# THE FURAHA ADOLESCENT IMPLEMENTATION RESEARCH (FAIR) STUDY

# FINAL REPORT


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## LIST OF ABBREVIATIONS

| | |
|---|---|
| APQ: | Alabama Parenting Questionnaire |
| CES-D 10: | Centre for Epidemiologic Studies Depression Scale |
| CTS2S: | Revised Conflict Tactics Scale Short Form |
| CWBSA: | Clowns Without Borders South Africa |
| DREAMS: | Determined, Resilient, Empowered, AIDS-Free, Mentored, and Safe |
| EPIS: | Exploration, Preparation, Implementation, and Sustainment Framework |
| FAIR: | Furaha Adolescent Implementation Research Study |
| FFCS: | Family Financial Coping Scale |
| FGD: | Focus group discussion |
| FUPS: | Flawed, Uncertain, Proximate and Sparse |
| HICs: | High-income countries |
| ICAST-T: | International Society for the Prevention of Child Abuse and Neglect Child Abuse Screening Tools-Trial Version |
| ICC: | Intraclass Correlation Coefficient |
| ID: | Identification |
| IPV: | Intimate partner violence |
| IRR: | Incidence rate ratio |
| LIP: | Local implementing partner |
| LMICs: | Low- and middle-income countries |
| M&E: | Monitoring and Evaluation |
| MICS: | UNICEF Multiple Indicator Cluster Survey |
| NIMR: | National Institute for Medical Research |
| OSF: | Open Science Framework |
| PLH-FAT: | Parenting for Lifelong Health-Facilitator Assessment Tool |
| PLH-Teens: | Parenting for Lifelong Health for Teens |
| PLH: | Parenting for Lifelong Health |
| PSS: | Parental Stress Scale |
| PSSS: | Parent Support for School Scale |
| RAPS: | Risk Avoidance Planning Scale |
| RCT: | Randomised controlled trial |
| SDQ: | Strengths and Difficulties Questionnaire |
| SUPER: | Scale-Up of Parenting Evaluation Research |
| VAC: | Violence against children |

# 1. INTRODUCTION

## 1.1 Violence Against Children and Parenting Programmes

Over one billion children experience violence each year with disproportionate numbers impacted in low- and middle-income countries (LMICs) [1, 2]. Violence has serious short- and long-term negative consequences for children, including for mental health, substance use, peer violence, delinquency, and the intergenerational transfer of violence [e.g., 3, 4-8]. In Tanzania, over 72% of individuals aged 13-24 years old have experienced physical violence before age 18 [9]. Caregivers, other adult relatives, and teachers are the most commonly reported perpetrators of physical and emotional violence against children (VAC) in Tanzania, with corporal punishment considered normative [9]. As a Pathfinder Country, Tanzania has prioritised ending VAC and committed to reducing VAC by 50% by 2022 [10].

There is considerable evidence that parenting programmes reduce VAC by improving parenting skills and reducing child behaviour problems and by indirectly reducing associated risks such as youth violence, delinquency, and substance use as well as parental mental health difficulties [e.g., 11, 12-18]. The potential of these programmes has been recognised by international agencies, including the multi-agency *INSPIRE: Seven Strategies to End Violence Against Children* collection of evidence-informed approaches wherein parenting programmes are recommended as a key strategy to prevent abuse [19].

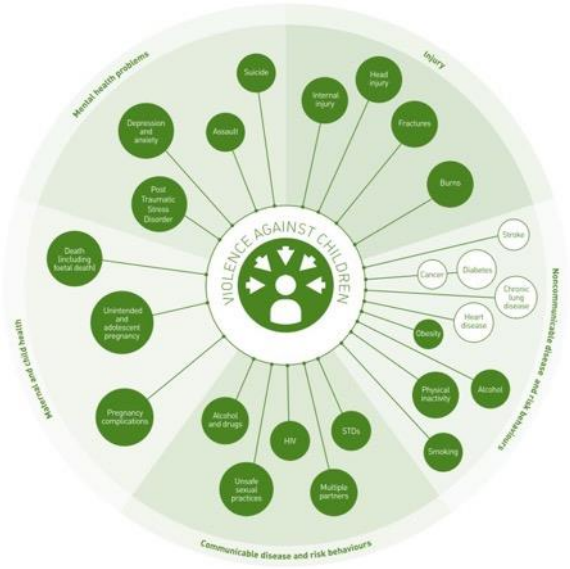



**Figure 1. Impact of Violence Against Children**

## 1.2 Implementation and Scale-Up of Parenting Programmes

Given the encouraging evidence regarding the effectiveness of parenting programmes aiming to reduce VAC in LMICs [e.g., 18], there have been numerous calls to build the capacity of governments and agencies to implement such programmes at scale [e.g., 20]. Scale-up may be defined as "deliberate efforts to increase the impact of health innovations successfully tested…so as to benefit more people and foster the development of sustainable policies and programs" [21]. However, there are numerous questions and challenges associated with scale-up, including whether these programmes are: perceived as being culturally acceptable and appropriate by beneficiaries and stakeholders; able to reach an increased number of participants; feasible to deliver on a larger scale within existing delivery systems; delivered with fidelity to the programme model; cost effective; and still effective when delivered beyond the scope of their original testing [21-24].

Research on family outcomes as part of the scale-up of parenting programmes is limited, particularly in LMICs [25]. There are some studies in high-income countries (HICs) that have examined programme impacts among entire populations. For instance, a study on the large-scale implementation of the Triple P programme in North Carolina, USA, suggested some benefits in reducing child behaviour problems and child maltreatment, even though a range of methodological challenges and limitations have been reported [25-27]. An evaluation of Triple P in Glasgow, UK, found no evidence of a population-level impact on child mental health [28]. There are other studies that have examined programme impacts among large groups of

participants. For instance, randomised controlled trials of the Nurse Family Partnership – a community-level home visiting programme aiming to prevent child maltreatment by providing in-home support to low-income pregnant women and new-mothers – found the programme to be effective in preventing child maltreatment and other outcomes in large samples [29, 30]. A study by Gray and colleagues (2018) examined the outcomes of various evidence-based parenting programmes delivered on a large scale, including Triple P and Incredible Years. They compared 'service-led implementation' using data from 3706 families with previous 'researcher-led' trials using data from 1390 families and found that community- and researcher-delivery resulted in similar outcomes. This finding suggests that large-scale delivery is possible and effective for children and families [31].

In addition to a need for further research on outcomes, there is a need for more research on the implementation of parenting programmes at scale to determine the extent and quality with which these programmes are delivered [32]. Such research will then allow for an exploration of the impact of implementation at scale on programme outcomes and the generation of insights regarding how programmes might be improved [32]. Proctor's taxonomy outlines eight implementation outcomes to examine to fully understand the quality of programme implementation - adoption (the extent of programme uptake); acceptability (participant satisfaction); appropriateness (programme fit); feasibility (the extent to which the programme can be delivered successfully, including consideration of its benefits and challenges); fidelity (adherence to the programme theory and model); cost (time and resources required); penetration (the extent to which programme delivery is embedded within existing services and systems); and sustainability (the practicality of long-term delivery) [22].

Several studies of parenting programmes report on one or more of these implementation outcomes, including nascent insights emerging from studies in LMICs. To illustrate, a study on the Reach Up programme in Brazil and Zimbabwe used qualitative methods to ascertain the perspectives of parents, facilitators, and supervisors on the programme's acceptability and appropriateness [33]. The authors of the paper drew insights about these implementation outcomes, parent satisfaction with the programme. Other studies of parenting programmes have explored the relationship between implementation outcomes and participant outcomes. For instance, a study on the implementation of the 'Growing Up Happily in the Family' programme in Spain explored a variety of implementation outcomes (including fidelity and acceptability) and analysed whether they were associated with improvements in parental attitudes [34]. The researchers found that better fidelity and acceptability were associated with better parental attitudes. Similarly, a study on the Parent Management Training-Oregon (PMTO) programme delivered at scale in Norway found that better facilitator delivery was correlated with improved parenting skills among programme participants [35]. However, much of the evidence on implementation quality is from HICs. The Furaha Adolescent Implementation Research (or FAIR) study sought to help fill this gap by contributing knowledge regarding what implementation quality is like in a lower resource setting and at scale.

