

Preliminary Effects of the ANZANSI Family Program on Caregiver Outcomes in Northern Ghana: A Pilot Study

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Abstract

High levels of poverty and entrenched gender norms in Northern Ghana increase the risk of adolescent girls leaving school, engaging in child labor, and migrating unaccompanied. Caregivers play a vital role in reducing these risks, but few interventions focus on family-level support for girls' education. The ANZANSI Family Program combines economic empowerment with family strengthening to address child labor. A pilot randomized clinical trial ($n = 97$) was conducted across 10 schools, assessing caregiver-reported outcomes at baseline, 9 months, and 15 months. Results from linear mixed-effects models showed significant improvements in caregiver educational support at both follow-ups. These preliminary findings suggest caregiver-focused, multi-component interventions are feasible in settings facing resource constraints and educational inequities and may enhance caregivers' involvement in supporting girls' education.

Keywords

adolescent girls, caregiver support, school dropout, family economic empowerment, multiple family groups, child labor

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Introduction

Enduring economic and educational inequities rooted in historical contexts shape constraints that families navigate, often affecting adolescent girls' education and overall well-being (Michalopoulos & Papaioannou, 2016; Roessler et al., 2020). Northern Ghana's contemporary educational inequities and patterns of child labor and migration are inseparable from sociohistorical forces that include the transatlantic slave trade, domestic slavery, and colonial rule and their afterlives (Pierre, 2020; Roessler et al., 2020). These historical

processes have been linked to long-run pathways shaping spatial inequality, material deprivation, and institutional trust across sub-Saharan Africa and Ghana, with consequences for schooling access and opportunity structures that persist across generations (Michalopoulos & Papaioannou, 2016; Nunn, 2008; Roessler et al., 2020).

Within this context, poverty and gender norms are not only proximate risks for girls' schooling but also reflect historical and geographical inequalities that shape caregivers' and adolescents' choices, constraints, and exposure to exploitative labor arrangements. Caregivers

in these settings, particularly in Northern Ghana, often face economic constraints, family dynamics, and cultural factors that necessitate difficult choices, affecting the educational and developmental trajectory of adolescent girls. This environment contributes to the widespread issue of child labor, a prominent concern across the African continent, with approximately one fifth of African children, around 92 million, engaged in various forms of work, including a considerable proportion within Ghana (ILO & UNICEF, 2021). Such circumstances increase the vulnerability of adolescent girls to early school dropout, transactional migration, and exploitative labor practices (Hamenoo et al., 2018; Jariego & Jariego, 2021; Mussa et al., 2019). Therefore, understanding the experiences and decisions of caregivers is critical. This study examines how a family intervention impacts caregiver-reported outcomes, focusing on strengthening child-caregiver support, enhancing family cohesion, improving caregivers' educational support, and increasing family assets. These caregiver and family processes are pivotal for promoting school attendance, reducing child labor, and mitigating the intention to migrate among adolescent girls.

While broad structural barriers to adolescent girls' education and the prevalence of child labor in poverty contexts are essential to acknowledge, it is equally important to acknowledge the pivotal role of caregivers in mediating these challenges. Caregiver influence on girls' educational trajectories is therefore best understood as context-driven rather than separable from the historical

and structural conditions families navigate. Recognizing caregivers as pivotal does not minimize structural injustice but clarifies how caregiving practices and family decision-making are shaped by, and can sometimes buffer, historically rooted constraints in schooling, labor markets, and social valuation of Northern Ghanaian communities (Roessler et al., 2020). In this study, we conceptualize caregiver support as a family process that operates within these conditions and can be strengthened through locally adapted interventions delivered through trusted school-community systems.

Poverty and gender inequality are well-known factors that lead to school dropout among adolescent girls (Gubbels et al., 2019; UNESCO, 2023). In Northern Ghana, these risks also reflect longer-term sociohistorical and political-economic processes, including colonialism and the afterlives of slavery, that have shaped inequality, educational opportunity structures, and gendered labor expectations. Within these historically produced constraints, growing evidence highlights the strong influence caregivers have on girls' educational trajectory (Kwarteng et al., 2022; Murphy-Graham, 2024). The family unit serves as a primary determinant of educational attainment, with both biological and nonbiological caregivers directly impacting a child's school engagement or withdrawal, particularly in environments marked by financial insecurity and material deprivation (Wang & Eccles, 2012). Cohesive family dynamics, characterized by strong emotional bonding,

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consistent parental monitoring, and open communication, are protective factors that enhance girls' likelihood of remaining in school (Basharpoor & Heidari, 2022; Kung & Ching-Yi, 2015; Osuji et al., 2018; Wang et al., 2021). Family cohesion, which refers to the level of emotional connectedness, mutual support, and harmony among family members, has been linked to increased school completion and reduced dropout rates during adolescence (Fortin et al., 2013; Maynard & Olson, 1987; Olson et al., 2019). Conversely, adolescents from less cohesive or more dysfunctional family environments face elevated risks of educational disengagement (Gordon & Nandy, 2012). Importantly, we conceptualize caregiver educational support and family cohesion as ways through which broader structural conditions are experienced, negotiated, and sometimes buffered within families, rather than as factors separable from the larger historical and structural determinants of educational inequality.

