M, Sutherland C, Chandra-Mouli V. Putting menarche and girls into the global population health agenda. Reproductive health. 2015 Mar 26,;12(1):24.

19. Rushwan H, Morris JL. Adolescent sexual and reproductive health: The global challenges. International Journal of Gynecology & Obstetrics. 2015 Oct;131:S40-2.

20. Basu S, Zuo X, Lou C, Acharya R, Lundgren R. Learning to Be Gendered: Gender Socialization in Early Adolescence Among Urban Poor in Delhi, India, and Shanghai, China. Journal of Adolescent Health. 2017 Oct;61(4):S24-9.

21. Schriver B, Mandal M, Muralidharan A, Nwosu A, Dayal R, Das M, et al. Gender counts: A systematic review of evaluations of gender-integrated health interventions in low- and middle-income countries. Global Public Health. 2017 Nov 2,;12(11):1335-50.

22. Cooper B, Crockett C. Gender norms as health harms: reclaiming a life course perspective on sexual and reproductive health and rights. Reproductive Health Matters. 2016;24(48):6-13.

23. UNICEF. UNICEF Programme Guidance for the Second Decade: Programming With and for Adolescents. New York, NY: UNICEF; 2018.

24. Noble E, Ward L, French S, Falb K. State of the Evidence: A Systematic Review of Approaches to Reduce Gender-Based Violence and Support the Empowerment of

Adolescent Girls in Humanitarian Settings. Trauma, violence & abuse. 2017 Jan 1,:428-34.

25. Buvinic M, Das Gupta M, Casabonne U, Verwimp P. Violent Conflict and Gender Inequality: An Overview. The World Bank Research Observer. 2013 Feb 1,;28(1):110-38.

26. Glass N, Kohli A, Surkan PJ, Remy MM, Perrin N. The relationship between parent mental health and intimate partner violence on adolescent behavior, stigma and school attendance in families in rural Democratic Republic of Congo. Global mental health (Cambridge, England). 2018;5:e20.

27. Chandra-Mouli V, Ferguson BJ, Plesons M, Paul M, Chalasani S, Amin A, et al. The Political, Research, Programmatic, and Social Responses to Adolescent Sexual and Reproductive Health and Rights in the 25 Years Since the International Conference on Population and Development. Journal of Adolescent Health. 2019 Dec;65(6):S16-40.

28. Stark L, Asghar K, Seff I, Cislaghi B, Yu G, Tesfay Gessesse T, et al. How gender- and violence-related norms affect self-esteem among adolescent refugee girls living in Ethiopia. Global mental health (Cambridge, England). 2018;5:e2.

29. Stark L, Asghar K, Meyer S, Yu G, Bakemore T, Poulton C, et al. The effect of gender norms on the association between violence and hope among girls in the Democratic Republic of the Congo. Global mental health (Cambridge, England). 2017;4:e1.

30. Stearns J. North Kivu: the background to conflict in north Kivu province of eastern Congo. London & Nairobi: Rift Valley Institute; 2012.

31. Stearns JK, Vogel C. The Landscape of Armed Groups in the Eastern DRC. New York, NY: Center on International Cooperation at New York University; 2015 December.

32. Priess-Groben HA, Lindberg SM. Gender Intensification. In: Levesque R, editor. Encyclopedia of Adolescence. Boston, MA: Springer; 2016. p. 1-10.

33. Hill JP, Lynch ME. The Intensification of Gender-Related Role Expectations during Earl. In: Brooks-Gunn J, Petersen AC, editors. Girls at Puberty. Boston, MA: Springer; 1983.

34. Blum RW. Gender Norm Transformative Programing: Where Are We Now? Where Do We Need to Be? The Journal of adolescent health. 2020 Feb;66(2):135-6.

35. Lane C, Brundage CL, Kreinin T. Why We Must Invest in Early Adolescence: Early Intervention, Lasting Impact. Journal of Adolescent Health. 2017 Oct;61(4):S10-1.

36. Semenza DC, Roof KA, James-Hawkins L, Cheong YF, Naved RT, Yount KM. Gender-Equitable Parental Decision Making and Intimate Partner Violence Perpetration in Bangladesh. Journal of Marriage and Family. 2019 May 17,.

37. O'Brien KR, Holmgren M, Fitzsimmons T, Crane ME, Maxwell P, Head B. What Is Gender Equality in Science? Trends in Ecology & Evolution. 2019 Mar 28,;34(5):395.

38. UNICEF. Progress for Children. A report card on adolescents. New York: 2012.

39. Gupta GR, Oomman N, Grown C, Conn K, Hawkes S, Shawar YR, et al. Gender equality and gender norms: framing the opportunities for health. The Lancet. 2019 Jun 22,;393(10190):2550-62.

40. Hawkes S, Buse K, Yoon SY. Gender-responsive tobacco control: evidence and options for policies and programmes, report summary. 2018 October.

41. Stolz HE, Barber BK, Olsen JA, Erickson LD, Bradford KP, Maughan SL, et al. Family and School Socialization and Adolescent Academic Achievement: A Cross-National Dominance Analysis of Achievement Predictors. In: Peterson GW, Steinmetz SK, Wilson SM, editors. Parent-Youth Relations: Cultural and Cross-Cultural Perspectives. New York: Routledge; 2012. p. 187-9.

42. Baumrind D. Current patterns of parental authority. Developmental Psychology. 1971 Jan;4(1p2):1-103.

43. Lavi I, Slone M. Parental Practices and Political Violence: The Protective Role of Parental Warmth and Authority-Control in Jewish and Arab Israeli Children. American Journal of Orthopsychiatry. 2012 Oct;82(4):550-61.

44. Maccoby EE, Martin JA, editors. Socialization in the context of the family: Parent-child interaction. 4th ed. New York, NY: Wiley; 1983.

45. Dubow EF, Huesmann LR, Boxer P, Landau S, Dvir S, Shikaki K, et al. Exposure to Political Conflict and Violence and Post-Traumatic Stress in Middle East Youth: Protective Factors. Journal of Clinical Child and Adolescent Psychology. 2012 May 17,;41(4):402-16.

46. Thabet AA, Ibraheem AN, Shivram R, Winter EA, Vostanis P. Parenting Support and PTSD in Children of a War Zone. International Journal of Social Psychiatry. 2009 May;55(3):226-37.

47. Eruyar S, Maltby J, Vostanis P. Mental health problems of Syrian refugee children: the role of parental factors. Eur Child Adolesc Psychiatry. 2018 Apr;27(4):401-9.

48. Fayyad J, Cordahi-Tabet C, Yeretzian J, Salamoun M, Najm C, Karam E. Resilience-promoting factors in war-exposed adolescents: an epidemiologic study. Eur Child Adolesc Psychiatry. 2017 Feb;26(2):191-200.

49. Panter-Brick C, Grimon M, Eggerman M. Caregiver—child mental health: a prospective study in conflict and refugee settings. Journal of Child Psychology and Psychiatry. 2014 Apr;55(4):313-27.

50. Okello J, Nakimuli-Mpungu E, Musisi S, Broekaert E, Derluyn I. The Association between Attachment and Mental Health Symptoms among School-Going Adolescents in Northern Uganda: The Moderating Role of War-Related Trauma. PloS one. 2014;9(3):e88494.

51. Okello J, Nakimuli-Mpungu E, Klasen F, Voss C, Musisi S, Broekaert E, et al. The impact of attachment and depression symptoms on multiple risk behaviors in post-war adolescents in northern Uganda. Journal of Affective Disorders. 2015;180:62-7.

52. Khamis V. Does parent's psychological distress mediate the relationship between war trauma and psychosocial adjustment in children? Journal of health psychology. 2016 Jul;21(7):1361-70.

53. Diab SY, Palosaari E, Punamäki R. Society, individual, family, and school factors contributing to child mental health in war: The ecological-theory perspective. Child Abuse & Neglect. 2018 Oct;84:205-16.

54. Slone M, Shoshani A. Children Affected by War and Armed Conflict: Parental Protective Factors and Resistance to Mental Health Symptoms. Frontiers in psychology. 2017;8:1397.

55. Smetana JG, Ahmad I. Heterogeneity in Perceptions of Parenting Among Arab Refugee Adolescents in Jordan. Child Development. 2018 Sep;89(5):1786-802.

56. Falb KL, Asghar K, Laird B, Tanner S, Graybill E, Mallinga P, et al. Caregiver parenting and gender attitudes: Associations with violence against adolescent girls in South Kivu, Democratic Republic of Congo. Child Abuse & Neglect. 2017;69:278-84.

57. Stark L, Seff I, Asghar K, Roth D, Bakamore T, MacRae M, et al. Building caregivers' emotional, parental and social support skills to prevent violence against adolescent girls: findings from a cluster randomised controlled trial in Democratic Republic of Congo. BMJ Global Health. 2018 c;3(5):e000824.

58. De Nutte L, Okello J, Derluyn I. Social relationships and social support among post-war youth in Northern Uganda. International Journal of Psychology. 2017 Aug;52(4):291-9.

59. Kågesten AE, Zimmerman L, Robinson C, Lee C, Bawoke T, Osman S, et al. Transitions into puberty and access to sexual and reproductive health information in two humanitarian settings: a cross-sectional survey of very young adolescents from Somalia and Myanmar. Conflict and health. 2017;11(Suppl 1):24-3.

60. Ortiz-Echevarria L, Greeley M, Bawoke T, Zimmerman L, Robinson C, Schlecht J. Understanding the unique experiences, perspectives and sexual and reproductive health needs of very young adolescents: Somali refugees in Ethiopia. Conflict and health. 2017;11(Suppl 1):26-42.

61. Tol WA, Song S, Jordans MJD. Annual Research Review: Resilience and mental health in children and adolescents living in areas of armed conflict – a systematic review of findings in low- and middle-income countries. Journal of Child Psychology and Psychiatry. 2013 Apr;54(4):445-60.

62. Betancourt TS, Khan KT. The mental health of children affected by armed conflict: Protective processes and pathways to resilience. International Review of Psychiatry. 2008;20(3):317-28.

63. Fergus S, Zimmerman MA. Adolescent resilience: A Framework for Understanding Healthy Development in the Face of Risk. Annual review of public health. 2005;26(1):399-419.

64. Parziale A. Gender Inequality and Discrimination. In: Kolb RW, editor. Encyclopedia of Business Ethics and Society. Thousand Oaks, CA: SAGE Publications; 2008. p. 977-81.