Other studies have examined factors that predict implementation outcomes. It has been recommended, for instance, that researchers explore the relationship between and the role of staff and organisations on implementation outcomes, including factors such as staff selection and training, ongoing monitoring and support of staff, and organisational leadership [32]. A study of a community-based intervention in South Africa and Malawi explored such a relationship; researchers looked at child outcomes in relation to whether implementing staff were paid or unpaid [36]. The study concluded that child outcomes were enhanced when the programme was delivered by paid staff - an important finding given programme delivery in LMICs leans towards volunteer-led delivery due to staffing shortages [36]. The FAIR study adds to the existing literature by examining staff and organisational factors, including facilitator characteristics such as the differences between teacher and volunteer delivery.

While there are some studies on the implementation and scale-up of parenting programmes, the literature would benefit from enhanced evidence of: family outcomes and quality of

parenting programme implementation at scale, how implementation outcomes are associated with participant outcomes, the factors that predict implementation outcomes, and how programme implementation might be improved. The FAIR study aimed to contribute to these areas by examining the factors, implementation, and outcomes of a parenting programme delivered at scale in Tanzania.

## 1.3 Parenting for Lifelong Health for Teens

Parenting for Lifelong Health (PLH) for Teens (PLH-Teens, known in Tanzania as Furaha Teens – or "Happy Teens") is among few low-cost parenting interventions for families with adolescents that has been rigorously tested in LMICs [37]. Originally developed and tested in South Africa, PLH-Teens is a parenting programme rooted in social learning theory and behaviour change principles that aims to reduce adolescent exposure to violence in the home and community by improving positive parenting and parent-child communication, while reducing familial conflict, harsh discipline, parenting stress, adolescent conduct problems, risky behaviour, and mental ill-health [38, 39]. Trained school and community facilitators engage parents/caregivers and adolescents in 14 weekly group sessions of approximately three hours in length using non-didactic, participatory methods including discussions, role-plays, problem-solving, and experiential activities [39]. As part of their participation, families receive incentives including meals and school supplies. Facilitators also assist families in developing child safety plans, responding to abuse, budgeting, and accessing medical and social services. Thus, PLH-Teens tackles a multitude of upstream and downstream contextual factors that lead to increased risk of VAC [e.g., 40, 41-43].

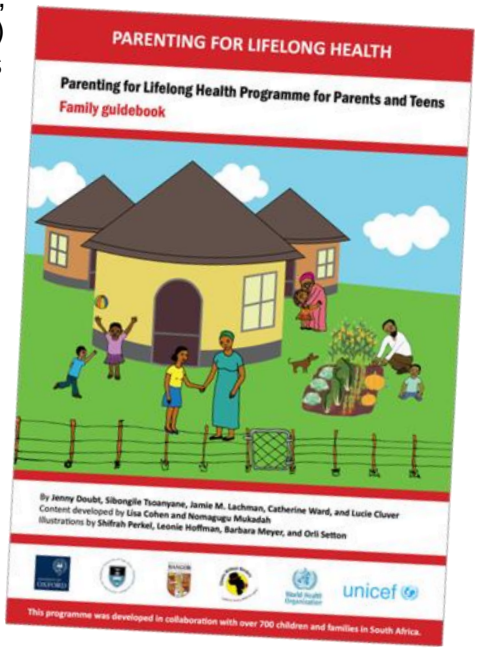



**Figure 2. PLH for Teens Family Guidebook**

A recent cluster randomised controlled trial (RCT) in South Africa (*N*=40 clusters, 552 parent/caregiver-adolescent dyads) found intervention effects for reduced abuse and corporal punishment as well as improved positive parenting, involvement, and monitoring based on caregiver reports at five to nine months follow-up [37]. Effects on secondary outcomes included reductions in both adult and child substance use and parental stress, depression, endorsement of corporal punishment, and financial stress [37]. A cost-effectiveness analysis of PLH-Teens found that the intervention cost $972 USD per case of abuse prevented [44].

## 1.4 PLH-Teens in Tanzania

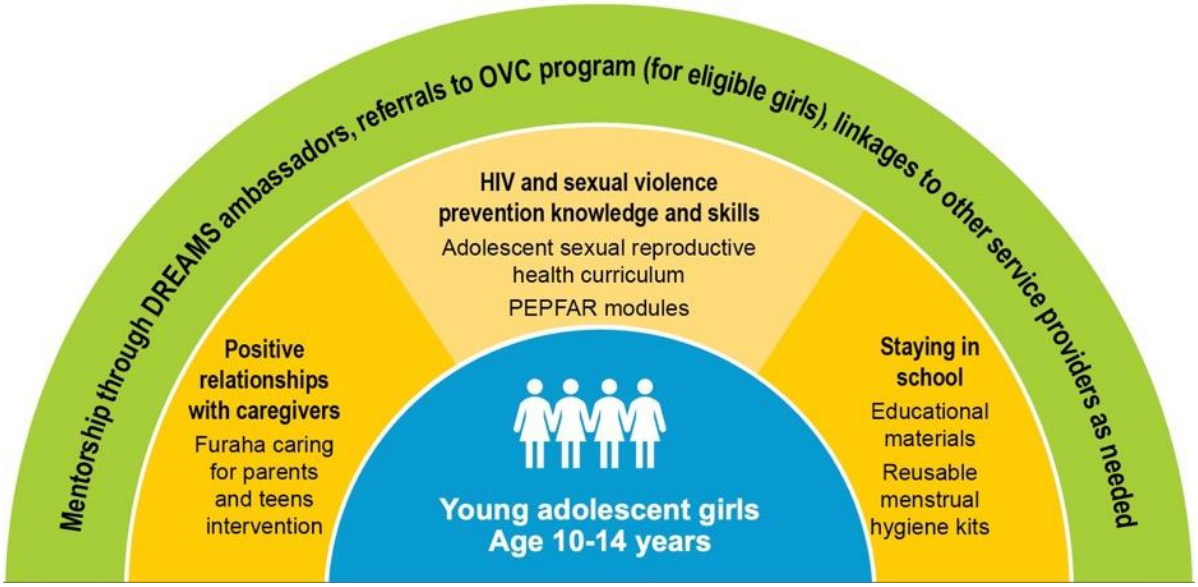



**Figure 3. USAID-PEPFAR Dreams Programme**

Encouraging results from the cluster RCT [37] have contributed to the rapid dissemination of PLH-Teens in 16 countries to approximately 300,000 beneficiaries. Among these is the large-scale implementation of PLH-Teens in Tanzania that started in 2017 as part of the Kizazi Kipya (or "New Generation") Project by Pact Tanzania. Kizazi Kipya is a USAID-PEPFAR funded project aiming to enable more Tanzanian orphans and vulnerable children (OVC) – children, adolescents, and young people orphaned and made vulnerable by HIV and other adversities – to use age-appropriate HIV- and AIDS-related and other services for improved care, health, nutrition, education, protection, livelihoods, and psychosocial well-being. Through Kizazi Kipya, Pact Tanzania implements the DREAMS Initiative (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe), which aims to reduce HIV infection among adolescent girls and young women in HIV priority areas. As part of DREAMS, Pact is implementing the locally adapted and HIV-enhanced version of PLH-Teens, known as the Furaha Caring Families Programme for Parents and Teens (Furaha Teens), for adolescent girls aged 9-14 and their parents/caregivers.[1]

In 2020-2021, Pact scaled-up PLH-Teens (locally known as Furaha Teens) with 444 trained facilitators and 70 coaches to reach an additional 75,061 beneficiaries (*N*=38,802 adolescents and *N*=36,259 parents/caregivers). The 2020-2021 delivery of PLH-Teens in Tanzania offered an unprecedented opportunity to examine the intervention and implementation outcomes of PLH-Teens when delivered at scale. As a result, this study – the Furaha Adolescent Implementation Research or FAIR study – provides vital information on how to establish, implement, improve, and sustain high-quality delivery of Furaha Teens. The findings are also of value to other parenting programmes aiming to prevent VAC at scale.