Building on the influence of family cohesion, the quality of parenting has a further significant impact on adolescent girls' engagement with school. Positive parenting practices, characterized by warmth, consistent guidance, and open communication, are consistently associated with improved educational and psychosocial outcomes (Blondal & Adalbjarnardottir, 2014; Blum et al., 2014; Murphy-Graham, 2024). Adolescents who can communicate openly with their caregivers tend to develop robust self-efficacy and problem-solving skills, which are crucial for mitigating school-related challenges such as academic stress, peer pressure, or emotional distress (Offrey & Rinaldi, 2017; Osuji et al., 2018; Yan et al., 2024). Active parental involvement, which includes checking homework, engaging with teachers, and supporting school activities, reinforces the perceived value of education and directly facilitates school attendance (Basharpoor & Heidari, 2022; Wang et al., 2021). Conversely, a lack of caregiver support leaves girls more vulnerable to school disengagement stemming from issues such as bullying, poor academic performance, or menstruation-related barriers (Jariego & Jariego, 2021; Olsson et al., 2017; Sommer, 2010).

Beyond direct parental involvement, broader social networks influence girls' schooling, including extended family members, mentors, and community leaders. These secondary caregivers provide emotional and practical support in many low-resource contexts, buffering adolescents from adverse life circumstances (Miller et al., 2015). Adolescents who perceive strong social support report higher school satisfaction and are less likely to consider dropping out (Bradley et al., 2021). Furthermore, parents who receive social support are often better equipped to manage household stressors, thereby enhancing their parental competence and self-efficacy in supporting their children's academic pursuits and well-being (Fierloos et al., 2023).

Despite the importance of caregiver support, household poverty remains a powerful predictor of school dropout for adolescent girls in low-resource settings. Numerous studies from sub-Saharan Africa and other Low- and Middle-Income Countries confirm that poverty increases irregular attendance and early withdrawal due to both direct and opportunity costs associated with schooling (Chikhungu et al., 2020; Reiss, 2013; Wray & Ed, 2015). Even with nominally free basic education, families often struggle with non-tuition costs, such as transportation, uniforms, or supplies. In the context of material deprivation, adolescent girls are often required to work at home or in markets, thereby reducing the time and energy available for school (Chikhungu et al., 2020; Wray & Ed, 2015). Economic shocks, such as illness or unemployment of a household member, can also prompt families to withdraw girls from school as a coping strategy (Bermudez et al., 2020; Van de Waal et al., 2024). These poverty-related constraints are often compounded by entrenched gender norms that devalue girls' education and promote early domestic responsibilities (Bermudez et al., 2020; Van de Waal et al., 2024). In Ghana, girls who delay marriage or prioritize schooling can face stigma or pressure to conform to normative roles (Akurugu, 2022), with parental endorsement of traditional beliefs directly reducing school attendance and increasing dropout rates (Van

de Waal et al., 2024). These intersecting barriers are particularly pronounced in Northern Ghana, where poverty, infrastructural deficits, and gender norms converge to produce significant educational inequalities, leading to stark regional disparities in school completion (Ghana Statistical Service, 2022; Molini & Paci, 2015). When caregivers prioritize education and invest in schooling, girls are more likely to remain enrolled (Murphy-Graham, 2024; Ssewamala, 2015; Ssewamala et al., 2009), whereas prioritizing short-term economic gain or traditional norms often leads to school withdrawal and practices like the migration of adolescent girls to urban centers for head porter work (Bermudez et al., 2020; Nartey et al., 2023).

Despite the well-established influence of caregiver and family-level factors on school disengagement and retention, interventions explicitly targeting these domains to prevent school dropout among adolescent girls in Ghana have been limited. Given the documented nexus between family-level interventions and improved school attendance, strategies that strengthen family-school partnerships and support caregiver capacity can reduce absenteeism and prevent dropout (Wang et al., 2021). In response to this gap, the ANZANSI Family Program (meaning “resilience” in a local language) was developed as a multicomponent intervention in Northern Ghana. Led by researchers from the United States and Ghana, as well as nonprofit organizations in Northern Ghana, ANZANSI aims to support vulnerable adolescent girls and their families affected by migration and child labor. The program integrates a family-level economic empowerment (FEE) strategy, including matched child development accounts (CDAs), financial workshops, and income-generating trainings, with a family-strengthening intervention delivered through multiple family group (MFG) sessions. These sessions focus on building protective factors for healthy parent-child relationships, addressing familial and community stressors, and discussing important topics such as child roles, gender norms, and child labor (Sensoy Bahar et al., 2020). The overarching goal is to reduce the

risk of school dropout and unaccompanied migration for child labor among adolescent girls. The FEE component, grounded in asset theory (Rothwell & Han, 2010; Sherraden, 1991), included financial literacy training, sessions on income-generating activities, and the establishment of CDAs co-owned by the adolescent and a caregiver. Family contributions to the CDAs were matched 2:1, up to a maximum of US\$90 over 9 months.