65. DeJong J, Sbeity F, Schlecht J, Harfouche M, Yamout R, Fouad FM, et al. Young lives disrupted: gender and well-being among adolescent Syrian refugees in Lebanon. Conflict and health. 2017;11(Suppl 1):23-34.

66. Lee C, Aules Y, Sami S, Lar PK, Schlect J, Robinson C. Sexual and reproductive health needs and risks of very young adolescent refugees and migrants from Myanmar living in Thailand. Conflict and health. 2017;11(Suppl 1):30-52.

67. Hall BJ, Joosse P, Veling W. The association between posttraumatic stress symptoms and functional impairment during ongoing conflict in the Democratic Republic of Congo. Journal of Anxiety Disorders. 2013;27(2):225-30.

68. Verelst A, De Schryver M, Broekaert E, Derluyn I. Mental health of victims of sexual violence in eastern Congo: associations with daily stressors, stigma, and labeling. BMC women's health. 2014 Sep 6,;14(1):106.

69. Schlecht J, Lee C, Kerner B, Greeley M, Robinson C. Prioritizing programming to address the needs and risks of very young adolescents: a summary of findings across three humanitarian settings. Conflict and Health. 2017 Nov;11(S1):1-8.

70. UNICEF. A Familiar Face: Violence in the lives of children and adolescents. New York: 2017.

71. Kadir A, Shenoda S, Goldhagen J. Effects of armed conflict on child health and development: A systematic review. PLOS ONE. 2019;14(1):e0210071.

72. Bucci M, Marques SS, Oh D, Harris NB. Toxic Stress in Children and Adolescents. Adv Pediatr. 2016;63(1):403-28.

73. Feldman R, Vengrober A, Eidelman-Rothman M, Zagoory-Sharon O. Stress reactivity in war-exposed young children with and without posttraumatic stress disorder: relations to maternal stress hormones, parenting, and child emotionality and regulation. Dev Psychopathol. 2013;25(4pt1):943-55.

74. Joos CM, McDonald A, Wadsworth ME. Extending the toxic stress model into adolescence: Profiles of cortisol reactivity. Psychoneuroendocrinology. 2019;107:46-58.

75. Masten AS. Resilience in children threatened by extreme adversity: frameworks for research, practice, and translational synergy. Dev Psychopathol. 2011 May;23(2):493-506.

76. Shonkoff JP, Garner AS, , Siegel BS, Dobbins MI, Earls MF, et al. The Lifelong Effects of Early Childhood Adversity and Toxic Stress. Pediatrics. 2012;129(1):e232.

77. Innocenti. The Adolescent Brain: A second window of opportunity. Florence: UNICEF; 2017.

78. Spear LP. Adolescent Neurodevelopment. Journal of Adolescent Health. 2013;52(2):S7-S13.

79. Romeo RD. The Teenage Brain: The Stress Response and the Adolescent Brain. Current directions in psychological science. 2013;22(2):140-5.

80. Betancourt TS, McBain RK, Newnham EA, Brennan RT. The intergenerational impact of war: longitudinal relationships between caregiver and child mental health in postconflict Sierra Leone. Journal of Child Psychology and Psychiatry. 2015;56(10):1101-7.

81. Sanders J, Munford R, Thimasarn-Anwar T, Liebenberg L, Ungar M. The role of positive youth development practices in building resilience and enhancing wellbeing for at-risk youth. Child Abuse Negl. 2015;42:40-53.

82. Sim A, Fazel M, Bowes L, Gardner F. Pathways linking war and displacement to parenting and child adjustment: A qualitative study with Syrian refugees in Lebanon. Social science & medicine (1982). 2018;200:19-26.

83. Jordans MJD, Pigott H, Tol WA. Interventions for Children Affected by Armed Conflict: a Systematic Review of Mental Health and Psychosocial Support in Low- and Middle-Income Countries. Curr Psychiatry Rep. 2016;18(1):9.

84. Knerr W, Gardner F, Cluver L. Improving Positive Parenting Skills and Reducing Harsh and Abusive Parenting in Low- and Middle-Income Countries: A Systematic Review. Prev Sci. 2013 Aug;14(4):352-63.

85. Pedersen GA, Smallegange E, Coetzee A, Hartog K, Turner J, Jordans MJD, et al. A Systematic Review of the Evidence for Family and Parenting Interventions in Low- and Middle-Income Countries: Child and Youth Mental Health Outcomes. J Child Fam Stud. 2019;28(8):2036-55.

86. Healy EA, Kaiser BN, Puffer ES. Family-based youth mental health interventions delivered by nonspecialist providers in low- and middle-income countries: A systematic review. Families systems & health. 2018;36(2):182-97.

87. Gregory AT, Denniss AR. An introduction to writing narrative and systematic reviews—Tasks, tips and traps for aspiring authors. Heart, Lung and Circulation. 2018;27(7):893-8.

88. World Bank Country and Lending Groups [Internet].; 2019 [cited March 29, 2019]. Available from: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups.

89. Definitions [Internet].; 2020. Available from: https://www.pcr.uu.se/research/ucdp/definitions/.

90. Definition of regional groupings [Internet].; 2020 []. Available from: https://www.who.int/healthinfo/global_burden_disease/definition_regions.

91. Falb KL, Tanner S, Ward L, Erksine D, Noble E, Assazenew A, et al. Creating opportunities through mentorship, parental involvement, and safe spaces (COMPASS) program: multi-country study protocol to protect girls from violence in humanitarian settings. BMC Public Health. 2016;16(1):231.

92. Puffer ES, Annan J, Sim AL, Salhi C, Betancourt TS. The impact of a family skills training intervention among Burmese migrant families in Thailand: A randomized controlled trial. PLoS One. 2017 Mar 28;12(3):e0172611.

93. El-Khani A, Cartwright K, Ang C, Henshaw E, Tanveer M, Calam R. Testing the feasibility of delivering and evaluating a child mental health recovery program enhanced with additional parenting sessions for families displaced by the Syrian conflict: A pilot study. Peace Confl. 2018;24(2):188-200.

94. Haar K, El-Khani A, Molgaard V, Maalouf W, Afghanistan field it. Strong families: a new family skills training programme for challenged and humanitarian settings: a single-arm intervention tested in Afghanistan. BMC Public Health. 2020;20(1):634.

95. Annan J, Sim A, Puffer ES, Salhi C, Betancourt TS. Improving Mental Health Outcomes of Burmese Migrant and Displaced Children in Thailand: a Community-Based Randomized Controlled Trial of a Parenting and Family Skills Intervention. Prev Sci. 2017 Oct;18(7):793-803.

96. Miller KE, Koppenol-Gonzalez G, Arnous M, Tossyeh F, Chen A, Nahas N, et al. Supporting Syrian families displaced by armed conflict: A pilot randomized controlled trial of the Caregiver Support Intervention. Child Abuse Negl. 2020;106.

97. O'Callaghan P, Branham L, Shannon C, Betancourt TS, Dempster M, McMullen J. A pilot study of a family focused, psychosocial intervention with war-exposed youth at risk of attack and abduction in north-eastern Democratic Republic of Congo. Child Abuse Negl. 2014;38(7):1197-207.

98. Loughry M, Ager A, Flouri E, Khamis V, Afana AH, Qouta S. The impact of structured activities among Palestinian children in a time of conflict. J Child Psychol Psychiatry. 2006 Dec;47(12):1211-8.

99. Jordans MJD, Tol WA, Ndayisaba A, Komproe IH. A controlled evaluation of a brief parenting psychoeducation intervention in Burundi. Soc Psychiatry Psychiatr Epidemiol. 2013;48(11):1851-9.

100. El-Khani A, Maalouf W, Baker DA, Zahra N, Noubani A, Cartwright K. Caregiving for children through conflict and displacement: a pilot study testing the feasibility of delivering and evaluating a light touch parenting intervention for caregivers in the West Bank. International Journal of Psychology. 2020 Jan;55(S1):26-39.

101. Wieling E, Mehus C, Möllerherm J, Neuner F, Achan L, Catani C. Assessing the feasibility of providing a parenting intervention for war-affected families in Northern Uganda. Fam Community Health. 2015 Jul;38(3):252-67.

102. Stark L, Asghar K, Seff I, Yu G, Tesfay Gessesse T, Ward L, et al. Preventing violence against refugee adolescent girls: findings from a cluster randomised controlled trial in Ethiopia. BMJ Glob Health. 2018 b;3(5):e000825,000825. eCollection 2018.

103. Patterson GR, Reid JB. Social interactional processes within the family: The study of the moment-by-moment family transactions in which human social development is imbedded. J Appl Dev Psychol. 1984 Jul;5(3):237-62.

104. O'Connor TG, Matias C, Futh A, Tantam G, Scott S. Social learning theory parenting intervention promotes attachment-based caregiving in young children: randomized clinical trial. J Clin Child Adolesc Psychol. 2013;42(3):358-70.

105. Stark L, Seff I, Assezenew A, Eoomkham J, Falb K, Ssewamala FM. Effects of a Social Empowerment Intervention on Economic Vulnerability for Adolescent Refugee Girls in Ethiopia. J Adolesc Health. 2018 a;62(1S):S15-20.

106. International Rescue Committee. A Safe Place to Shine: Creating Opportunities and Raising Voices of Adolescent Girls in Humanitarian Settings. 2017 October.

107. Hansen LK, Jordan SS. Internalizing Behaviors. In: Zeigler-Hill V, Shackelford TK, editors. Encyclopedia of Personality and Individual Differences. Cham: Springer International Publishing; 2020. p. 2343-6.

108. Kauten R, Barry CT. Externalizing Behavior. In: Zeigler-Hill V, Shackelford TK, editors. Encyclopedia of Personality and Individual Differences. Cham: Springer International Publishing; 2020. p. 1509-12.

109. Eisenberg N, Cumberland A, Spinrad TL, Fabes RA, Shepard SA, Reiser M, et al. The relations of regulation and emotionality to children's externalizing and internalizing problem behavior. Child Dev. 2001;72(4):1112-34.

110. Chen A, Panter-Brick C, Hadfield K, Dajani R, Hamoudi A, Sheridan M. Minds Under Siege: Cognitive Signatures of Poverty and Trauma in Refugee and Non-Refugee Adolescents. Child Dev. 2019;90(6):1856-65.