[1] 'Parent' and 'caregiver' will be used synonymously throughout this report.

# 2. METHODS

## 2.1 FAIR Study

The FAIR study is linked to a larger study called the Scale-Up of Parenting Evaluation Research (SUPER), which examines the implementation of PLH programmes in multiple LMICs [45]. The SUPER study is using the Exploration, Preparation, Implementation and Sustainment (EPIS) framework to guide study questions and research tools [46]. EPIS has been widely used by practitioners and researchers to guide programme implementation and evaluation. It has also been used to understand whether and how programmes can be implemented successfully and sustainably in various settings on a large scale by considering four intervention phases – exploration, preparation, implementation, and sustainment (see *Figure 1*) [46-49]. The FAIR study was similarly rooted in the EPIS framework and is also informed by Proctor's taxonomy of implementation outcomes [22].

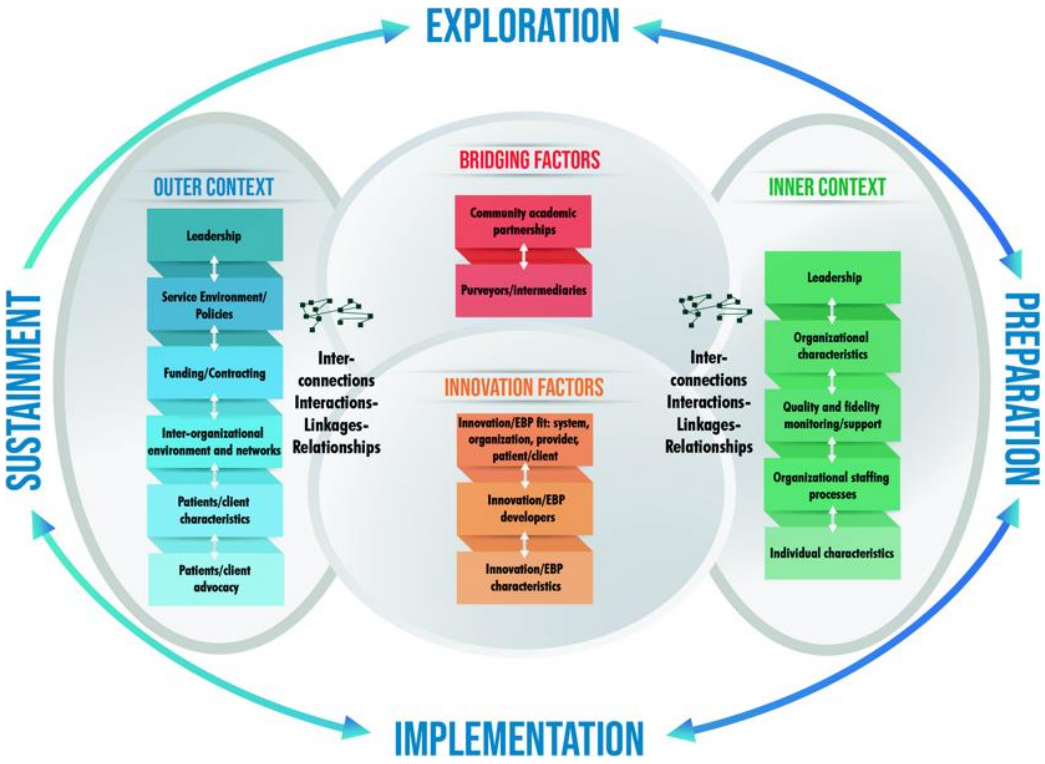



**Figure 4. Exploration, Preparation, Implementation, Sustainment Framework** [46]

## 2.2 Study Aims and Research Questions

The FAIR study aimed to examine the quality of implementation of Furaha Teens and its impact on preventing and reducing VAC at scale in Tanzania and consider factors associated with implementation and how implementation can be improved to optimise intervention impact. The study sought to answer the following research questions:

(1) What is the level of programme implementation of Furaha Teens in terms of quality of delivery and implementation fidelity

(2) What factors are associated with the quality of delivery and implementation fidelity of Furaha Teens

(3) How are implementation quality and fidelity associated with intervention outcomes

(4) What are participants' and implementing staff perspectives on the acceptability, appropriateness, feasibility, benefits, and challenges of delivering Furaha Teens in their schools and communities

(5) What is the impact of Furaha Teens on VAC and family well-being

(6) How much does it cost to deliver Furaha Teens at scale?

## 2.3 Research Questions

An overview of the FAIR study's research questions and the data collected are summarised in Table 1 and discussed in more detail below.

### Table 1. Research Question and Data Sources

| Evaluation question | Data source |
|---|---|
| RQ1: What is the level of program implementation of PLH-Teens at scale in Tanzania in terms of quality of delivery and implementation fidelity? (*complete*) | 1) Parenting for Lifelong Health-Facilitator Assessment Tool (PLH-FAT)—measures facilitator competence and adherence<br>2) Semi-structured interviews held with facilitators, coordinators, coaches, and LIP staff<br>3) FGDs held with adolescents, parents/caregivers, facilitators, and coaches |
| RQ2: What factors are associated with the quality of delivery and implementation fidelity of PLH-Teens? (*In progress)* | 1) PLH-FAT<br>2) Interviews<br>3) FGDs<br>4) Facilitator Profile Form examining facilitator demographics including education level, experience, and professional background<br>5) Coach Profile Form examining coach demographics including education, experience, and professional background<br>6) LIP Organisational Characteristics Form |

| Evaluation question | Data source |
|---|---|
| RQ3: How are implementation quality and fidelity associated with intervention outcomes? *(In progress)* | 1) PLH-FAT<br>2) Interviews<br>3) FGDs<br>4) Facilitator Profile Form<br>5) Coach Profile Form<br>6) LIP Organisational Characteristics Form<br>7) Parent/caregiver- and adolescent-report on pre-post questionnaires<br>8) Parent/caregiver and adolescent programme attendance data |
| RQ4: What are participants and implementing staff perspectives on the acceptability, appropriateness, feasibility, benefits, and challenges of delivering PLH-Teens in their schools and communities? *(complete)* | 1) Interviews with school principals, facilitators, coordinators, coaches, and LIP staff<br>2) FGDs with adolescents, parents/caregivers, facilitators, and coaches |
| RQ5: What is the impact of PLH-Teens on VAC and participant well-being? *(complete)* | 1) Parent/caregiver- and adolescent-report on pre-post questionnaires<br>2) Individual interviews with school principals, facilitators, coordinators, coaches, and LIP staff<br>3) FGDs with adolescents, parents/caregivers, facilitators, and coaches |
| RQ6: How much does it cost to deliver PLH-Teens at scale? *(In progress)* | 1) Facilitator cost surveys<br>2) Facilitator profile surveys<br>3) Coach cost surveys<br>4) LIP cost surveys |

### Research question 1 (completed).

The level with which PLH-Teens was implemented was determined by analysing data from family attendance registers; facilitator assessments; interviews with facilitators, coaches, and LIP staff; and FGDs with adolescents, parents/caregivers, facilitators, and coaches. Attendance rates and attendance trends among parents/caregivers and adolescents, as well as variations in attendance, and programme completion rates were calculated based on the attendance registers to determine the extent of family participation in PLH-Teens. The level of competent adherence with which facilitators deliver the programme was determined using the results from the Facilitator Assessment Tool assessments completed by coaches. To examine the reliability and validity of these results, a psychometric evaluation consisting of content validity (stakeholder perspectives from interviews and focus groups with facilitators, coaches, and CWBSA staff), intra-rater reliability (percentage agreements and intra-class correlations), inter-rater reliability (percentage agreements and intra-class correlations), and internal consistency (Cronbach Alphas and Omegas) was performed. Interviews and FGDs were used to expand upon and contextualise the findings regarding the demographic, attendance, and facilitator competent adherence.