The MFG component, originally developed in the United States and later implemented in the sub-Saharan context, is informed by family systems and social learning theories (Dennison, 2005; McKay et al., 1995), and focused on the 4Rs (Rules, Responsibility, Relationships, Respectful Communication) and 2Ss (Stress and Social Support) (McKay et al., 1995). The Dang-Malgu (Family Togetherness) adaptation was conducted to build upon local knowledge and conceptualization of family relations. In Northern Ghana, family togetherness, reciprocal responsibility, and integrity are historically and contemporarily articulated through community concepts and practices that signal mutual assistance and moral standing. The intervention, therefore, emphasizes respectful communication and shared responsibility in ways that build upon family strengths and support caregivers’ capacity to encourage schooling under conditions in which adolescents face competing demands and risks. The 16 weekly sessions, each lasting 60 to 90 minutes and facilitated by trained school health coordinators, aimed to improve family functioning, communication, and support. Sessions were adapted to include content on child labor, child work, and girls’ education to address local norms and beliefs. This approach has previously demonstrated promise in enhancing caregiver-child relationships and family cohesion in both Uganda and Ghana (Brathwaite et al., 2022; Byansi et al., 2024; Sensoy Bahar et al., 2024).

We use the term culturally sensitive and contextually appropriate specifically to mean (a) adapting session content to address locally salient stressors (child labor, migration, gender norms), (b) delivering the intervention

through school-based personnel embedded in community systems, and (c) emphasizing family strengths and shared responsibility in ways intended to resonate with locally meaningful practices. This does not imply that the intervention fully addresses the historical and structural conditions shaping educational inequality, but rather identifies family-level pathways that warrant further study alongside broader structural efforts.

Preliminary research on ANZANSI has already demonstrated promising findings for adolescent girls, indicating that participation in the intervention improves psychosocial outcomes, including enhanced self-esteem and improved emotional and social self-efficacy (Byansi et al., 2025). Notably, the program has also increased family cohesion among adolescent girls, a critical factor for sustaining educational engagement in low-resource settings (Sensoy Bahar et al., 2024). Furthermore, initial pilot results suggest that the intervention reduced the risk of school dropout and, over a more extended period, significantly decreased the intention to migrate among adolescent girls (Sensoy Bahar et al., 2025). This current study extends these findings by hypothesizing that caregivers in the intervention group will demonstrate improved outcomes over time, specifically enhanced family cohesion, stronger caregiver–adolescent relationships, increased caregiver educational support, and improved family assets, relative to their counterparts in the control group.

Method

Funded by the National Institute of Child Health and Human Development, this pilot randomized clinical trial aimed to address the risk of school dropout among adolescent girls, with the overall goal of reducing their likelihood of migrating independently to the South for child labor (see study protocol for more details) (Sensoy Bahar et al., 2020). Longitudinal data from caregivers of adolescent girls ($n=97$) participating in the ANZANSI study (R21HD099508; PI Sensoy Bahar, 2019–2022) were analyzed for this study. The study

involved dyads of caregivers and their adolescents. However, the analysis in this paper used only caregiver data. Adolescent data have been published elsewhere (Byansi et al., 2025; Sensoy Bahar et al., 2024, 2025).

Study Setting

The study was conducted in the northern region of Ghana, a region experiencing high levels of multidimensional poverty alongside strong community systems and locally mobilized resources. This region has the highest incidence (81%) of multidimensional poverty, the highest rates (35%) of child labor, and the lowest school attendance rates in the country (Ghana Statistical Service, 2021; Molini & Paci, 2015). In this predominantly Muslim region, only 35% of girls aged 6 years and older are considered literate, compared to 66% at the national level (Ghana Statistical Service, 2021). Early marriage and polygamy are common, with 38% of women reporting that their partners have additional wives, versus the national average of 14.0% (Ghana Statistical Service, 2021, 2022). The language of instruction in the Ghanaian educational system is English, and the academic year consists of three terms. At the same time, describing Northern Ghana solely through deprivation indicators obscures the substantial social, cultural, and economic resources that families and communities mobilize, including agricultural production and other forms of material and relational support that sustain households and markets throughout Ghana (Lee & Hudson, 2011).

Participants

The list of public junior high schools in the Tamale Metropolitan District with the highest female student dropout rates was compiled. Ten schools, located within a 5-km radius of each other to prevent contamination, were selected based on their dropout rates. Randomization for the clinical trial was conducted at the school level, with five schools assigned to the intervention group and five to the control group (see study protocol for more details)

(Sensoy Bahar et al., 2020). The study enrolled 10 adolescent girls and their caregivers from each school.

The inclusion criteria for adolescent girls were: (1) enrolled in school and living within a family (defined broadly—not necessarily biological parents); (2) ages 11 to 14; (3) capable of giving assent; and (4) skipping school in the past academic term (with at least 10% of unexcused absences) (Sensoy Bahar et al., 2020). Due to their time constraints, three families withdrew before baseline data collection. School administrators distributed the study flyer, introducing the project to students and caregivers. All caregivers with an eligible child (ren) were encouraged to contact the school for details. The study team then organized meetings with families from each of the selected schools to present the study and address their questions and concerns. The research team then met with potential participants to engage them in the screening and informed consent process. Adolescent girls were contacted for assent only after the study team received consent from their caregivers to contact them. Written informed consent and assent were obtained from caregivers and adolescents, respectively.

Measures

Family Cohesion

We measured participants' family cohesion (Moos, 1994) using a 7-item scale adapted from the Family Environment Scale and the Family Assessment Measure (Skinner et al., 1983). The 7-item scale asked participants specific questions such as, "*Do your family members ask each other for help before asking non-family members for help?*" "*Do your family members like to spend free time with each other?*" The 7-item scale had a 5-point Likert-type scale response options ranging from *always* to *never*, with 5 = *always*, 4 = *most of the time*, 3 = *about half the time*, 2 = *sometimes*, 1 = *never*. The theoretical range was 7 to 35. We coded the items and summed them for total scores, with higher scores indicating higher family cohesion. The average total

score on family cohesion was 27.67 ($SD=6.28$), representing higher levels of family cohesion among participants (Cronbach's $\alpha=0.81$).