111. Gautier L, Sieleunou I, Kalolo A. Deconstructing the notion of “global health research partnerships” across Northern and African contexts. BMC Medical Ethics. 2018;19(1):49.

112. Wilson D, Jallah DS. Original Research: Exploring Working Relationships Between National and Expatriate RNs on Humanitarian Aid Missions: The Perspectives of Liberian Nurses. AJN The American Journal of Nursing. 2019;119(6).

113. Roepstorff K. A call for critical reflection on the localisation agenda in humanitarian action. Third World Quarterly. 2020;41(2):284-301.

114. Glass N, Mpanano MR, Jennings Mayo-Wilson L, Kohli A, Sommer M, Turner R, et al. Comparative effectiveness of an economic empowerment program on young adolescent asset building, school attendance, mental health, stigma and food security outcomes in a humanitarian setting. BMC Public Health. 2020;20(170).

115. Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: assessing partnership approaches to improve public health. Annu Rev Public Health. 1998;19(1):173-202.

116. Afifi RA, Abdulrahim S, Betancourt T, Btedinni D, Berent J, Dellos L, et al. Implementing Community-Based Participatory Research with Communities Affected by Humanitarian Crises: The Potential to Recalibrate Equity and Power in Vulnerable Contexts. Am J Community Psychol. 2020.

117. Stark L, Asghar K, Yu G, Bora C, Baysa AA, Falb KL. Prevalence and associated risk factors of violence against conflict–affected female adolescents: a multi–country, cross–sectional study. Journal of global health. 2017;7(1).

118. Sommer M, Munoz-Laboy M, Wilkinson Salamea E, Arp J, Falb KL, Rudahindwa N, et al. How narratives of fear shape girls' participation in community life in two conflict-affected populations. Voilence Against Women. 2018;24(5):565-85.

119. Sommer M, Muñoz-Laboy M, Williams A, Mayevskaya Y, Falb K, Abdella G, et al. How gender norms are reinforced through violence against adolescent girls in two conflict-affected populations. Child Abuse & Neglect. 2018 May;79:154-63.

120. Elnakib S, Hussein SA, Hafez S, Elsallab M, Hunersen K, Metzler J, et al. Drivers and consequences of child marriage in a context of protracted displacement: a qualitative study among Syrian refugees in Egypt. BMC Public Health. 2021;21(1):674.

121. Creswell JW, Plano Clark VL. Designing and conducting mixed methods research. 3rd ed. ed. Los Angeles: Sage; 2018.

122. Glass N, Perrin NA, Kohli A, Campbell J, Remy MM. Randomised controlled trial of a livestock productive asset transfer programme to improve economic and health outcomes and reduce intimate partner violence in a postconflict setting. BMJ Global Health. 2017 Feb;2(1):e000165.

123. Corley A, Glass N, Remy MM, Perrin N. A Latent Class Analysis of Gender Attitudes and Their Associations with Intimate Partner Violence and Mental Health in the

Democratic Republic of Congo. International Journal of Environmental Research and Public Health. 2021;18(8).

124. IASC Reference Group on Gender and Humanitarian Action. The Gender Handbook for Humanitarian Action. 2018 February.

125. UN General Assembly. Transforming our world : the 2030 Agenda for Sustainable Development. 2015 October 21,.

126. Betancourt TS, Yang F, Bolton P, Normand S. Developing an African youth psychosocial assessment: an application of item response theory. International Journal of Methods in Psychiatric Research. 2014 Jun;23(2):142-60.

127. Swindale A, Bilinksy P. Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide (v.2). Washington, DC: 2006.

128. StataCorp. Stata Statistical Software: Release 15. 2017;15.

129. Blum RW, Sheehy G, Li M, Basu S, El Gibaly O, Kayembe P, et al. Measuring young adolescent perceptions of relationships: A vignette-based approach to exploring gender equality. PloS One. 2019;14(6):e0218863.

130. Hennink MM, Kaiser BN, Weber MB. What influences saturation? Estimating sample sizes in focus group research. Qual Health Res. 2019;29(10):1483-96.

131. Guest G, Namey E, McKenna K. How Many Focus Groups Are Enough? Building an Evidence Base for Nonprobability Sample Sizes. Field Methods. 2017 Feb;29(1):3-22.

132. Samuels F, Jones N, Watson C, Brodbeck A. Doing qualitative field research on gender norms with adolescent girls. London: Overseas Development Institute; 2015 September.

133. Coetzee B, Roomaney R, Willis N, Kagee A. Body Mapping in Research. Singapore: Springer; 2017.

134. Trabasso T. Review of Children and Adolescents: Interpretive Essays on Jean Piaget. 3rd ed. Contemporary Psychology: A Journal of Reviews. 1981 Oct;26(10):802.

135. Barter C, Renold E. 'I wanna tell you a story': Exploring the application of vignettes in qualitative research with children and young people. International Journal of Social Research Methodology. 2000 Jan 1,;3(4):307-23.

136. Gourlay A, Mshana G, Birdthistle I, Bulugu G, Zaba B, Urassa M. Using vignettes in qualitative research to explore barriers and facilitating factors to the uptake of

prevention of mother-to-child transmission services in rural Tanzania: a critical analysis. BMC medical research methodology. 2014 Feb 11,;14(1):21.

137. Mmari K, Blum RW, Atnafou R, Chilet E, de Meyer S, El-Gibaly O, et al. Exploration of Gender Norms and Socialization Among Early Adolescents: The Use of Qualitative Methods for the Global Early Adolescent Study. Journal of Adolescent Health. 2017;61(4):S12-8.

138. Sandelowski M. Whatever happened to qualitative description? Research in Nursing & Health. 2000 Aug;23(4):334-40.

139. Kim H, Sefcik JS, Bradway C. Characteristics of Qualitative Descriptive Studies: A Systematic Review. Research in Nursing & Health. 2017 Feb;40(1):23-42.

140. Creswell JW, Klassen AC, Clark VP, Smith KC. Best Practices for Mixed Methods Research in the Health Sciences. Office of Behavioral and Social Sciences Research (OBSSR); 2013.

141. audiotranskription. f4analyse. 2018;2.5.1.

142. Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006 Jan 1,;3(2):77-101.

143. Lincoln YS, Guba EG, Inquiry N. Naturalistic Inquiry. Newbury Park: Sage Publications; 1985.

144. McCarthy K, Brady M, Hallman K. Investing when it counts: Reviewing the evidence and charting a course of research
and action for very young adolescents. New York: 2016.

145. Baird S, Bhutta ZA, Hamad BA, Hicks JH, Jones N, Muz J. Do restrictive gender attitudes and norms influence physical and mental health during very young Adolescence? Evidence from Bangladesh and Ethiopia. SSM - Population Health. 2019 Dec;9:100480.

146. Amin A, Kågesten A, Adebayo E, Chandra-Mouli V. Addressing Gender Socialization and Masculinity Norms Among Adolescent Boys: Policy and Programmatic Implications. Journal of Adolescent Health. 2018 Mar;62(3):S3-5.

147. World Health Organization. Promoting gender equality to prevent violence against women. . 2009.

148. World Health Organization, London School of Hygiene and Tropical Medicine, South African Medical Research Council. Global and regional estimates of violence against

women : prevalence and health effects of intimate partner violence and non-partner sexual violence / World Health Organization. World Health Organization; 2013 Jan 1,.

149. Satyanarayana VA, Chandra PS, Vaddiparti K. Mental health consequences of violence against women and girls. Current Opinion in Psychiatry. 2015;28(5).

150. Cislaghi B, Heise L. Gender norms and social norms: differences, similarities and why they matter in prevention science. Sociol Health Illn. 2020;42(2):407-22.

151. Dhar D, Jain T, Jayachandran S. Intergenerational Transmission of Gender Attitudes: Evidence from India. The Journal of development studies. 2019 Dec 2,;55(12):2572-92.

152. Padavic I, Reskin BF. Women and men at work. Pine Forge Press; 2002.

153. Sideris T. War, gender and culture: Mozambican women refugees. Social science & medicine. 2003;56(4):713-24.

154. Caprioli M, Boyer MA. Gender, violence, and international crisis. J Conflict Resolut. 2001;45(4):503-18.

155. Devakumar D, Birch M, Osrin D, Sondorp E, Wells JCK. The intergenerational effects of war on the health of children. BMC medicine. 2014 Apr 2,;12(1):57.

156. Kim S, Strathearn L. Trauma, mothering, and intergenerational transmission: a synthesis of behavioral and oxytocin research. Psychoanal Study Child. 2017;70(1):200-23.

157. Altare C, Malembaka EB, Tosha M, Hook C, Ba H, Bikoro SM, et al. Health services for women, children and adolescents in conflict affected settings: experience from North and South Kivu, Democratic Republic of Congo. Conflict and Health. 2020;14(1):31.

158. United Nations. Transforming Our World: The 2030 Agenda for Sustainable Development. 2015.

159. Coates J, Swindale A, Bilinsky P. Household Food Insecurity Access Scale (HFIAS) for measurement of food access: indicator guide: version 3. . 2007.

160. Saaka M, Osman SM. Does household food insecurity affect the nutritional status of preschool children aged 6-36 months? International Journal of Population Research. 2013;2013.

161. FAO. Report on use of the Household Food Insecurity Access Scale and Household Dietary

Diversity Score in two survey rounds in Manica and Sofala Provinces, Mozambique, 2006-2007. Rome: FAO food security project GCP/MOZ/079/BEL; 2008.

162. Winokur A, Winokur DF, Rickels K, Cox DS. Symptoms of emotional distress in a family planning service: stability over a four-week period. The British Journal of Psychiatry. 1984;144(4):395-9.

163. Mollica RF, Wyshak G, de Marneffe D, Khuon F, Lavelle J. Indochinese versions of the Hopkins Symptom Checklist-25: a screening instrument for the psychiatric care of refugees. Am J Psychiatry. 1987.

164. Mollica RF, Cardozo BL, Osofsky HJ, Raphael B, Ager A, Salama P. Mental health in complex emergencies. The Lancet. 2004;364(9450):2058-67.

165. Bass J, Bolton P, Kaysen D, Griffith S, Murray S, Cetinoglu T, et al. Addressing Sexual Violence Related Trauma in Eastern DRC with Cognitive Processing Therapy. World Bank; 2013.

166. Pitman RK, Rasmusson AM, Koenen KC, Shin LM, Orr SP, Gilbertson MW, et al. Biological studies of post-traumatic stress disorder. nature Reviews neuroscience. 2012;13(11):769-87.