### Research question 2 (in progress).

Factors associated with the quality of implementation are in the process of being examined using the socio-demographic data from the Facilitator and Coach Profile Forms; LIP organisational characteristics surveys; interviews; and FGDs. Correlation and regression analyses are being used to examine the relationship between facilitator and coach competent adherence and their associations with family, facilitator, and organisational characteristics. Interviews and FGDs are being used to expand upon and contextualise the findings. This analysis is in progress.

### Research question 3 (in progress).

A variety of data sources were used to examine how implementation is associated with changes in VAC and family well-being. Correlation and regression analyses are in the process of being used to look at whether pre-post changes in family outcomes are associated with family attendance (completed), facilitator and coach competent adherence (in progress), and facilitator and coach characteristics (in progress), as well as LIP characteristics (in progress). Interviews and FGDs are being used to expand upon and contextualise the findings.

### Research question 4 (complete).

Participant and implementing staff perspectives on the acceptability, appropriateness, feasibility, benefits, and challenges of delivering PLH-Teens in their communities has been examined by analysing the interviews and FGDs with school principals, facilitators, coaches, LIP staff, CWBSA staff, adolescents, and parents/caregivers.

### Research question 5 (completed).

Changes in VAC and participant well-being were analysed based on data gathered from parent/caregiver pre-post questionnaires, adolescent pre-post questionnaires, interviews, and FGDs. Multi-level models were used to examine differences in pre- to post-intervention family-level outcomes and to compare differences in outcomes reported by both adolescents and parents/caregivers. Variation in the pre-post changes were examined by participant baseline characteristics. The analyses were similar to treatment-on-the-treated analyses since all participants included in the monitoring data would have engaged with the programme to some extent. Where possible, the reliability of the family survey items was examined using Cronbach Alpha and Omega coefficients. The findings from the interviews and FGDs were also analysed to explore participant perspectives on the impacts of the programme on them and their families. The interviews and FGDs also revealed what impact implementing volunteers and staff assessed the programme to have on themselves, participants, schools, and communities.

### Research question 6 (in progress).

The cost of delivering Furaha Teens at scale is being calculated using retrospective cost estimates provided by facilitators, coaches, and LIP coordinators and costing data provided by Pact Tanzania. Average costs are also being calculated and summarised for each programme component (e.g., facilitator training, group sessions, supervision), family (parent/caregiver-adolescent dyad), district, and facilitator type (community volunteer or teacher). These analyses are ongoing.

## 2.4 General Approach

The FAIR study used a mixed-methods approach integrating quantitative and qualitative methods to address the research questions. The data sources used are outlined in *Table 2*. Qualitative (including focus group discussions (FGDs), in-depth interviews, and observation) and quantitative (merged secondary data collected via routine monitoring and evaluation (M&E) by Pact Tanzania, local implementing partners or LIPs, and Clowns Without Borders South Africa or CWBSA) methods were used to explore the impact, acceptability, appropriateness, feasibility, fidelity, and cost of Furaha Teens. As randomisation to intervention and control groups was not possible, the study made the most of the routine service delivery data available. Analysing this data allowed for a unique inquiry into the real-world implementation of a parenting programme at scale.

**Table 2. Matrix of Data Collection Methods**

| Type of data | Data collectors | Data collection method | Study participants |
|---|---|---|---|
| Primary data | FAIR research team | Focus group discussions | Adolescents |
| | | | Parents/caregivers |
| | | | Furaha facilitators and coaches |
| | | In-depth interviews | Programme coordinators and directors |
| | | | Pact M&E team |
| | | | Furaha facilitators and coaches |
| | | | School principals |
| Secondary data | Pact Tanzania and LIPs (collected by Furaha facilitators) and other team members | Family reports of parenting practices, child behaviour, child and caregiver mental health (routine data) | Parents/caregivers and adolescents |
| | | Family enrolment, attendance, engagement, and dropout | |
| | | Cost data | Facilitators, coaches, and LIP staff |
| | | Surveys on the sociodemographic and professional background of facilitators and coaches delivering the programme | Furaha facilitators and coaches |
| | CWBSA | Assessments of facilitator competent adherence | Furaha facilitators and coaches |
| | | Assessments of coach delivery of facilitator supervision sessions | |

## 2.5 Collaborators and Setting

The FAIR study was conducted by the National Institute for Medical Research (NIMR) in Tanzania, the University of Oxford, CWBSA, and Pact Tanzania. The study was conducted in eight districts of rural and semi-urban Tanzania: Kyela District Council (DC), Mbeya CC, Muleba DC, Shinyanga DC, Shinyanga Municipal Council, Kahama Town Council, Msalala DC, and Ushetu DC. PLH-Teens was delivered by teachers in schools and in communities by volunteers (compensated with an honorarium) (*N*=444) with support from Furaha programme coaches (*N*=70) who provided facilitators with ongoing supervision. Facilitators delivered the programme via the coordination of five LIPs - Humuliza, Tadepa, Integrated Rural Development Organisation, Caritas, and Tanzania Red Cross Society.

**Figure 5. Delivery of Furaha Teens to parents and adolescent girls**

## 2.6 Study Participants

The study collected primary data from programme coaches, programme facilitators, Pact Tanzania and LIP staff, school principals, CWBSA staff, parents/caregivers, and adolescents. The study also collected anonymised secondary data from 75,061 beneficiaries (N=38,802 adolescents and *N*=36,259 parents/caregivers), 444 programme facilitators, 70 programme coaches, and five LIPs. The inclusion criteria used to select study participants for primary and secondary data collection are outlined in *Tables 3* and *4*.

**Table 3. Inclusion Criteria for Primary Data Study Participants**

| Study participant group | Primary data inclusion criteria |
|---|---|
| Programme Coaches (*N* = 70) | • Attended the Furaha Teens coach training workshop; and<br>• Provided coaching to facilitators during the implementation of Furaha Teens. |
| Programme Facilitators (*N* = 444) | • Teachers or community volunteers;<br>• Attended the Furaha Teens facilitator training workshop; and<br>• Implemented the Furaha Teens programme. |
| Pact Tanzania and LIP Staff (*N* = 58) | • Staff member working for either Pact Tanzania or one of the LIPs delivering Furaha Teens. |
| School Principals (*N* = 8) | • Principal in a school where Furaha Teens was delivered. |
| CWBSA Staff (*N* = 3) | • Staff member working for CWBSA involved in the implementation or research associated with the FAIR Study. |
| Parents/caregivers (*N* = 155) | • Aged 18 or older;<br>• Primary caregiver responsible for the care of an adolescent between the ages of 9 and 14 who attended the Furaha Teens programme; and<br>• Attended the Furaha Teens programme. |
| Adolescents (*N* = 155) | • Aged 9 to 14;<br>• Consent provided by primary caregiver responsible for the adolescent's well-being;<br>• Assent provided by the adolescent;<br>• Primary caregiver responsible for their care attended the Furaha Teens programme; and<br>• Attended the Furaha Teens programme. |

**Table 4. Inclusion for Secondary Data Study Participants**

| Study participant group | Secondary data inclusion criteria |
|---|---|
| Adolescents (*N* = 38,802) | • Adolescent girl aged 9 to 14;<br>• Participated in the Kizazi Kipya Project;<br>• In the same household as her parent/caregiver at least 4 days a week;<br>• Parent/caregiver attended the Kizazi Kipya Project;<br>• Consent provided by primary caregiver responsible for the adolescent's well-being; and<br>• Assent provided by the adolescent. |
| Parents/caregivers (*N* =32,259) | • Aged 18 or older;<br>• Primary caregiver responsible for the well-being and care of an adolescent girl between the ages of 9 and 14 who participated in the Kizazi Kipya Project; and<br>• Attended the Kizazi Kipya Project. |
| Programme Facilitators (*N* = 444) | • Attended a Furaha Teens facilitator training workshop; and<br>• Facilitated Furaha Teens sessions. |
| Programme Coaches (*N* = 70) | • Attended a Furaha Teens coach training workshop; and<br>• Provided coaching to facilitators during the implementation of Furaha Teens. |
| LIPs (*N* = 5) | • Submitted a Request for Application (RFA) to the Kizazi Kipya Project to implement Furaha Teens in specific districts; and<br>• Selected by Pact Tanzania to implement Furaha Teens. |

## 2.7 Study Recruitment and Informed Consent

Purposive and snowball sampling was used to collect primary qualitative data. In collaboration with Pact Tanzania and LIPs, we identified potential participants in each of the eight districts for semi-structured interviews and FGDs. If potential participants consented to their contact details being shared with the researchers, the participants were contacted by email or phone to outline the study prior to seeking informed consent. Alternatively, a researcher was present during programme training or another meeting to explain the study. Pact Tanzania staff then provided potential participants with consent and assent forms (in the case of participants under age 18). NIMR and Oxford researchers were not involved in recruiting participants for the secondary data. Instead, Pact Tanzania and CWBSA asked all programme participants if they would like to participate in the research upon their enrolment in Kizazi Kipya.