Gender Norms

We assessed gender norms among caregivers using a 10-item scale adapted from the Gender Norm Attitudes Scale (Waszak et al., 2001), which measures participants' understanding of the appropriateness of behaviors as they relate to being female and male. The items in the scale encompass aspects related to educational performance, future expectations for both genders, family support, encouragement, decision-making, and involvement in intimate relationships and behaviors. A few examples of the scale items are: "It is important that sons have more education than daughters" and "Women should leave politics to the men." The Cronbach's α was 0.74, indicating an acceptable level of internal consistency. The scale items featured binary responses (*Agree = 1* and *Disagree = 0*). To create a summation score, items in the reverse direction were appropriately reverse-coded, with higher scores denoting more egalitarian gender norms and beliefs, reflecting equal consideration for both girls and boys.

The perceived child-caregiver relationship scale assesses relationships on two dimensions: (1) acceptance and warmth—the extent to which the caregiver perceives as involved in their child's life, and (2) psychological autonomy—the extent to which the caregiver employs a noncoercive, democratic discipline and encourages the child to express individuality within the family (Skinner et al., 1983). Participants were asked to rate the adults they live with on each of the 16 items (range: 35–79, $\alpha=0.81$), on a 5-point scale (1 = "*never*" and 5 = "*always*"). Sample items include: "*Can your child count on you to help her if she has a problem?*" and "*Do you keep challenging your child to do her best in whatever she does?*" Summary mean scores were created, with higher scores indicating a more positive child-caregiver relationship. We used the same items for both

Table 1. Description of Sociodemographic Characteristics of Caregivers at Baseline.

Characteristics	Control, N = 50 ‡n (%) or ‡M (SD)	Treatment, N = 47, n (%) or M (SD)	Total, N = 97, n (%) or M (SD)	F-test or Wald Chi- square	p- value
Adolescent's Characteristics					
Age (years: 20-85)	39.62 (13.07)	42.49 (10.54)	41.01 (11.95)	2.80	0.13
Gender of caregivers				0.53	0.45
Male	23 (46%)	17 (36%)	40 (41%)		
Female	27 (54%)	30 (64%)	57 (59%)		
Caregiver outcome scores at baseline.					
Family cohesion (range 8–35)	28.64 (5.59)	26.64 (6.85)	27.67 (6.28)	2.23	0.17
Perceived child–caregiver relationship (range 35–79)	61.92 (8.82)	61.40 (10.01)	61.67 (9.37)	0.05	0.82
Caregiver educational support (range 0–3)	2.82 (0.56)	2.66 (0.79)	2.74 (0.68)	1.07	0.33
Family assets (range 1–15)	6.78 (2.66)	8.00 (3.76)	7.37 (3.28)	2.89	0.12
Gender norms (range 0–9)	2.06 (2.19)	2.44 (2.17)	2.44 (2.17)	8.18	0.02

Note. ‡n = sample per group, %=percentage per group; ‡=mean and standard deviation. To examine group differences at baseline, we used robust standard errors clustered by school ID using the Wald chi-square statistic for continuous outcomes and the Rao-Scott F-statistic for categorical variables.

caregivers and adolescent girls to measure the perceived child–caregiver relationship.

Caregiver Educational Support

Caregiver educational support was assessed with three questions asking whether caregivers provided support to their children during the previous school term, with a yes/no response. The questions were: (1) Talked to your child about her schoolwork? (2) Asked your child if she needed help with her homework, and (3) Talked to your child about her future plans? The responses were coded and summed. Using a theoretical range of 0 to 3, the average score was 2.74 out of 3, indicating higher levels of caregiver educational support.

Family Assets

Participants' family assets were assessed using a 21-item scale, where participants answered yes or no to questions about whether their families owned various assets, including land, houses, rental properties, gardens, or farm animals. The responses were coded and summed. With a theoretical range of 0 to 21, the average score on the family asset index

(which includes land, houses, transportation options, communication, gardens, farm animals, and small businesses) was 7.37 out of 21, indicating lower levels of the asset index captured by this measure, which does not fully capture informal or locally valued resources.

Analytical Approach

To assess baseline equivalence between the control and ANZANSI Family Program arms, we examined descriptive statistics for all five outcome variables (family cohesion, perceived caregiver–child relationships, caregiver educational support, family assets, and gender norms) at baseline. We calculated means and standard deviations (*SD*) for each group for these continuous outcomes. We present these descriptive statistics in Table 1 to provide an overview of the sample characteristics at the start of the study and to evaluate the comparability of the intervention and control groups before the intervention was implemented. We used robust standard errors clustered by school ID using the Wald chi-square statistic for continuous outcomes and the Rao-Scott F-statistic for categorical variables to account for within-school correlation.

To examine the preliminary impact of the pilot ANZANSI Family Program on caregiver-reported outcomes, we employed linear mixed-effects models to account for the clustered nature of the data, with caregivers nested within schools and across time. We analyzed five continuous outcomes: family cohesion, perceived child–caregiver relationship, caregiver educational support, family assets, and gender norms.