167. Sigvardsdotter E, Malm A, Tinghög P, Vaez M, Saboonchi F. Refugee trauma measurement: a review of existing checklists. Public Health Rev. 2016;37(1):10.

168. Berthold SM, Mollica RF, Silove D, Tay AK, Lavelle J, Lindert J. The HTQ-5: revision of the Harvard Trauma Questionnaire for measuring torture, trauma and DSM-5 PTSD symptoms in refugee populations. Eur J Public Health. 2019;29(3):468-74.

169. Collins LM, Lanza ST. Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences. John Wiley & Sons; 2009.

170. Sardinha L, Catalán HEN. Attitudes towards domestic violence in 49 low-and middle-income countries: A gendered analysis of prevalence and country-level correlates. PloS one. 2018;13(10):e0206101.

171. Glick P, Fiske ST. The ambivalent sexism inventory: Differentiating hostile and benevolent sexism. J Pers Soc Psychol. 1996;70(3):491.

172. Mastari L, Spruyt B, Siongers J. Benevolent and Hostile Sexism in Social Spheres: The Impact of Parents, School and Romance on Belgian Adolescents' Sexist Attitudes. Frontiers in Sociology. 2019;4:47.

173. Landis D, Falb K, Michelis I, Bakomere T, Stark L. Violence, well-being and level of participation in formal education among adolescent girls in Eastern Democratic Republic of the Congo: The role of child marriage. Studies in Social Justice. 2018;12(2):273-90.

174. Rihani MA. Keeping the Promise: Five Benefits of Girls' Secondary Education. Academy for Educational Development. 2006.

175. Kalamar AM, Lee-Rife S, Hindin MJ. Interventions to Prevent Child Marriage Among Young People in Low- and Middle-Income Countries: A Systematic Review of the Published and Gray Literature. J Adolesc Health. 2016 Sep;59(3 Suppl):16.

176. Liang M, Simelane S, Fortuny Fillo G, Chalasani S, Weny K, Salazar Canelos P, et al. The State of Adolescent Sexual and Reproductive Health. Journal of Adolescent Health. 2019 Dec;65(6):S3-S15.

177. Nyato D, Materu J, Kuringe E, Zoungrana J, Mjungu D, Lemwayi R, et al. Prevalence and correlates of partner violence among adolescent girls and young women: Evidence from baseline data of a cluster randomised trial in Tanzania. PLoS one. 2019;14(10):e0222950.

178. Ellsberg M, Ovince J, Murphy M, Blackwell A, Reddy D, Stennes J, et al. No safe place: Prevalence and correlates of violence against conflict-affected women and girls in South Sudan. PLoS one. 2020;15(10):e0237965.

179. Flood M, Pease B. Factors influencing attitudes to violence against women. Trauma, violence, & abuse. 2009;10(2):125-42.

180. Flynn A, Graham K. "Why did it happen?" A review and conceptual framework for research on perpetrators' and victims' explanations for intimate partner violence. Aggression and violent behavior. 2010;15(3):239-51.

181. Lawoko S, Dalal K, Jiayou L, Jansson B. Social inequalities in intimate partner violence: a study of women in Kenya. Violence Vict. 2007;22(6):773-84.

182. Baranov V, Cameron L, Contreras Suarez D, Thibout C. Theoretical Underpinnings and Meta-analysis of the Effects of Cash Transfers on Intimate Partner Violence in Low- and Middle-Income Countries. The Journal of Development Studies. 2021;57(1):1-25.

183. Abramsky T, Watts CH, Garcia-Moreno C, Devries K, Kiss L, Ellsberg M, et al. What factors are associated with recent intimate partner violence? Findings from the WHO multi-country study on women's health and domestic violence. BMC Public Health. 2011;11(1):1-17.

184. Hindin MJ, Kishor S, Ansara DL. Intimate partner violence among couples in 10 DHS countries: Predictors and health outcomes. Macro International Incorporated; 2008.

185. Jewkes R, Jordaan E, Myrttinen H, Gibbs A. Masculinities and violence: using latent class analysis to investigate the origins and correlates of differences between men in the cross-sectional UN Multi-country Study on men and violence in Asia and the Pacific. Journal of Global Health. 2020;10(2).

186. Jewkes R, Morrell R. Hegemonic masculinity, violence, and gender equality: Using latent class analysis to investigate the origins and correlates of differences between men. Men and Masculinities. 2018;21(4):547-71.

187. Jewkes R. Intimate partner violence: causes and prevention. The lancet. 2002;359(9315):1423-9.

188. O'Neil JM. The psychology of men: Theory, research, clinical knowledge, and future directions. In: Altmaier EM, Hansen JC, editors. The Oxford handbook of counseling psychology. New York, NY: Oxford University Press; 2012. p. 375-408.

189. Wong JY, Ho R. Meta-analyses of the relationship between conformity to masculine norms and mental health-related outcomes. Journal of Counseling Psychology. 2016;10.

190. Gilbar O, Wester SR, Ben-Porat A. The effects of gender role conflict restricted emotionality on the association between exposure to trauma, posttraumatic stress disorder and intimate partner violence severity. Psychology of Men & Masculinities. 2021;22(1):88.

191. Silove D, Baker JR, Mohsin M, Teesson M, Creamer M, O'Donnell M, et al. The contribution of gender-based violence and network trauma to gender differences in Post-Traumatic Stress Disorder. PLoS One. 2017 Feb 16;12(2):e0171879.

192. Tolin DF, Foa EB. Sex differences in trauma and posttraumatic stress disorder: a quantitative review of 25 years of research. Psychol Bull. 2006 Nov;132(6):959-92.

193. Iverson KM, McLaughlin KA, Gerber MR, Dick A, Smith BN, Bell ME, et al. Exposure to Interpersonal Violence and Its Associations With Psychiatric Morbidity in a U.S. National Sample: A Gender Comparison. Psychol Violence. 2013 Jul;3(3):273-87.

194. Watts C, Zimmerman C. Violence against women: global scope and magnitude. Lancet. 2002 Apr 6;359(9313):1232-7.

195. UNICEF. Communities Care: Transforming Lives and Preventing Violence. Washington, DC: 2017.

196. Gupta AK, Santhya KG. Promoting Gender Egalitarian Norms and Practices Among Boys in Rural India: The Relative Effect of Intervening in Early and Late Adolescence. Journal of adolescent health. 2020;66(2):157-65.

197. McLean L, Heise LL, Stern EA. Shifting and transforming gender-inequitable beliefs, behaviours and norms in intimate partnerships: the Indashyikirwa couples programme in Rwanda. Culture, Health & Sexuality. 2019 Nov 5,:1-18.

198. Democratic Republic of the Congo [Internet].; 2021 []. Available from: http://uis.unesco.org/en/country/cd.

199. Dworkin SL, Fleming PJ, Colvin CJ. The promises and limitations of gender-transformative health programming with men: critical reflections from the field. Culture, Health & Sexuality. 2015 Oct 16,;17(sup2):128-43.

200. Chávez C, Cuesta J, Godwin M, Shusterman J. The Long-Term Effect of Humanitarian
Emergencies on Adolescents: Existing evidence, gaps and considerations for research and
practitioners. Florence: UNICEF Office of Research - Innocenti,; 2018.

201. Patel V, Flisher AJ, Hetrick S, McGorry P. Adolescent Health 3: Mental health of young people: a global public-health challenge. The Lancet. 2007 Apr 14,;369(9569):1302.

202. Greene ME, Patton G. Adolescence and Gender Equality in Health. Journal of Adolescent Health. 2020 Jan;66(1):S1-2.

203. Internal Displacement Monitoring Centre. Global Report on
Internal Displacement 2019. Geneva: 2019 May.

204. Ebola virus disease – Democratic Republic of the Congo [Internet].; 2021 [updated February; ]. Available from: https://www.who.int/csr/don/10-february-2021-ebola-drc/en/.

205. OCHA. République démocratique du Congo: Aperçu des besoins humanitaires 2021. Kinshasa: 2021.

206. Betancourt TS, Bass J, Borisova I, Neugebauer R, Speelman L, Onyango G, et al. Assessing local instrument reliability and validity: a field-based example from northern Uganda. Social Psychiatry and Psychiatric Epidemiology. 2009 Aug 1,;44(8):685-92.

207. World Bank. Education in the Democratic Republic of Congo : Priorities and Options for Regeneration. World Bank Country Study. . Washington, DC: 2005.

208. Mistrale Hendrickson Z, Byrne M, Sawadogo N, Mafuta E, Bazié F, Moreau C. Santé des adolescents de 10 à 14 ans à Kinshasa et Ouagadougou : risques et opportunités. Santé Publique. 2019;31(6):845-53.

209. Blum RW, Li M, Naranjo-Rivera G. Measuring Adverse Child Experiences Among Young Adolescents Globally: Relationships With Depressive Symptoms and Violence Perpetration. Journal of Adolescent Health. 2019 Mar 28,.

210. Perez-Fuentes MdC, Molero Jurado, María del Mar, Gázquez Linares JJ, Oropesa Ruiz NF, Simón Márquez, María del Mar, Saracostti M. Parenting practices, life satisfaction, and the role of self-esteem in adolescents. International journal of environmental research and public health. 2019;16(20):4045.

211. de la Barrera U, Schoeps K, Gil-Gómez J, Montoya-Castilla I. Predicting adolescent adjustment and well-being: The interplay between socio-emotional and personal factors. International journal of environmental research and public health. 2019;16(23):4650.

212. Stewart DE, MacMillan H, Kimber M. Recognizing and responding to intimate partner violence: An update. The Canadian Journal of Psychiatry. 2021;66(1):71-106.

213. Parent MC, Moradi B. Confirmatory factor analysis of the Conformity to Masculine Norms Inventory and development of the Conformity to Masculine Norms Inventory-46. Psychology of Men & Masculinity. 2009;10(3):175.

214. Fuhrman S, Janoch E, Koch R, Oo K, Parra V, Rawe T. Left Out and Left Behind: Ignoring Women Will Prevent Us From Solving the Hunger Crisis. Geneva, Switzerland: CARE; 2020 August,.

215. United Nations Population Fund. Adolescents and Youth Report: West and Central Africa. Dakar: United Nations Population Fund West and Central Africa Regional Office; 2018.