## 2.8 Primary Qualitative Data Collection

The qualitative data collection methods included semi-structured interviews and FGDs. Qualitative data collection tools were developed based on the EPIS framework and Proctor's taxonomy. The interview and FGD guides covered relevant parts of the implementation process experienced by various participants (see Open Science Framework). For example, questions for facilitators focused on the implementation process since they are most familiar with implementation while questions for Pact managers emphasised exploration and sustainment.

### 2.8.1 Interviews and Focus Group Discussions.

Interviews were conducted with coaches (*N*=20), facilitators (*N*=22), LIP staff (*N*=9), school principals (*N*=7), Pact staff (*N*=6), and CWBSA staff (*N*=3). A total of 12 FGDs were held with coaches (*N*=40, 8/FGDs), facilitators (*N*=80, 10/FGD), parents/caregivers (*N*=100, 10/FGD), and adolescents (*N*=60, 10/FGD).

Interviews took approximately 60-90 minutes and FGDs approximately 90-120 minutes to conduct and were conducted in Kiswahili based on semi-structured guides (see Open Science Framework). The topic guides provided an outline of key topics and questions for the interviewers to ask study participants while leaving room for interviewers to delve into pertinent issues that emerged during discussion. All interviews and FGDs were audio-recorded with the permission of the participants. Interview and FGD participants were provided with lunch and transportation to and from the meeting venues (approximately $5USD). In cases where face-to-face contact was not possible, interviews were conducted remotely via telephone. While the importance of confidentiality was emphasised during FGDs, participants were informed about how limited the researchers were in their ability to enforce post-discussion adherence to confidentiality commitments made by FGD participants.

## 2.9 Secondary Quantitative Data Collection

We analysed the following sources of anonymised secondary process and outcome data from Pact Tanzania and CWBSA: parent-report pre-post surveys (*N*=36,259); adolescent-report pre-post surveys (*N*=38,802); parent/caregiver and adolescent programme attendance registers (*N*=75,061); facilitator demographic questionnaires (*N*=TBD); coach demographic questionnaires (*N*=70); coach assessments of facilitators (*N*=100); LIP organisational surveys (*N*=5); and implementation cost surveys (*N*=306).

### 2.9.1 Family Outcome and Demographic Measures

CWBSA provided Pact Tanzania with a set of process and outcome tools as part of the M&E technical support they provide to implementing partners delivering PLH in-person programmes. CWBSA recommends and provides these tools because they are open-access and have been psychometrically tested in previous studies. Due to their large beneficiary numbers and limited capacity to collect evaluation data, Pact Tanzania used abbreviated versions of the tools. Pact's focus on family outcomes as part of routine service delivery rather than only documenting the number of beneficiaries reached is a novel and important contribution to this field.

## Demographic items.

The demographic information collected includes parent/caregiver and adolescent age, gender, education level, economic status, food security, HIV status, and home-level risk factors of VAC (21 caregiver-reported outcomes 16 adolescent-reported outcomes).

## Primary outcomes.

### *Child maltreatment.*

The International Society for the Prevention of Child Abuse and Neglect Child Abuse Screening Tools-Trial Version (ICAST-T) was used to assess parent/caregiver- and child-report of child maltreatment (4 items). The tool asks parents/caregivers and adolescents to indicate the frequency of psychological abuse (e.g., "shouting or screaming" and "saying mean things to upset,") and physical abuse (e.g., "spanking, slapping, or hitting with a hand" and "discipline with an object like a stick or belt,") over the past month using a nine-point Likert scale (0 = *never*; 8 = *8 or more times*) [50]. Items were summed to create a total child maltreatment score as well as a score for each subscale.

## Secondary outcomes.

### *Positive parental involvement and poor supervision*.

An adapted version of the Alabama Parenting Questionnaire (APQ) [51] was used to assess parent/caregiver- and child-reports on the frequency of specific parent/caregiver behaviours towards adolescents in the past month on a five-point Likert scale (0 = *never*; 4 = *always*). The APQ measures parental involvement (3 items, e.g., "you/your caregiver get(s) involved in activities that your child/you like(s)") and poor parental supervision (3 items, e.g., "you/your child are/is left at home without adult supervision") subscales. Items were summed for each subscale.

### *Child behaviour problems.*

The Strengths and Difficulties Questionnaire (SDQ) [52] was used to assess child behaviour problems. The tool asks parents/caregivers and adolescents to indicate the frequency of specific child behaviours using a three-point Likert scale (0 = *not true*; 2 = *very true*). Pact Tanzania uses the SDQ Conduct Problems subscale to assess externalising and internalising behaviour (5 items, e.g., "I get/your child gets angry and often lose(s) my/their temper"). The items were reversed if needed and then summed, with higher scores indicating more behaviour problems.

### *Parent stress.*

Two items from the Parental Stress Scale (PSS) were used to assess parent feelings of their stress levels as a result of caregiving their child [53]. Items are rated on a three-point Likert scale (0 = *strongly disagree*; 4 = *strongly agree*). The PSS items ask parents to report whether caring for their child requires more time and energy than they have to offer and whether caregiving presents a significant stressor in their lives (2 items, e.g., "Caring for your children sometimes takes more time and energy than you have to give").

### *Acceptability of corporal punishment.*

One item from the UNICEF Multiple Indicator Cluster Survey (MICS) was used to assess parents/caregivers and adolescent views on the acceptability of corporal punishment [54]. This item asks respondents to indicate the extent to which they agree or disagree (0 = *strongly disagree*; 4 = *strongly agree*) with the statement: "In order to bring up, raise, or educate a child properly, a child needs to be physically punished".

***Caregiver and adolescent depression.***

Caregiver and adolescent depression was assessed using the Centre for Epidemiologic Studies Depression Scale (CES-D 10) [55]. The tool asks parents/caregivers and adolescents to respond to items related to how they have felt over the past seven days (3 items, e.g., "How often in the past week have you felt depressed?"). Responses are coded on a four-point Likert scale (0 = *rarely or none of the time;* 3 = *most or all the time*). Items were reversed if needed and then summed with higher scores indicating higher levels of parental depression.

***Parental support of education.***

An adapted version of the Parental Support for School Scale [56] was used to measure parent/caregiver- and adolescent-reports on the frequency of supportive behaviour by parents/caregivers towards their children's learning (e.g., "I/your caregiver support(s) my child's/your schoolwork in any way that I/they can" and "I/your caregiver praise(s) my child/you for working hard at school") using a five-point Likert scale (1 = *never; 5 = always*). Items were summed to create a frequency score, with higher scores suggesting more parental support and value for school.

***Financial insecurity.***

Items from the Family Financial Coping Scale (FFCS; 2 items) [45] were used to gain insight into the financial status of the participating families. The tool asks parents/caregivers to respond to items related to financial matters in the past month using a four-point Likert scale (0 = *never*, 3 = *often)*. These items include questions on whether parents/caregivers were worried about money, saved money, and ran out of money to buy certain items, such as two meals a day.