We fitted a linear mixed model for each outcome, including fixed effects for study assignment (ANZANSI Family Program vs. control) and time as a categorical variable (baseline, 9 months post-intervention, and 15 months post-intervention). We also included the interaction between study assignment and time to assess how the intervention and control groups differed in their changes over time. Random intercepts were included at the school and participant levels to account for the correlation of outcomes over time. We also specified an unstructured covariance structure for the residuals across the three time points within each individual. All models were estimated using the “mixed” command in Stata SE, version 17. The results of these analyses, presenting unstandardized coefficients (b) and 95% confidence intervals (CI), are detailed in Table 2.

Sample Characteristics

Table 1 shows the baseline characteristics of the caregivers in the control and treatment groups. The average age of the caregivers was 41.01 years ($SD = 11.95$), with more than half of the caregivers identifying as female (59%). There was a significant difference between the control and treatment groups in gender norms ($F = 8.18, p = .02$), with the treatment group showing more egalitarian gender norms ($M = 2.44; SD = 2.17$) than the control group ($M = 2.06; SD = 2.19$). There were no significant differences between the control and treatment groups on the other caregiver outcome scores at baseline.

Preliminary Impact of ANZANSI Intervention on Caregiver Outcomes

Table 2 presents the results of the linear mixed-effects model examining the impact of the ANZANSI Family Program on family cohesion, gender norms, child–caregiver relationship, caregiver educational support, and family assets. There were no significant effects of time, interaction between groups, and time for family cohesion, child–caregiver relationship, family assets, and gender norms. This suggests that the changes in these outcomes over time did not differ significantly between the intervention and control groups. However, the results moved in the hypothesized direction (see Figures 1–5).

For caregiver educational support, there was no significant main effect of the intervention group ($b = -0.16, 95\% \text{ CI: } -0.43, 0.11, p = .24$), and no significant main effects of time at 9 months ($b = -0.13, 95\% \text{ CI: } -0.36, 0.11, p = .30$) or 15 months ($b = 0.02, 95\% \text{ CI: } -0.19, 0.23, p = .85$) compared to baseline. However, there were significant interactions between group and time at both 9 months ($b = 0.38, 95\% \text{ CI: } 0.04, 0.72, p = .03$) and 15 months ($b = 0.32, 95\% \text{ CI: } 0.02, 0.62, p = .04$). These interactions indicate that the intervention group showed a greater increase in caregiver educational support at both 9 and 15 months compared to the control group.

Discussion

This study makes a new contribution to the literature on avenues to overcome barriers to girls' well-being in Africa by offering a first look at the impact of the ANZANSI intervention. Preliminary findings from this study indicate modest effects of the ANZANSI intervention on specific caregiver outcomes. While no statistically significant changes were observed in family cohesion, gender norms, child–caregiver relationship, and family assets, the trends generally moved in the expected direction, suggesting potential for positive change. Notably, the intervention was associated with statistically significant improvements in caregiver educational support at both 9 and 15 months compared to the

Table 2. Regression Coefficients and 95% Confidence Intervals for Psychosocial Outcomes Among Caregivers of Adolescent Girls in Northern Ghana (N = 97).

Model components	Family cohesion		Gender norms		Perceived child–caregiver relationship	
	b (95% CI)	p-value	b (95% CI)	p-value	b (95% CI)	p-value
Study group $\chi^2(df)$	$\chi^2(1) = 0.05$	0.82	$\chi^2(1) = 2.07$	0.15	$\chi^2(1) = 0.47$	0.49
Control group (ref category)						
ANZANSI intervention group	–1.98 (–5.34, 1.37)	0.25	0.80 (–0.17, 1.78)	0.12	–0.53 (–4.67, 3.63)	0.80
Time, $\chi^2(df)$	$\chi^2(2) = 0.432$	0.001	$\chi^2(1) = 4.30$	0.12	$\chi^2(2) = 0.98$	0.61
Baseline (ref category)						
9 months	–1.32 (–3.74, 1.10)	0.28	0.78 (–0.10, 1.66)	0.08	–1.48 (–4.28, 1.32)	0.30
15 months	1.28 (–0.55, 3.11)	0.17	0.64 (–0.10, 1.38)	0.09	–1.36 (–4.13, 1.41)	0.34
Group#Time, $\chi^2(df)$	$\chi^2(2) = 3.28$	0.19	$\chi^2(2) = 0.69$	0.71	$\chi^2(2) = 2.50$	0.27
9 months # ANZANSI intervention group	3.05 (–0.44, 6.53)	0.09	–0.26 (–1.53, 1.02)	0.70	3.03 (–0.99, 7.05)	0.14
15 months # ANZANSI intervention group	1.89 (–0.74, 4.52)	0.16	–0.45 (–1.51, 0.61)	0.41	1.40 (–2.58, 5.38)	0.49
Constant	28.64 (26.29, 30.99)		2.06 (1.38, 2.74)	<.001	61.92 (59.01, 64.82)	<.001

(continued)

Table 2. (continued)