216. Yu C, Zuo X, Blum RW, Tolman DL, Kågesten A, Mmari K, et al. Marching to a different drummer: A cross-cultural comparison of young adolescents who challenge gender norms. Journal of Adolescent Health. 2017;61(4):S48-54.

217. Cislaghi B, Heise L. Theory and practice of social norms interventions: eight common pitfalls. Globalization and health. 2018;14(1):1-10.

218. Levy JK, Darmstadt GL, Ashby C, Quandt M, Halsey E, Nagar A, et al. Characteristics of successful programmes targeting gender inequality and restrictive gender norms for the health and wellbeing of children, adolescents, and young adults: a systematic review. The Lancet Global Health. 2020;8(2):e225-36.

219. Hochschild A, Machung A. The second shift: Working families and the revolution at home. Penguin; 2012.

220. Charles M, Bradley K. Indulging our gendered selves? Sex segregation by field of study in 44 countries. American journal of sociology. 2009;114(4):924-76.

221. Knight CR, Brinton MC. One egalitarianism or several? Two decades of gender-role attitude change in Europe. American Journal of Sociology. 2017;122(5):1485-532.

222. Stark L, Sommer M, Davis K, Asghar K, Assazenew Baysa A, Abdela G, et al. Disclosure bias for group versus individual reporting of violence amongst conflict-affected adolescent girls in DRC and Ethiopia. PloS one. 2017;12(4):e0174741.

# CURRICULUM VITAE

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## EDUCATION

Present **PhD**, Nursing
**Johns Hopkins University School of Nursing**
Research Interests: Adolescent & Humanitarian Health & Gender Norms
Dissertation: "Examining Parents' Endorsed Gender Norms and Early Adolescents' Wellbeing in Eastern Democratic Republic of Congo"
Mentors: Nancy Glass, Nancy Perrin, & Paul Spiegel

2018 **MSN/MPH**, Public Health Nursing
**Johns Hopkins University Schools of Nursing & Public Health**
Area of Concentration: Public Health Nursing

2013 **BSN**, Nursing
**Johns Hopkins University School of Nursing**

2006 **BBA**, International Business
**Texas Tech University**
Study Abroad: Saint Petersburg, Russia

## CURRENT LICENSE AND CERTIFICATION

2019- 2021 **Registered Nurse**, License R207617, Maryland Board of Nursing
2020- 2022 **Basic Cardiac Life Support**, American Heart Association

## GRANTS

2020 *Eunice Kennedy Shriver* National Institute of Child Health and Human Development, F31 1F31HD102091-01, $45,200
"Examining Parents' Endorsed Gender Norms and Early Adolescents' Wellbeing in Eastern Democratic Republic of Congo"
PI: **Corley**, support: doctoral salary, tuition

2020- 2021 Sigma International Honor Society of Nursing, Grant 16140, $4,280
"Examining Parents' Endorsed Gender Norms and Early Adolescents' Wellbeing in Eastern Democratic Republic of Congo"
PI: **Corley**, support: research costs

## HONORS AND AWARDS

2020 Henry B. Spencer Memorial Scholarship, Nurses Educational Funds
2017 Isabel McIsaac Memorial Scholarship, Nurses Education Funds
2016 Isabel McIsaac Memorial Scholarship, Nurses Education Funds, $10,000
2016 Sigma Theta Tau, Nu Beta Chapter, International Honor Society of Nursing
2012 Peace Corps Coverdell Fellowship, Johns Hopkins University School of Nursing
2000 Eagle Scout, Boy Scouts of America, Troop 82, Dallas, TX

**RESEARCH EXPERIENCE**

2019- present **Primary Investigator**, Department of Community Public Health, Johns Hopkins University School of Nursing, Baltimore, MD
PI: **Corley**
- Conducting a mixed methods dissertation research study employing a combination of secondary quantitative data and newly collected qualitative focus group discussions.
- Led and supervised an international team in the development of interview guides and in conducting focus group discussions with adolescents and their parents in 10 villages in South Kivu, Democratic Republic of the Congo (DRC).
- Conducted quantitative analyses conducted in Stata statistical software and employed factor analysis, latent class analysis, and multivariable linear and logistic regression.

2019- 2020 **Research Assistant**, Department of Community Public Health, Johns Hopkins University School of Nursing, Baltimore, MD
PI: Perrin
- Undertook an analysis of the effectiveness of a college campus-based dissemination campaign for an interactive safety decision aid for friends and survivors of intimate partner violence.
- Gained valuable quantitative modeling skills and experience with STATA statistical software, ArcGIS geospatial information software, and database management.

2019-2020 **Research Assistant**, Department of Community Public Health, Johns Hopkins University School of Nursing, Baltimore, MD
PI: Sabri
- Conducted analyses of interviews with African immigrant women on their stressful pre- and post-migration experiences, coping mechanisms, and psychosocial outcomes.

2013- 2017 **Research Assistant**, Department of Community Public Health, Johns Hopkins University School of Nursing, Baltimore, MD
PI: Veenema
- Revised and updated two chapters in the fourth edition of textbook, *Disaster Nursing and Emergency Preparedness*.

- Researched the safety and care implications of the use of personal protective equipment on nurses caring for patients suffering from Ebola virus disease.
- Collected and analyzed peer-reviewed research for a systematic review of literature on the risk factors associated with child sexual abuse in developing and underdeveloped countries.

**TEACHING EXPERIENCE**

**Lab Instructor** **Health Assessment I** (Spring 2021 & Fall 2020), Department of Acute & Chronic Care, Johns Hopkins University School of Nursing

**Teaching Assistant** **Integrated Clinical Management: Complex Health Disorders** (Summer 2020), Department of Acute & Chronic Care, Johns Hopkins University School of Nursing

**Guest Lecturer** *"A multilevel life course perspective on health"*
**Public Health Nursing Theory & Practice** (Fall 2020), Department of Community-Public Health, Johns Hopkins University School of Nursing

**PROFESSIONAL EXPERIENCE**

2015- **Registered Nurse**, Johns Hopkins Hospital, Cardiovascular Surgical Intensive Care Unit, Baltimore, MD
- Experienced in caring for patients immediately following cardiovascular surgery; heart and lung transplants; ventricular assist device implantation; and those requiring invasive mechanical circulatory support.
- Adept at operating in an environment requiring clear communication, high-performance teamwork, and clinical competence.
- Experienced in caring for patients critically ill from Coronavirus disease 19 (COVID-19) requiring extracorporeal membrane oxygenation (ECMO).

2014- 2018 **Registered Nurse**, Johns Hopkins Hospital, Biocontainment Unit, Baltimore, MD
- Trained in the care of patients with suspected or diagnosed cases of highly virulent and infectious diseases, such as Ebola virus disease and Middle East respiratory syndrome.
- Served as a unit super-user and trainer of fellow staff members in proper personal protective equipment use.

2013- 2015 **Registered Nurse**, Johns Hopkins Hospital, Medical Progressive Care Unit, Baltimore, MD
- Developed expertise in the nursing care of patients requiring high acuity care for diagnoses such as acute coronary

syndrome, sepsis, diabetic ketoacidosis, liver failure, gastrointestinal bleed, acute renal failure, hypertensive urgency, and acute respiratory failure.

2010- 2012 **Consultant**, Carlisle & Gallagher Consulting Group, Dallas, TX

- Consulted with the organization's largest client, Bank of America, in addressing concerns expressed by borrowers undergoing loan modification under the Home Affordable Modification Program (HAMP) or refinancing under the Home Affordable Refinance Program (HARP).
- Ensured that communications with borrowers were of a high quality and consistent with federal and lender policies.

2008- 2010 **Peace Corps Volunteer**, Small Enterprise Development Sector, United States Peace Corps, Republic of Benin, West Africa

- Formed and supervised a team of instructors tasked with leading instructional sessions, in their local language, on subjects such as HIV/AIDS and malaria prevention for groups of non-schooled youth.
- Organized and managed a savings and credit association composed of 25 local villagers whose goal was to allow members to increase their savings rates as well as offer access to credit for use in income generating activities.
- Chaired the finance committee for a week-long summer camp whose goal was to empower and offer personal health education to the 55 female, secondary school participants.

2007- 2008 **Administrative Officer**, Addison Brown, LLC, Dallas, TX

- Responsible for the day-to-day administration of an oil and natural gas exploration investment start-up.

**PUBLICATIONS**

**Peer Reviewed Journal Articles (*data-based)**

1. ***Corley, A.,** Glass, N., Remy, M. M., & Perrin, N. (2021). A Latent Class Analysis of Gender Attitudes and Their Associations with Intimate Partner Violence and Mental Health in the Democratic Republic of Congo. *International Journal of Environmental Research and Public Health.*
2. **Corley, A. G.** (2021). Linking armed conflict to malnutrition during pregnancy, breastfeeding, and childhood. *Global Food Security, 29*, 100531.
3. ***Corley, A.**, & Sabri, B. (2020). Exploring African immigrant women's pre- and post-migration exposures to stress and violence, sources of resilience, and psychosocial outcomes. *Issues in Mental Health Nursing,* , 1-11. doi:10.1080/01612840.2020.1814912
4. *Veenema, T. G., Thornton, C. P., Lavin, R. P., Bender, A. K., Seal, S., & **Corley, A**. (2017). Climate Change Related water disasters' impact on population health. *Journal of Nursing Scholarship*

5. ***Corley, A. G**., Cantara, M., Gardner, J., Trexler, P., Rock, C., & Maragakis, L. L. (2017). CLABSI rate elevation: Attributable to NHSN surveillance definition changes, ongoing opportunities for infection prevention, or both? *American Journal of Infection Control.*
6. ***Corley, A. G.**, Thornton, C. P., & Glass, N. E. (2016). The role of nurses and community health workers in confronting neglected tropical diseases in sub-Saharan Africa: A systematic review. *PLoS Neglected Tropical Diseases, 10*(9), e0004914
7. Veenema, T. G., & **Corley, A. G.** (2015). Nurse safety from exposure to chemicals and biologics: Hazard assessment, decontamination, and the use of personal protective equipment. *Health Science Journal, 9*(7)
8. *Veenema, T. G., Thornton, C. P., & **Corley, A.** (2015). The public health crisis of child sexual abuse in low and middle-income countries: An integrative review of the literature. *International Journal of Nursing Studies, 52*(4), 864-881.