***Sexual health communication.***

Items from the Risk Avoidance Planning Scale (RAPS) and one additional item were used to assess participant experiences of caregiver-adolescent conversations about sexual health topics (i.e., puberty, condoms, sugar daddies) [37]. Both parents/caregivers and adolescents were asked to provide answers on their experiences in the past month using a three-point Likert scale (0 = *no, I find it too hard to talk about this*; 1 = *we have not made plans yet, but I would like to talk about it*; and 2 = *we have discussed this together*).

***Intimate partner violence (IPV).***

Parent/caregiver reports of IPV victimisation and perpetration in the past month were assessed using four items adapted from the Revised Conflict Tactics Scale Short Form (CTS2S) [57]. Items included in the tool ask about the frequency of physical assault (e.g., "my partner/I hit, push, shove, or slap me/my partner") and psychological aggression (e.g., "my partner/I insult(s), shout(s), yell(s) or swear(s) at me/them"). Answers are coded using the same nine-point Likert scale as the ICAST (0 = *never*; 8 = *8 or more times*). Items were summed, with higher scores indicating higher levels of victimisation or perpetration of IPV violence.

***School violence.***

Child experience of school violence were assessed using three items, one on bullying ("In the past 4 weeks, how often did you experience any bullying at school such as persistent name calling, threats of violence, or physical attacks?"), one on physical discipline from adults at school ("In the past 4 weeks, how often did a teacher or any other adult discipline you at school by hitting you with their hand or an object like a stick or belt?"), and one on verbal discipline from adults at the school ("In the past 4 weeks, how often did a teacher or other adult at your school discipline you by shouting, yelling, or screaming at you?"). These questions were

designed by FAIR study researchers and were coded using the same nine-point Likert scale as the ICAST (0 = *never*; 8 = *8 or more times*). Items are summed with higher scores indicating higher levels of school violence victimisation.

### 2.9.2 Implementation Process Measures

Pact Tanzania, LIPs, and CWBSA collected data about parents/caregivers and adolescents (e.g., attendance) and facilitators (e.g., demographic characteristics, fidelity). The data was collected to understand the quality of programme implementation, the factors that predict implementation outcomes, how implementation varies from context to context, and how implementation is associated with intervention outcomes. Information about participant attendance, staff demographics, facilitator competent adherence, coach competent adherence, and organisational characteristics was collected using a variety of measures. For example, data on facilitator competent adherence was collected by Pact coaches using the PLH-Facilitator Assessment Tool for Teens (PLH-FAT-T) - an observational assessment tool administered by coaches based on live observations or video recordings of group sessions. Facilitator competent adherence is the skill with which a facilitator delivers intervention components and the strictness with which they follow the activities outlined in the programme manual [58, 59]. The implementation data collected is currently being linked to parent/caregiver and adolescent outcomes through unique identifiers supplied by LIPs. This process will make it possible to link data from multiple sources. The data was anonymised by the LIPs before it was shared with researchers.

***Attendance.***

Attendance refers to the number of sessions attended by a programme participant out of the total possible number of sessions offered to the participant. Attendance data was collected by Pact Tanzania via attendance registers completed by facilitators each week. An overall attendance rate was calculated for each parent/caregiver-child dyad.

***Staff demographic data.***

Pact collected demographic data on facilitators and coaches using an implementation staff questionnaire (Facilitator and Coach Profile Forms). The demographic data collected includes facilitator/coach age, gender, marital status, parental status, number and age of children, employment status, and educational level. The questionnaires also assess facilitator/coach self-efficacy and their view on the acceptability of corporal punishment. The collection of these forms remains ongoing.

***Facilitator competent adherence.***

Data on facilitator competent adherence was collected by Pact coaches using the PLH-Facilitator Assessment Tool for Teens (PLH-FAT-T) - an observational assessment tool administered by coaches based on live observations or video recordings of group sessions. The PLH-FAT-T was developed by the study investigators and PLH programme developers to assess the proficiency of programme delivery by facilitators as a prerequisite to their certification. The items in the tool are grouped into two subscales based on the core activities and process skills required of facilitators. The assessment of core activities (22 items) requires coaches to rate the quality of facilitator delivery during home activity discussions (11 items) and role-plays (11 items). The assessment of process skills (28 items) requires coaches to rate the quality of facilitator use of modelling skills (5 items), the Accept-Explore-Connect-Practice facilitation technique (8 items), and collaborative leadership skills (15 items). Each item is rated on a three-point Likert scale ranging from zero to two (0= *inadequate*, 1= *good*, 2= *excellent*). By summing all items, an overall impression score is produced and represented as a percentage.

***Organisational surveys.***

A short organisational survey was developed to gather LIP characteristics from staff and to explore their observations about variations in program adoption and differences between the districts. An analysis of these surveys is ongoing.

***Cost measures.***

Information about the time and resource costs of programme set-up and implementation was collected by Pact from facilitators, coaches, and LIP coordinators to determine how much programme delivery costs at scale. Cost information was collected using surveys which ask participants for retrospective estimates of the amount of time used or money expended on a programme activity (see OSF page). The surveys were created based on resources provided by The Abdul Latif Jameel Poverty Action Lab. Our cost analysis is ongoing.

## 2.10 Data Analysis

### 2.10.1 Qualitative Analyses

Qualitative data were transcribed verbatim and translated into English. Analyses were conducted using NVivo 12 qualitative analysis software. Multiple researchers reviewed a sample of the interview and FGD transcripts to generate a coding framework based on the research questions. Following the creation of the coding scheme, approximately 10% of the data was double coded to establish reliability among the researchers. Thereafter, data-driven coding was used to identify concepts, relationships, and broad themes (thematic analysis). The findings were then discussed by the research team to identify overarching themes and to select data segments that represent the key themes and divergent viewpoints.

### 2.10.2 Quantitative Analyses

Quantitative data was cleaned using R and RStudio and then analysed in Stata, R, and RStudio using methods such as correlation and regression analyses. The frequencies and distribution of each variable were examined to check for any implausible values as well as to select the appropriate analysis method (e.g., a suitable regression link function). When there were more than two items from a given scale, coefficients such as Cronbach Alphas or Omegas were used to assess the item-level reliability of the measures. Where possible, mixed effect models will be utilised to account for nesting within parenting groups [60].