Model components	Caregiver educational support		Family assets	
	b (95% CI)	p-value	b (95% CI)	p-value
Study group $\chi^2(df)$	$\chi^2(1) = 1.08$	0.30	$\chi^2(1) = 1.75$	0.19
Control group (ref category)				
ANZANSI intervention group	-0.16 (-0.43, 0.11)	0.24	1.24 (-0.15, 2.62)	0.08
Time, $\chi^2(df)$	$\chi^2(2) = 6.53$	0.04	$\chi^2(2) = 0.19$	0.91
Baseline (ref category)				
9 months	-0.13 (-0.36, 0.11)	0.30	0.38 (-0.42, 1.18)	0.35
15 months	0.02 (-0.19, 0.23)	0.85	0.12 (-0.64, 0.88)	0.76
Group#Time, $\chi^2(df)$	$\chi^2(2) = 5.49$	0.06	$\chi^2(2) = 2.17$	0.34
9 months # ANZANSI intervention group	0.38 (0.04, 0.72)	0.03	-0.86 (-2.01, 0.30)	0.15
15 months # ANZANSI intervention group	0.32 (0.02, 0.62)	0.04	-0.48 (-1.58, 0.62)	0.39
Constant	2.82 (2.63, 3.01)	<.001	6.78 (5.82, 7.74)	<.001

χ^2 = Chi-Square; df=degrees of freedom; b=beta coefficient; CI=confidence intervals.

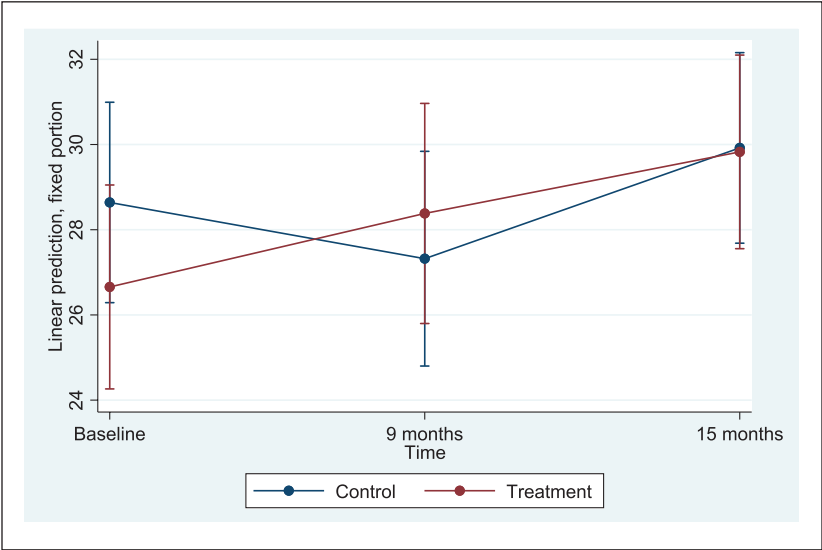


Figure 1. Family Cohesion Treatment vs. Control Group Over Time.

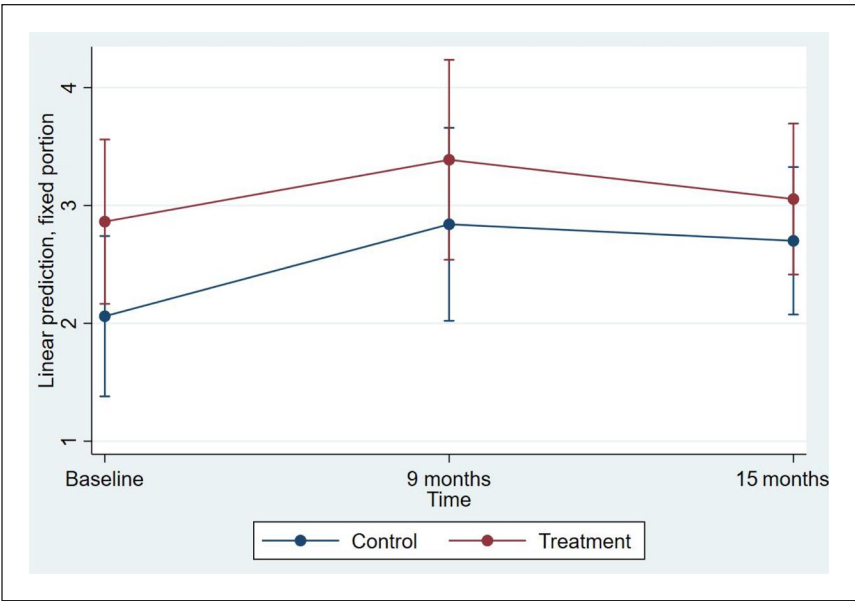


Figure 2. Gender Norm Across the Treatment and Control Group Over Time.

control group. One plausible mechanism is that Dang-Malgu’s emphasis on shared responsibility and respectful communication and the economic empowerment component may have reinforced existing family strengths and values

or may have introduced new ways of approaching caregiver responsibilities and understanding of the importance of education for girls in ways that made it easier for caregivers to engage in concrete educational support behaviors (e.g.,