**Manuscripts Submitted for Peer Review**

1. **Corley, A.G.**, Geiger, K., Glass, N., Caregiver and family-focused interventions for early adolescents affected by armed conflict: A narrative review. *Children and Youth Services Review* (Submitted for initial review)

**Book Chapters**

1. Veenema, T. G., **Corley, A.**, & Thornton, C. P. (2018). Natural disasters. In T. G. Veenema (Ed.), *Disaster nursing and emergency preparedness* (4th ed., pp. 299-319). New York, NY: Spring Publishing Company.
2. Veenema, T. G., Thornton, C. P., & **Corley, A**. (2018). Environmental disasters and emergencies. In T. G. Veenema (Ed.), *Disaster nursing and emergency preparedness* (4th ed., pp. 321-335). New York, NY: Spring Publishing Company.

**Conference Presentations**

2017 **Corley, A. G**., Cantara, M., Gardner, J., Trexler, P., Rock, C., & Maragakis, L. L. CLABSI rate elevation: Attributable to NHSN surveillance definition changes, ongoing opportunities for infection prevention, or both? **Podium Presentation.** Johns Hopkins Nursing Scholars Day 2017. December 4, 2017. Baltimore, MD

2014 Veenema, T.G., Thornton, C.P., & **Corley, A.G.** The public health crisis of child sexual abuse in low and middle-income countries: An integrative review of the literature. Poster Presentation. Association of Community Health Nursing Educators (ACHNE) 2014 Annual Institute—Social Justice: Within & Beyond Our Borders. June 5-7, 2014. San Antonio, TX

**PROFESSIONAL ACTIVITIES**

**Peer Review Activities**

2019- 2020 Social Science and Medicine – Population Health

**Leadership & Service**

2016- **New Nurse Preceptor**, Johns Hopkins Hospital, Cardiovascular Surgical Intensive Care Unit, Baltimore, MD

- Responsible for orienting and training new nurses in the skills and techniques commonly employed on the unit.

- Guide recent nursing school graduates in developing the critical reasoning skills necessary to manage clinically complex, critically ill patients.

2019- 2020 **Student Representative**, PhD Curriculum Committee, Johns Hopkins University School of Nursing

- Attended regular meetings of the PhD Curriculum Committee, the committee responsible for overseeing the PhD program's course content.
- Provided insight to faculty committee members on how students' believed the program's content and delivery could be improved.
- Communicated committee decisions to the PhD student body.

2016- 2018 **Practice Improvement Committee, Central Line-Associated Bloodstream Infection (CLABSI) Subcommittee Chair**, Johns Hopkins Hospital, Cardiovascular Surgical Intensive Care Unit, Baltimore, MD

- Responsible for coordinating with the unit's doctors, nurses, other health professionals to reduce the CLABSI rate, a potentially deadly hospital-acquired infection.
- Developed a series of interventions and policies designed to mitigate the risk of infection within the unit's patient population.
- Oversaw a team of nurses tasked with monitoring unit staff's adherence to quality measures shown to reduce the risk of CLABSIs.

2016- 2018 **CLABSI Champion,** Johns Hopkins Hospital, Cardiovascular Surgical Intensive Care Unit, Baltimore, MD

- Unit liaison to hospital leadership and infection prevention specialists engaged in reducing the hospital-wide burden of CLABSIs.
- Communicated quality improvement initiatives to nurse colleagues and ensured compliance with changes in infection prevention policies.

2012- 2013 **Volunteer**, Refugee Youth Project, Baltimore, MD

- Tutored for an after-school program for children of recently-arrived refugee families.

2012 **Pathophysiology Tutor**, Johns Hopkins University School of Nursing, Baltimore, MD

**Professional Memberships**

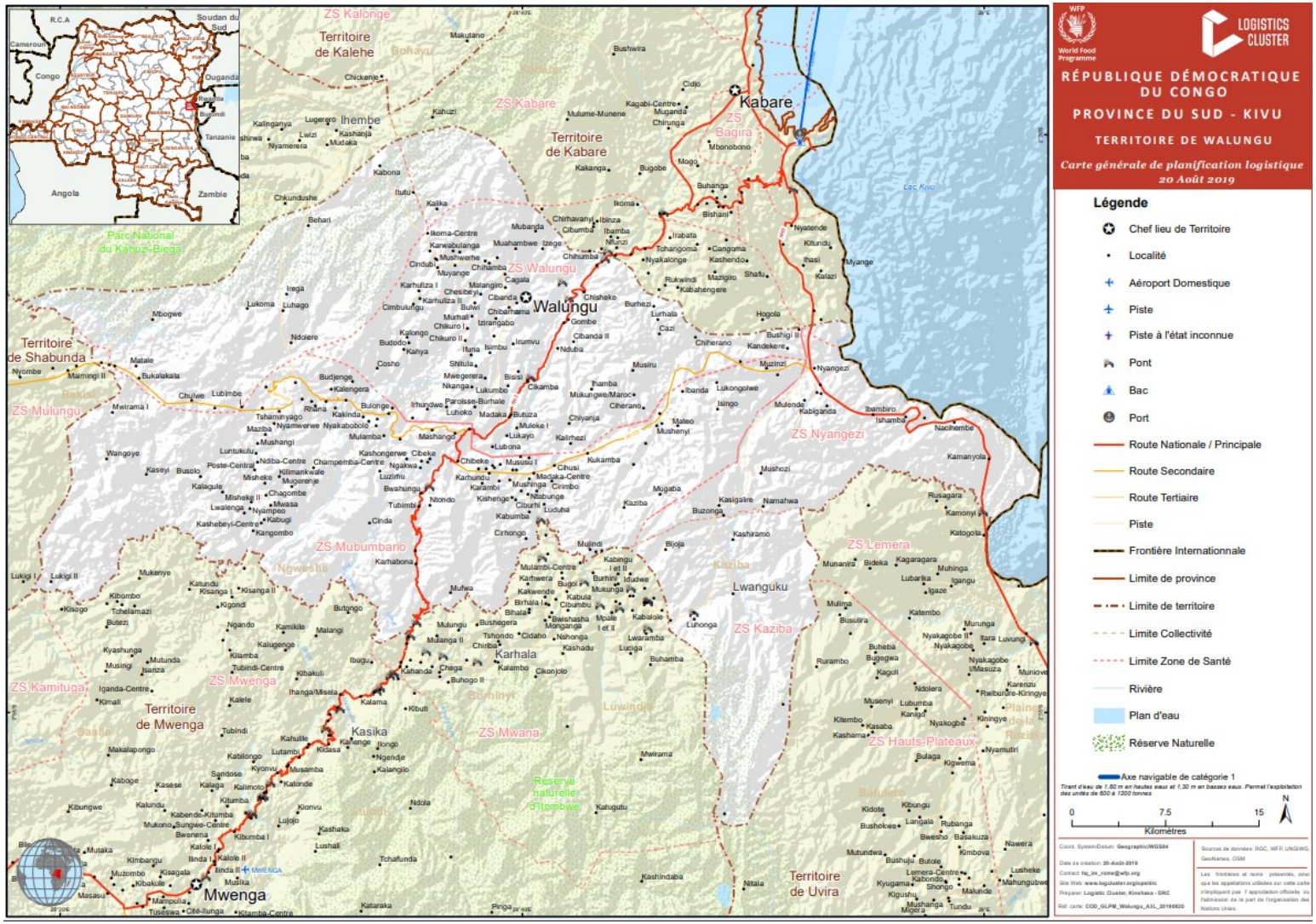
2020- Present Society for Adolescent Health and Medicine
2020- Present International Association for Adolescent Health
2017- Present American Public Health Association
2016- Present Sigma Honor Society of Nursing

**FOREIGN LANGUAGE**

| | |
|---|---|
| French | Advanced spoken, written, and reading proficiency under the guidelines of the American Council for the Teaching of Foreign Languages |

# APPENDICES

## Appendix A: Walungu Territory, South Kivu Province, Democratic Republic of the Congo



## Appendix B: Adolescent Focus Group Discussion Guide

**GUIDE D'ENTRETIEN : ADOLESCENTS**

**Titre du Protocole : Examen de la relation entre les normes de genre approuvées par les parents au point de vue de la santé mentale, de l'engagement éducatif et de la nutrition de leurs très jeunes adolescents à l'est de la République démocratique du Congo.**

**Prénom : _____**

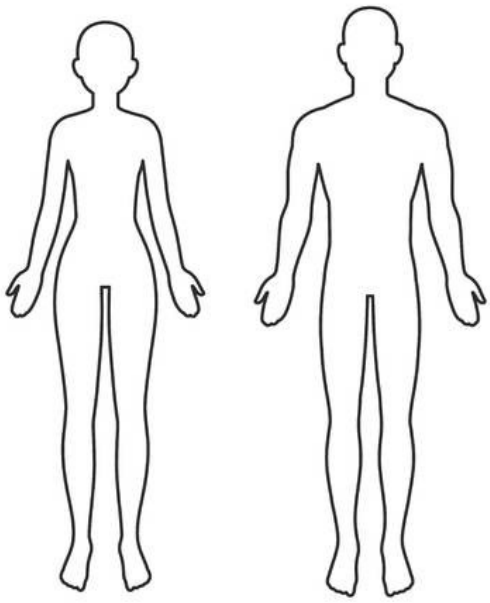
**Sexe : _____**

**Nom de village d'origine : _____**

**Age : _____**

**Exercice 1 : Exercice de cartographie corporelle**

***Introduction à l'exercice :*** *Je vais te donner un aperçu d'un corps humain à colorier comme tu le souhaite. En coloriant, je vais te poser quelques questions sur différentes parties du corps.*



**Bras et mains :** Quelles sortes des tâches les parents permettent aux gens de ton âge de faire ? Les parents vous disent-ils que certains emplois ou professions ne sont destinés qu'à être exercés par un homme ou une femme ou sont-ils en faveur de votre acceptation d'un emploi ? Y a-t-il des emplois qui vous intéressent mais que vous ne pensez pas pouvoir faire parce que seul l'autre sexe les fait ? (Par exemple, enseignant, mineur, agriculteur ou commerçant)

Notes :

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_____

**Jambes et pieds :** Les parents restreignent-ils l'endroit où les enfants de ton âge peuvent aller ? Les restrictions sont-elles les mêmes pour les garçons et les filles ? Sinon, pourquoi ?

Notes :

_____
_____

**Tête :** À quoi penses-toi le plus (Qu'est-ce qui te préoccupe le plus souvent ?) ? Les parents enseignent-ils aux filles et aux garçons les mêmes choses ? Comme quoi ?