# 3. QUANTITATIVE RESULTS

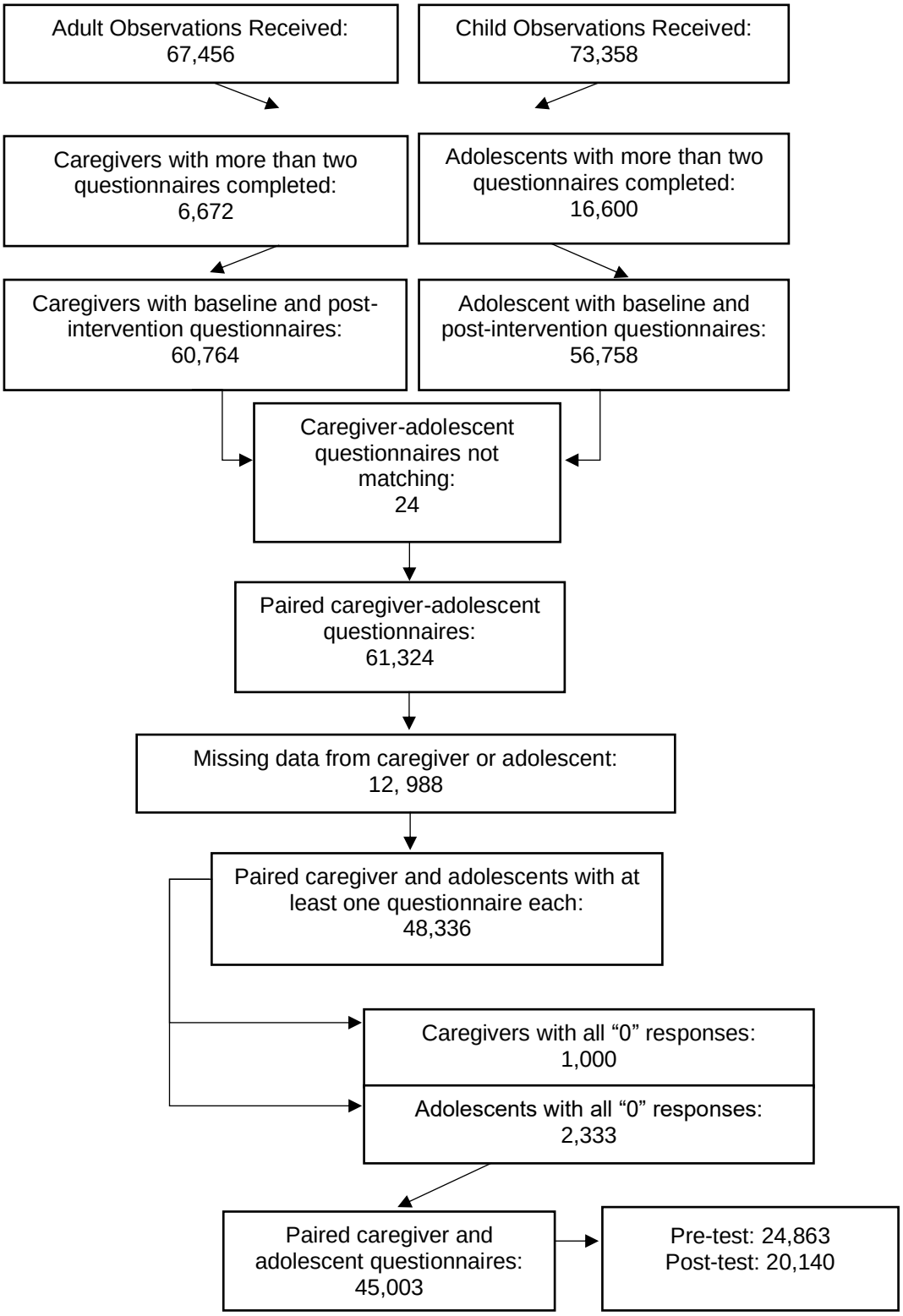
## 3.1 Pre-Post Survey Data

A substantial amount of pre-post data was collected from Furaha Teen beneficiaries. Pact Tanzania and LIPs collected 67,456 surveys from parents/caregivers and 73,358 surveys from adolescents. However, the data is "flawed, uncertain, proximate, and sparse" (FUPS) due to a variety of issues stemming from the realities of data collection via routine service delivery [61]. Data issues include multiple surveys per participant (i.e., more than two observations); participant data from only one timepoint (e.g., a pre-test without a post-test); difficulty linking caregivers and adolescents together (i.e., no match between caregiver and adolescent participant IDs); missing values; and participants who entered the same answer for every question. As a result, 22,000 caregiver surveys and 28,000 adolescent surveys were removed from the dataset, or approximately a third of the data collected. The resulting data utilised in this report is 45,003 paired caregiver-adolescent surveys with 24,863 at pre-test and 20,140 at post-test. Thus, the data reported on herein is from 27,319 parent-child dyads.

### 3.1.1 Data Cleaning Process

Several steps were taken to address data quality issues. First, data were checked for how many parents/caregivers and adolescents had only two observations – a pre-test and a post-test. 6,672 caregiver and 16,600 adolescent cases were removed from the data due to having more than two surveys. Second, the data was examined to determine whether caregiver and adolescent IDs matched. There were 24 instances in which caregivers and adolescents could not be matched. These cases were removed from the data. Third, the data was checked to determine instances wherein caregivers and adolescents only had one survey (either pre- or post-test). There were 12,988 instances were caregiver-adolescent pairs did not have data at both time-points and were thus removed from the data. Fourth, the data was processed to determine how many participants responded zero to all survey questions. Data missing at the caregiver level was checked first, and 1,000 instances were found. A further 2,333 instances were found at the adolescent level. A summary of the data cleaning steps taken, and the amount of data removed from the dataset at each stage is displayed in *Figure 2*.

**Figure 6. Data Cleaning Steps and Resulting Loss of Data**



## 3.2 Participant Demographics

As mentioned, the pre-post surveys asked participants to provide information about their background characteristics and risk factors. A summary of participant demographics at baseline is provided in *Table 5*. Simple visualisations of family characteristics and vulnerabilities at baseline is provided in *Figure 3 and 4.*

**Table 5. Demographic Characteristics of Caregivers and Adolescents at Baseline**

| | **Caregivers** ***n* = 24,863** | **Adolescents** ***n* = 24,863** |
|---|---|---|
| Age, *M* (*SD*) | 44.11 (11.82) | 11.64 (1.52) |
| Gender: Female, n (%) | 16,067 (64.6) | - |
| Sessions attended, n (%) | 12.75 (1.84) | 12.76 (1.83) |
| Child education level, *M* (*SD*) | 4.83 (1.86) | - |
| Child enrolled in school, n (%) | 8,498 (78.2) | - |
| Currently employed, n (%) | 7,503 (30.2) | - |
| Another adult employed in house, n (%) | 3,829 (15.4) | - |
| Household employment, n (%) | 9,087 (36.5) | - |
| Marital status: Partnered, n (%) | 9,273 (85.4) | - |
| Child biological son/daughter, n (%) | 21,432 (86.2) | - |
| Household struggles to buy food or essentials, n (%) | 13,005 (52.3) | 10,402 (41.8) |
| Unwell adult in house, n (%) | 2,475 (10.5) | 2,000 (8.4) |
| Household affected by TB or HIV/AIDS, n (%) | 1,725 (6.9) | 1,199 (4.8) |
| Household affected by alcohol or drugs, n (%) | 3,592 (14.4) | 3,562 (14.3) |
| Household affected by arguments, n (%) | 2,857 (11.5) | 2,876 (11.6) |
| Unwell child in house, n (%) | 2,886 (11.6) | 2,443 (9.8) |
| Disability affects a child in house, n (%) | 1,587 (6.4) | 948 (3.8) |
| Biological parent lives in house, n (%) | 20,452 (82.3) | 21,418 (86.1) |
| Can read easily, n (%) | 14,988 (60.3) | 19,218 (77.3) |
| Child single or double orphan, n (%) | 4,530 (18.2) | 3,764 (15.1) |
| Has a child, n (%) | - | 950 (3.8) |
| Location implemented: School, n (%) | 8181 (77.8) | |
| Facilitator type: Teacher, n (%) | 7588 (72.1) | |

*Note: All adolescents are female*

**Figure 7. Family Characteristics at Baseline (N=24,863)**

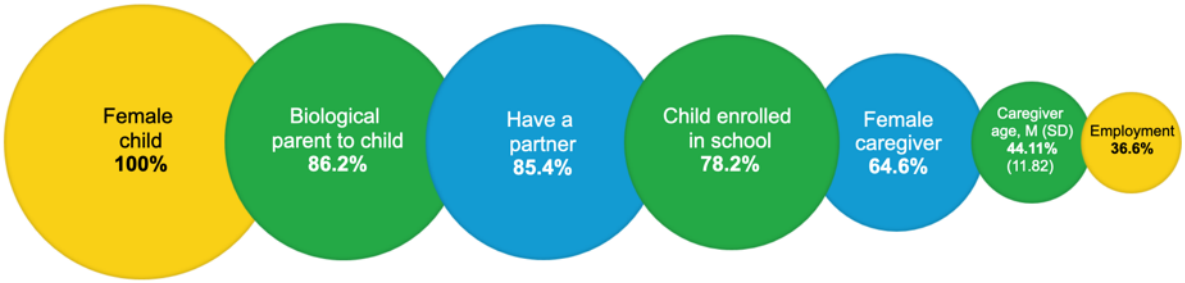
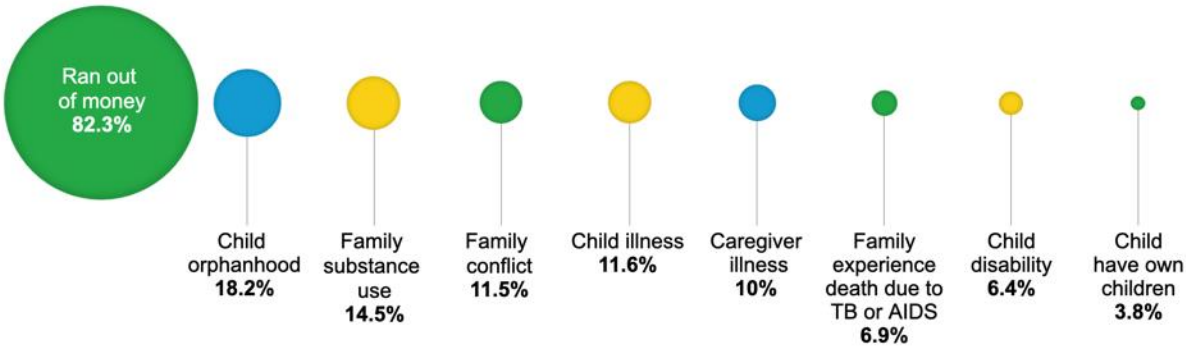