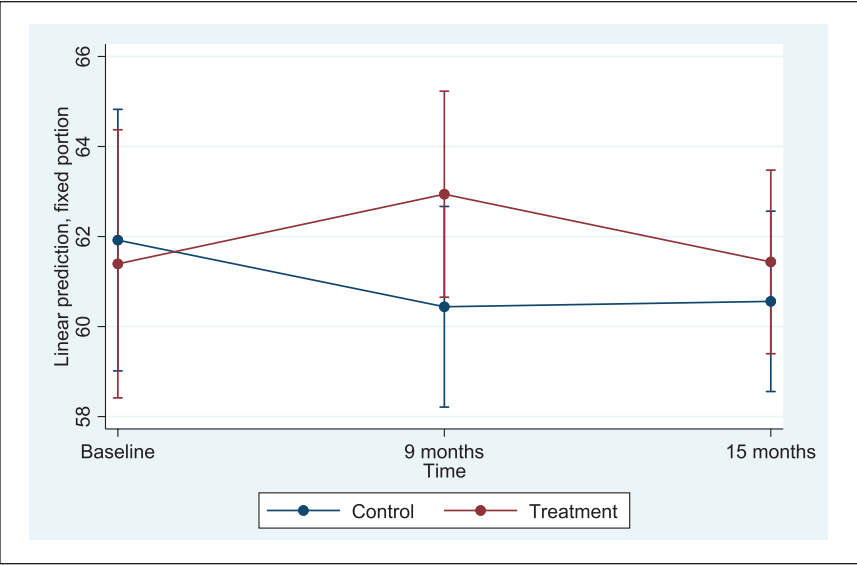


Figure 3. Perceived Child–Caregiver Support.

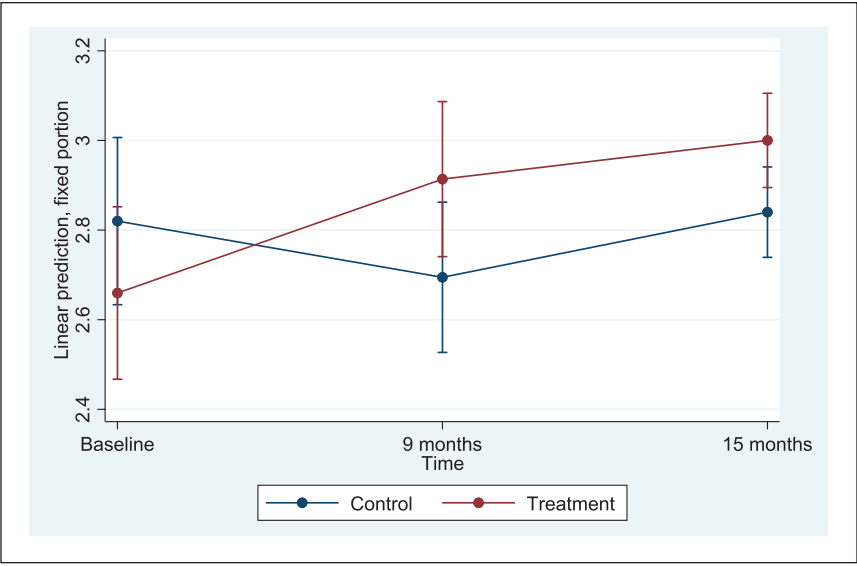


Figure 4. Caregiver Educational Support txt vs. Control Group Over Time.

discussing schoolwork and future plans), even when structural constraints remained unchanged over the study time frame (Pierre, 2020; Shumway, 2018; Shumway & Getz, 2017). These findings, though initial, provide early evidence that the ANZANSI program may boost caregivers’ involvement in supporting their children’s education. These findings are

consistent with the asset theory (Sherraden, 1991), which argues that assets not only offer tangible economic benefits but also enhance psychological well-being by reducing financial stress and fostering future orientation. These results imply that economic empowerment components could create a supportive environment for improved caregiving. These

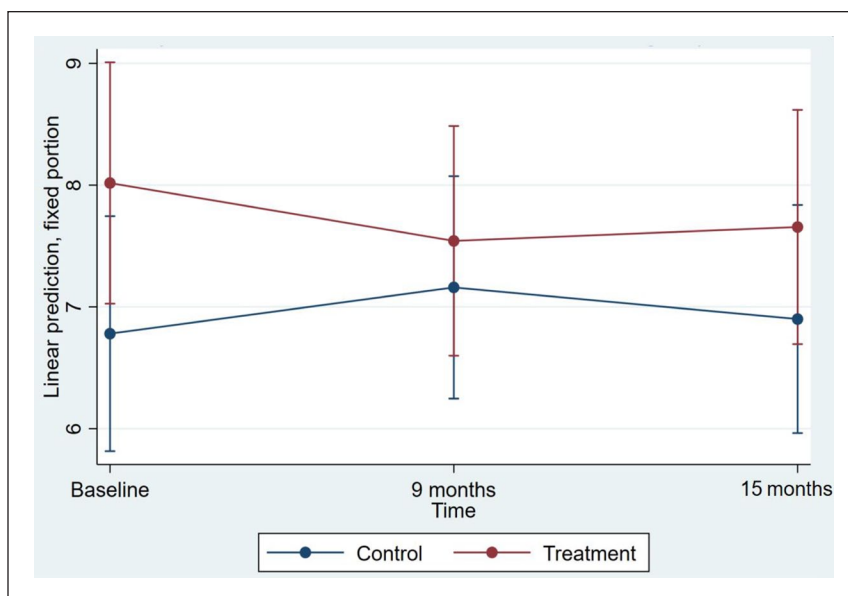


Figure 5. Family Assets Across the Treatment and Control Group Over Time.

preliminary findings should also be interpreted within ongoing debates about education and development interventions in historically marginalized contexts. Critiques of girl-centered and poverty-targeted education initiatives caution that programs framed narrowly around human capital accumulation can reproduce deficit narratives and align with logics of colonial development, particularly when they fail to engage the historical and structural forces that shape schooling, labor, and mobility (Moeller, 2013; Pierre, 2020). In this pilot study,

the economic empowerment component was not intended as a standalone solution to structural injustice but was paired with a family-strengthening approach that sought to support caregiver capacity and relational processes linked to schooling. Still, the pilot design and follow-up period limit our ability to assess long-term educational futures, structural change, and whether participants gain opportunities and skills to navigate broader systems critically.