Notes :

_____
_____

**Yeux :** Que pensent les parents en observant les gens de ton âge ? Y a-t-il des différences dans leur façon de penser quand il s'agit des filles ou des garçons ? Pense-toi avoir des opinions similaires ou différentes à vos parents ?

Notes :

_____
_____

**Oreilles :** Les parents écoutent-ils leurs enfants de ton âge ? Sur quoi les parents peuvent-il l'écouter. Y a-t-il des points sur lesquels les parents ne peuvent pas écouter les enfants de ton âge ? Lesquels ?

Notes :

_____
_____

**Bouche :** Les enfants de votre âge parlent-ils à leurs parents de leurs sentiments ? Est-ce différent pour les filles et les garçons ? De quoi aimeriez-vous pouvoir parler davantage à vos parents ?

Note s:

_____
_____

**Corps principal :** Quels sont les problèmes de santé que connaissent souvent les filles et les garçons de ton âge ? Les parents traitent-ils les problèmes de santé de leurs fils et de leurs filles de la même façon ? *Quelle aide et quels conseils souhaiteriez-vous recevoir pendant la première période, par exemple ? (Dernière question destinée uniquement aux groupes de parents et aux groupes d'adolescents avec uniquement des filles)*

Notes :

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_____

**Lorsque vous étiez plus petits (enfants) vous faisiez tous ensemble (même chambre ou lit, mêmes jeux, travaux identiques…). Il n'y avait pas de distinction entre filles et garçons. Maintenant vous commencez à ressentir la différence selon que vous êtes fille ou garçon.**

**Cœur :** Quels types de sentiments ont les filles ou les garçons de ton âge ? Les enfants de votre âge deviennent-ils parfois tristes, déprimés ou anxieux. Les parents vous aident-ils à gérer ces sentiments ?

Notes :

_____

_____

**Exercice 2 : Exercice de Vignettes**

***Introduction à l'exercice :*** *Au cours de cette entrevue, je vais vous lire quelques histoires courtes et ensuite vous poser quelques questions sur les histoires. Je vais vous lire la première histoire maintenant. Je vais ensuite vous demander ce que les parents et les autres membres de la communauté penseraient des actions des personnages.*

| | INTERVIEWEUR : LISEZ LA VIGNETTE AU GROUPE, PUIS POSEZ LES QUESTIONS CONNEXES. | Notes | Concept |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 1 | *Mamadou, un garçon de 13 ans, est issu d'une famille villageoise très pauvre. Il veut aider sa famille en quittant l'école pour trouver du travail et gagner un peu plus pour subvenir aux besoins de sa famille.* | | Éducation |
| A | Comment les parents de Mamadou réagiraient-ils en découvrant qu'il ne veut pas aller à l'école ? | | |
| B | Les parents et la communauté réagiraient-ils différemment s'il s'agissait d'une fille plutôt que d'un garçon ? | | |
| | | | |
| 2 | *Samuel, un garçon de 10 ans, se sent déprimé. Il ne mange pas beaucoup ou veut voir ses amis de l'école. Il se sent comme si les gens pensent qu'il n'est d'aucune utilité.* | | Dépression/anxiété |
| A | Comment la mère de Samuel pourrait-elle le soutenir s'il se sent déprimé ? | | |
| B | Les parents réagiraient-ils différemment si c'était une fille plutôt qu'un garçon qui avait ces émotions ? | | |
| | | | |
| 3 | *Prospère, une fille de 14 ans, n'aime pas aider les aînés lorsqu'ils demandent de l'aide ou partagent de la nourriture avec sa petite sœur.* | | Comportement prosocial |
| A | Comment sa mère réagirait-elle à ce comportement ? | | |
| B | La réaction de la mère serait-elle différente s'il s'agissait de son fils plutôt que de sa fille ? | | |
| | | | |
| 4 | *Gloria a 14 ans, et elle a deux frères qui ont 10 et 15 ans. Leur père a apporté à la maison un gros poisson pour le dîner à manger avec ugali.* | | Sécurité alimentaire |

| | | | |
|---|---|---|---|
| A | Est-ce que tous les enfants mangent ensemble ou que certains mangent avant les autres ? | | |
| B | Le père et la mère de Gloria partageront-ils une partie du poisson aux enfants ? | | |
| C | Est-ce que tous les enfants peuvent manger un peu de poisson ? | | |
| | | | |
| 5 | *Il y a une ONG dans le village de Divine, une fille de 15 ans, qui organise une séance d'activités pour enseigner aux jeunes le VIH et l'utilisation des préservatifs. Divine demande à sa mère si elle peut y assister.* | | Santé sexuelle et reproductive |
| A | Comment sa mère répondrait-elle probablement à la demande ? | | |
| B | La réaction de la mère serait-elle différente s'il s'agissait de son fils plutôt que de sa fille ? | | |
| C | Ce type de question de santé est-il la responsabilité des femmes uniquement ou des hommes uniquement ou des deux ? | | |

## Appendix C: Caregiver Focus Group Discussion Guide

**GUIDE D'ENTRETIEN : PARENTS**

**Titre du Protocole : Examen de la relation entre les normes de genre approuvées par les parents au point de vue de la santé mentale, de l'engagement éducatif et de la nutrition de leurs très jeunes adolescents à l'est de la République démocratique du Congo.**

**Exercice 1 : Exercice de cartographie corporelle**

**Bras et mains :** Quelles sortes des tâches permettez-vous aux jeunes de 10 à 15 ans de faire ? Y a-t-il certains emplois ou professions dont vous dites que vos enfants ne sont destinés qu'aux femmes ou aux hommes ou les soutenez-vous dans l'emploi de leur choix ? (Par exemple, enseignant, mineur, agriculteur ou commerçant)

Notes :

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**Jambes et pieds :** Restreignez-vous l'endroit où les enfants de 10 à 15 ans peuvent aller ? Quels endroits ? Les restrictions sont-elles les mêmes pour les garçons et les filles ? Pourquoi ?

Notes :

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_____

**Tête :** À quoi penses le plus (Qu'est-ce qui les préoccupe le plus souvent ?) les enfants de 10 à 15 ans ? Les parents enseignent-ils aux filles et aux garçons les mêmes choses ? Comme quoi ?

Notes :

_____

_____

**Yeux :** Que dite vous en observant vos enfants de 10 à 15 ans ? Y a-t-il des différences dans votre façon d'observer quand il s'agit des filles ou des garçons ? Pensez-vous avoir des opinions similaires ou différentes à vos enfants ?

Notes :

_____

_____

**Oreilles :** Les parents écoutent-ils leurs enfants de 10 à 15 ans ? Sur quoi le parent peut-il les écouter. Y a-t-il des points sur lesquels les parents ne peuvent pas écouter les enfants de 10 à 15 ans ? Lesquels ? Pour les garçons ? Pour les filles ?

Notes :

_____

_____

**Bouche :** Les enfants de cet âge parlent-ils à leurs parents de leurs sentiments ? Est-ce différent pour les filles et les garçons ? Quels sujets sont importants à discuter avec vos enfants à cet âge ?

Notes :

_____

_____

**Corps principal :** Quels sont les problèmes de santé que connaissent souvent les filles et les garçons de 10 à 15 ans ? Les parents traitent-ils les problèmes de santé de leurs fils et de leurs garçons de la même façon ? *Quelle aide ou quel conseil pouvez-vous donner à une fille lors de ses premières règles, par exemple ? (Dernière question destinée uniquement aux groupes de parents et aux groupes d'adolescents avec uniquement des filles)*

Notes :

_____

_____

**Cœur :** Quels types de sentiments ont les filles ou les garçons de 10 à 15 ans ? Les parents aident-ils les jeunes à les gérer ? Les enfants de cet âge deviennent-ils parfois tristes, déprimés ou anxieux. Les aidez-vous gérer ces sentiments ?

Notes :

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_____

**Exercice 2 : Exercice de Vignettes**

***Introduction à l'exercice :*** *Au cours de cette entrevue, je vais lire quelques histoires courtes et ensuite poser quelques questions sur les histoires. Je vais lire la première histoire maintenant. Je vais ensuite demander ce que les parents et les autres membres de la communauté penseraient des actions des personnages.*

| | INTERVIEWEUR : LISEZ LA VIGNETTE AU GROUPE, PUIS POSEZ LES QUESTIONS CONNEXES. | Notes | Concept |
|---|---|---|---|
| 1 | *Dunia, la mère d'une fille de 13 ans, vend du charbon de bois sur le marché. Son mari veut utiliser l'argent pour payer les frais de scolarité, mais Dunia veut l'utiliser pour réparer le toit qui fuit de leur maison.* | | Égalité des sexes |
| A | Le couple devrait-il discuter davantage de la façon d'utiliser l'argent ou d'un seul membre du couple devrait-il avoir toute autorité sur la décision ? Qui a l'autorité ? | | |
| B | Quelles leçons sur le mariage la fille de Dunia gagne-t-elle en regardant cette interaction ? | | |
| C | Ces leçons que vous voudriez que votre fils ou votre fille apprennent sur le mariage ? | | |
| | | | |
| 2 | *Pascal, père d'un fils de 15 ans, est bouleversé parce que sa femme a laissé la porte de la plume de chèvre* | | Égalité des sexes |

| | | | |
|---|---|---|---|
| | *ouverte et que la chèvre s'est échappée.* | | |
| A | Serait-il acceptable pour Pascal de frapper ou de gifler sa femme à cause de cela ? | | |
| B | Quelles leçons sur le mariage le fils de Pascal gagne-t-elle en regardant cette interaction ? | | |
| C | Ces leçons que vous voudriez que votre fils ou votre fille à apprendre sur le mariage ? | | |
| | | | |
| 3 | *Mamadou, un garçon de 13 ans, est issu d'une famille villageoise très pauvre. Il veut aider sa famille en quittant l'école pour trouver du travail et gagner un peu plus pour subvenir aux besoins de sa famille.* | | Éducation |
| A | Comment les parents de Mamadou réagiraient-ils en découvrant qu'il ne veut pas aller à l'école ? | | |
| B | Les parents et la communauté réagiraient-ils différemment s'il s'agissait d'une fille plutôt que d'un garçon ? | | |
| | | | |
| 4 | *Samuel, un garçon de 10 ans, se sent déprimé. Il ne mange pas beaucoup ou veut voir ses amis de l'école. Il se sent comme si les gens pensent qu'il n'est d'aucune utilité.* | | Dépression/anxiété |
| A | Comment sa mère réagirait-elle au comportement de lui ? | | |
| B | Les parents réagiraient-ils différemment si c'était une fille plutôt qu'un garçon qui avait ces émotions ? | | |

| | | | |
|---|---|---|---|
| 5 | *Prospère, une fille de 14 ans, n'aime pas aider les aînés lorsqu'ils demandent de l'aide ou partagent de la nourriture avec sa petite sœur.* | | Comportement prosocial |
| A | Comment sa mère réagirait-elle à ce comportement ? | | |
| B | La réaction de la mère serait-elle différente s'il s'agissait de son fils plutôt que de sa fille ? | | |
| | | | |
| 6 | *Gloria a 14 ans, et elle a deux frères qui ont 10 et 15 ans. Leur père a apporté à la maison un gros poisson pour le dîner à manger avec ugali.* | | Sécurité alimentaire |
| A | Est-ce que tous les enfants mangent ensemble ou que certains mangent avant les autres ? | | |
| B | Le père et la mère de Gloria partageront-ils une partie du poisson aux enfants ? | | |
| C | Est-ce que tous les enfants peuvent manger un peu de poisson ? | | |
| | | | |
| 7 | *Il y a une ONG dans le village de Divine, une fille de 15 ans, qui organise une séance d'activités pour enseigner aux jeunes l'utilisation du VIH et du préservatif. Divine demande à sa mère si elle peut y assister.* | | Santé sexuelle et reproductive |
| A | Comment sa mère répondrait-elle probablement à la demande ? | | |
| B | La réaction de la mère serait-elle différente s'il s'agissait de son fils plutôt que de sa fille ? | | |

| | | | |
|---|---|---|---|
| C | Ce type de question de santé est-il la responsabilité des femmes uniquement ou des hommes uniquement ou des deux ? | | |

**Appendix D: Summary of themes and focus group discussion quotations**

| Domains | Emergent Themes | Example Quotations |
|---|---|---|
| Psychosocial Well-Being | Girls' behavior may cast shame on their families. | • *The mother can already begin to forbid her [daughter] from having sex with men, she can get pregnant, at this age girls begin to feel ashamed.* – David, male caregiver<br>• *For girls, if she dates boys, she can get pregnant.* – Véronique, female caregiver<br>• *Girls themselves give one another bad advice when it comes to feelings. They may tell themselves to have a feeling of dressing well or having something. These feelings are different and some lead to bad behaviors, like theft.* – Justin, male caregiver<br>• *The lessons that parents teach girls and boys are very different. To girls, parents ask them not to cause shame and to study before getting married. I don't know what they teach boys.* – Nsimba, female adolescent<br>• *With the outfits of some girls (mini-skirts), they can go causing a mess, which is why they are forbidden from leaving the house. That way they don't go out causing debauchery and then return home saying that they feel ill, with a fever between the legs. – Pierre, male adolescent*<br>• *Girls cause shame to their parents with their indecent clothing, sometimes there are confused for prostitutes.* – Mubenga, male adolescent<br>• *When one has a daughter, who is approaching her first period, one cannot give her advice at the same times as a boy. From then on you must separate them. The girl is directed on how to prepare herself, how she should keep clean, and how she should avoid hanging out with boys too much.* – Tshilobu, female caregiver<br>• *Parents should ask children to bathe regularly. Girls are told they must not go more than two days without washing because she will develop many personal hygiene problems, but boys can go many more days without bathing.* – Esther, female adolescent<br>• *There are many bad things that a girl can do that a boy cannot. Girls can go out and sleep with boys and create all kinds of problems for their parents* – Félix, male adolescent |
| | Intimate partner violence threatens adolescents' | • *The [boy] will conclude that hitting or slapping a woman is not bad, but also, he might become angry from witnessing this situation and jump atop his father who is hitting his moth. This is why arguing in front of children is not good.* – Albert, male caregiver (responding to a vignette in which a husband hits his wife in the presence of their son) |

| | | |
|---|---|---|
| | emotional well-being | • *For any couple there are always bedroom secrets. When one becomes angry with the other, they must go directly to their room in order to talk things out, but this shouldn't happen in the living room. Dialogue between members of the couple is the foundation of the home.* – Muzuri, male caregiver<br>• *The child will regret this. If it is a girl, she will become afraid of marrying and if it is a boy, he will be equally afraid of getting engaged. Mutual respect must reign for the household to function smoothly.* – Justin, male caregiver (responding to a vignette in which a husband hits his wife in the presence of their son)<br>• *Supporting one another is the key to success for a household. Both the family and the couple themselves must work towards this.* – Bondeko, male caregiver<br>• *You can hit your wife while still loving her, it doesn't mean you hate her. He hit his wife out of anger.* – Michel, male caregiver (responding to a vignette in which a husband hits his wife in the presence of their son)<br>• *The fact that the boy witnessed these clashes between his parents can remain with him and can also cause him to be violent towards his sisters or his future wife.* – Véronique, female caregiver<br>• *The father seems naturally wicked, normally he shouldn't hit his wife, especially not in front of his son.* – Dunia, female caregiver (responding to a vignette in which a husband hits his wife in the presence of their son) |
| | Listening as an important component of parenting. | • *Even when boys approach us for such and such a reason we listen. We must listen to our children because by listening to them they edify us and even give us advice.* – Charlotte, female caregiver<br>• *The parent should ask questions in order to learn more about why they refuse to eat.* – Muamba, male adolescent (When responding to a vignette about a child with symptoms of depression)<br>• *The mother should approach her child and listen to them in order to search for a solution.* – Véronique, female caregiver<br>• *After observing the behavior of this child, the parent should approach them, listen to them first, and then take them to the hospital.* – Justin, male caregiver (When responding to a vignette about a child with symptoms of depression) |
| | Caregivers' gendered roles and behaviors | • *Children also see what is happening with their family. Some children are emotionally wounded by what happens with their family.* – Véronique, female caregiver |

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| | influence adolescents' own future behaviors and attitudes. | • *The child does what he sees done in his family and, thus, will also be like his father.* – Feza, female caregiver<br>• *There are things that girls are ashamed to tell their fathers but can easily tell their mothers, so the problems that girls and boys face around hygiene a girl cannot ask, even about underwear, to her father.* – Esther, female adolescent<br>• *For girls, mothers handle their problems and, for boys, fathers handle their problems.* – Mubenga, male adolescent<br>• *You have to take responsibility as a parent. The girl speaks with her mother more than her father.* – David, male caregiver<br>• *What one says to girls and to boys is very different, us girls are destined to end up at some else's home.* – Sofia, female adolescent<br>• *The advice given to girls and boys is different but one must give it all the same. One must give more advice to a girl in order to prepare her for her future life elsewhere, while a boy will stay at his home.* – Joceline, female adolescent<br>• *Like father like son, like mother like daughter, as we say. Children inherit many of their behaviors from their parents. The father did poorly by taking the money, he should wait for his wife in order to make a joint decision on how to spend it.* – Augustin, male caregiver (when responding to a vignette about how who makes spending decisions in them home)<br>• *God created girls and boys differently. Boys are stronger than girls. A girl is made to stay at home and study.* – Esther, female adolescent |
| School Attendance | Education as a means to a better life. | • *All parents, even if they are not educated, want their children to study. You must always, when children get home from school, ask what they studied that day.* – David, male caregiver<br>• *I work hard to farm someone else's field so that my child may go to school.* – Tshilobu, female caregiver<br>• *Yes, parents teach all their children ages 10 to 15 in the same way. The importance of education figures among one of the first lessons that I give to them.* – Muzuri, male caregiver<br>• *When a child loves school, it is up to the parents to suffer so that the child can continues to study.* – Joséphine, female caregiver<br>• *What sort of future will a child who must feed his family have? He is not responsible for the lives of the family; he must give himself to his studies.* – Albert, male caregiver |

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| | | • *I wonder if I will complete school ; when I see children, I wonder if I will also have my own child or not or if I will go to the sister's college.* – Joceline, female adolescent<br>• *The father did not behave well because education is so important for a child's life. One day, after he finishes his education, this child will be able to construct for his parents a beautiful house.* – Charlotte, female caregiver |
| | Lack of financial resources and pregnancy can limit school attendance, mostly for girls. | • *Our parents forbid us from doing the same sorts of things. My sister is a seamstress but people always tell me to concentrate on my studies so that I can have a better future.*– Esther, female adolescent<br>• *If it's a girl her parents can ask her to begin farming but she should always be shown the importance of education. In the neighborhood she might be confused for a prostitute.* – Paul, male adolescent<br>• *A girl will destroy her future when she leaves school and becomes a mother.* – Thérèse, female caregiver<br>• *Parents ask that boys study and finish [school] in order to succeed in life and at the right moment to get married and have children or, if he doesn't want to get married, to go to the convent to become a priest.* – Joceline, female adolescent |
| Food Security | Families sometimes eat together. | • *They eat together because when children have the habit of eating alone when they are not at home, they may become malnourished. They will no longer be used to [competing for food].* – André, male adolescent<br>• *The food in the house is a family asset and children must eat all together.* – Albert, male caregiver<br>• *Sometimes I eat with my children in order to show them how to behave at the table so that they know how to politely eat in front of others.* – Charlotte, female caregiver<br>• *Children must eat the fish in order to grow.* – Véronique, female caregiver<br>• *[The children] eat all together because one shouldn't create division between them. There are those who cannot eat.* – Nsimba, female adolescent<br>• *For children to love one another they have to eat together. This is how parents teach their children to love each other, by giving them food.* – Muamba, male adolescent<br>• *The parents as well as the children eat from the same food. The children must eat some of the fish because they need good nutrition for good growth.* – Charlotte, female caregiver<br>• *They should share the food so that everyone eats a little, even if there is only a small amount of food.* – François, male adolescent |

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| | Food shared by age | • *They can share the food according to each child's age at the same table.* – Joséphine, female caregiver<br>• *It depends on the household. There are some where the parents eat at the same time as their children and others in which this is not the case. At a certain age children must have nutritious food for proper growth.* – Muzuri, male caregiver<br>• *You shouldn't create divisions between children. They should group children by age and share amongst them the food according to these ages.* – Tshilobu- female caregiver<br>• *You can also separate your children according to age so that there aren't those who would eat more than others.* – Joceline, female adolescent |