Consistent with calls for a renewed social contract for education that foregrounds justice, dignity, and collective futures, future iterations

and scale-up research can more explicitly situate family-level supports within wider educational and social transformations, including attention to historically produced inequalities and the conditions that shape girls' educational trajectories beyond school completion (United Nations Educational Scientific and Cultural Organization, 2021). This includes examining how interventions can support caregivers and adolescents not only in remaining in school but also in anticipating and responding to persistent barriers in labor markets, gendered expectations, and regional inequalities.

These findings are also broadly consistent with several previous studies (Byansi et al., 2022; Cavazos-Rehg et al., 2021; Filiatreau et al., 2023) in Africa that have documented how family economic empowerment interventions improve financial and emotional well-being, showing that they reduce economic stress and promote a supportive environment for adolescents. Adolescent girls reported that the ANZANSI intervention led to meaningful improvements in family cohesion. While statistical differences between groups were not observed at follow-up, girls

in the intervention group reported greater improvements in family relationships over time compared to those in the control group (Sensoy Bahar et al., 2024). Qualitative findings supported these trends, with participants describing more respectful communication, stronger emotional connections, and better cooperation within their families. They also noted changes in how responsibilities were shared and how conflicts were handled at home (Sensoy Bahar et al., 2024). These results suggest that combining family economic empowerment with family strengthening can enhance family cohesion, offering a promising strategy to support adolescent well-being in settings where family stressors are high and formal services are unevenly distributed, and families often rely on extended kin and community-based support.

Understanding the impact of the ANZANSI intervention and others like it, which stress the role of caregivers, is important for addressing the widespread barriers to girls' well-being and equality of opportunity in Africa. Caregiver educational support, family cohesion, perceived child-caregiver relationship, and egalitarian gender norms play a crucial role in shaping the well-being and life paths of adolescent girls, especially in low-resource settings like Northern Ghana (Murphy-Graham, 2024; Yan et al., 2024). In environments characterized by poverty, limited educational chances, child labor, and gender inequality, strong caregiver involvement can act as a protective factor against early school dropout, child labor, and unaccompanied migration (Bradley et al., 2021; Fierloos et al., 2023; Miller et al., 2015). For example, when caregivers actively support their daughters' education, it not only emphasizes the importance of schooling but also helps girls overcome structural and social barriers that often block academic success. Likewise, close family relations and fair gender norms contribute to girls' psychological safety and empowerment (Bermudez et al., 2020; Osuji et al., 2018; Wang et al., 2021). Therefore, it is essential for programs tailored to address the needs of adolescents to incorporate caregiver components. In this regard, the ANZANSI program (Sensoy Bahar et al., 2020), which combines economic

empowerment with family-strengthening elements, demonstrates a well-positioned avenue to influence these areas by increasing caregivers' capacity, motivation, and skills to invest in their children's futures. By using a culturally sensitive and contextually appropriate approach, the program may help change family dynamics in ways that support adolescent girls' well-being and resilience. Additional research with larger, adequately powered samples would likely show further and more statistically generalizable evidence of the program's effectiveness and inform strategies for broader implementation.

These findings should be interpreted in light of the following limitations. As a pilot study mainly focused on assessing feasibility and acceptability, it was not sufficiently powered to identify statistically significant differences in outcomes. Although the initial findings are promising, larger-scale studies are needed to evaluate the intervention's effectiveness more thoroughly. In addition, data collection occurred after COVID-19 lockdowns, a period that may have increased participants' stress levels and affected their overall psychosocial functioning, possibly influencing the results.

Implications for Social Work Practice

Although preliminary, these findings provide early insights into how the ANZANSI program, if scaled up, could support adolescent girls in low-resource settings, such as Northern Ghana, in overcoming barriers to education through strengthened caregiver support. The observed improvements in caregiver educational support suggest that programs combining family strengthening with economic components could enhance caregiver involvement in girls' education, an essential protective factor against school dropout, child labor, and unaccompanied migration. These results highlight the opportunity for social workers to design and implement interventions that target adolescents directly, as well as the family systems that shape their educational trajectories and overall well-being.

At the same time, the absence of statistically significant changes in other caregiver outcomes, despite trends in the expected direction, reinforces the need for cautious interpretation. For practice and policy, this suggests that ongoing investment in family-based interventions addressing both individual and structural barriers is critical. Social workers are well-positioned to advocate for the integration of caregiving-focused elements into broader adolescent development programs, ensuring that interventions are culturally grounded and contextually relevant. Programs such as ANZANSI merit further development, testing, and refinement in similar low-resource settings, with social workers playing a central role in shaping, scaling, and evaluating their impact.

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Supplemental Material

Supplemental material for this article is available online.

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