**Figure 8. Family Vulnerability at Baseline (N=24,863)**




### 3.2.1 Caregiver Characteristics

The mean age of parents/caregivers was 44.11 years (*SD* = 11.82), with male caregivers, on average, being older than female caregivers. Most caregivers were female (*n*=16,067 or 64.6%). Most caregivers indicated that they were: partnered (*n* = 9,273 or 85.40%); the biological parent of the child (*n* = 21,432 or 86.30%); and employed (*n* = 9087 or 36.55%). With respect to household employment, male caregivers were more likely to be employed. Further, a third of the caregivers indicated that they are currently employed (30.2%). More than half of the households struggled to buy food and essentials (52.3%).

Caregivers also provided information on whether they experienced other household vulnerabilities. One in ten have an adult who is unwell living in the house (10.5%), seven percent have been affected by tuberculosis or HIV/AIDS (6.9%), more than one in ten have issues related with alcohol or drugs (14.4%), one in ten is affected by arguments at home (11.5%) and an unwell child living in the house (11.6%), and six percent of the households have a child with some form of disability (6.4%). Further, over half of the sample reported being able to read (60.3%). Less than a fifth of caregivers reported that their child is a single our double orphan (18.2%). Caregivers reported that the average education level of their child was between Standard 4 or Standard 5 (*M* = 4.82, *SD* = 1.85). Most children were enrolled in school (78.2%). Most families indicated that they received Furaha Teens via schools (77.8%) and via facilitators who were teachers (72.1%).

**Table 6. Caregiver Characteristics by Gender**

| Female (*N*=16067) | | | | |
|---|---|---|---|---|
| Age | Parent literacy | Employed | Biological parent | Have partner |
| Mean (SD) | Mean (SD) | N (%) | N (%) | N (%) |
| 42.93 (11.62) | 2.13 (1.19) | 5694 (35.43%) | 13717 (85.54%) | 5539 (85.38%) |
| Male (*N*=8796) | | | | |
| Mean (SD) | Mean (SD) | N (%) | N (%) | N (%) |
| 46.26 (11.88) | 2.21 (1.15) | 5403 (38.57%) | 7751 (87.71%) | 3734 (84.42%) |
| Total (*N*=24863) | | | | |
| Mean (SD) | Mean (SD) | N (%) | N (%) | N (%) |
| 44.11 (11.82) | 2.16 (1.17) | 9087 (36.55%) | 21432 (86.20%) | 9273 (85.38%) |

## 3.3 Adolescent Characteristics

The mean age of adolescents was 11.64 years (range: 9-16; *SD* = 1.52), with all adolescent participants were female. Adolescent reports indicated that one in five households struggled to buy food or essentials (41.8%); less than a tenth live with an adult who is unwell (8.0%); five percent of households are affected by tuberculosis or HIV/AIDS (4.8%); more than a tenth have issues related with alcohol or drugs (14.3%); one in ten is affected by arguments at home (11.6%); and one in ten households have an unwell child in house (9.8%). Four percent of adolescent respondents reported living in a household with a child with some form of disability (3.8%). Most adolescents reported living with a biological parent (86.1%), and about a fifth indicated that they were a single or double orphan (15.1%). Less than four percent of adolescents reported having their own child (3.8%). Over three quarters of child participants responded to be able to read (77.3%) and most adolescents were enrolled in school (78.0%).

**Table 7. Adolescent Characteristics**

| Adolescent report (%) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ran out of money | Adult unwell | TB or HIV/AIDS death | Drinking or drugs problem | Arguments with shouting or hitting | Child unwell | Child disabled | Orphan |
| 10402 (41.84%) | 2000 (8.04%) | 1199 (6.94%) | 3562 (14.33%) | 2876 (11.57%) | 2443 (9.83%) | 948 (3.81%) | 3764 (15.14%) |

## 3.4 Pre-Post Analysis of the Impact of Furaha Teens on Family Outcomes

The following section outlines the pre-post analyses conducted to estimate the impact of Furaha Teens on family outcomes.

### 3.4.1 Scale Reliability

It is essential that the surveys used provide a reliable measurement of family outcomes. To test the reliability of the scales used, reliability checks were performed. If questions from the same scale had more than three items, reliability checks were done through Cronbach's Alpha ($\alpha$) and Omega ($\omega$). For questions from the same scale had only two items, Pearson correlations were conducted. The results of these analyses are shown in Table 8. These results show high reliability for most of the measured outcomes. Outcomes related to physical or emotional abuse may include items with different intensity of abuse (e.g., spanking and hitting with a stick), which could explain the lower correlations observed.

**Table 8. Reliability Checks of Pre-Post Scales[2]**

| Caregiver-Reported Outcomes | Cronbach's Alpha | Omega | Pearson Correlation |
|---|---|---|---|
| Child maltreatment | $\alpha = 0.65$ | $\omega = 0.65$ | - |
| Physical abuse | - | - | $r = 0.20$ |
| Emotional abuse | - | - | $r = 0.24$ |
| Positive parental involvement | $\alpha = 0.95$ | $\omega = 0.95$ | - |
| Poor parental supervision | $\alpha = 0.81$ | $\omega = 0.81$ | - |
| Child conduct problems | $\alpha = 0.70$ | $\omega = 0.75$ | - |
| Parental depression | $\alpha = 0.57$ | $\omega = 0.67$ | - |
| Sexual health communication | $\alpha = 0.91$ | $\omega = 0.91$ | - |
| Financial insecurity | - | - | $r = 0.79$ |
| Parental support for education | - | - | $r = 0.90$ |
| Parenting stress | - | - | $r = 0.70$ |
| IPV victimisation | - | - | $r = 0.57$ |
| IPV perpetration | - | - | $r = 0.58$ |
| **Adolescent-Reported Outcomes** | **Cronbach's Alpha** | **Omega** | **Pearson Correlation** |
| Child maltreatment | $\alpha = 0.64$ | $\omega = 0.64$ | - |
| Physical abuse | - | - | $r = 0.18$ |
| Emotional abuse | - | - | $r = 0.61$ |
| Positive parental involvement | $\alpha = 0.94$ | $\omega = 0.94$ | - |
| Poor parental supervision | $\alpha = 0.77$ | $\omega = 0.77$ | - |
| Child conduct problems | $\alpha = 0.68$ | $\omega = 0.74$ | - |
| Sexual health communication | $\alpha = 0.90$ | $\omega = 0.90$ | - |
| School violence | $\alpha = 0.79$ | $\omega = 0.79$ | - |
| Child emotional problems | $\alpha = 0.90$ | $\omega = 0.90$ | - |
| Child depression | $\alpha = 0.69$ | $\omega = 0.71$ | - |
| Parental support for education | - | - | $r = 0.90$ |

### 3.4.2 Intraclass Correlation Coefficient Check for Potential Random Effects

[2] Overall maltreatment, physical abuse, psychological abuse: ICAST [50] ; IPV victimisation and perpetration: CTS2S [57]; positive parent involvement and poor parent supervision: APQ [51]; parent support of education: PSSS [56]; financial insecurity: FFCS [45]; parenting stress: PSS [53]; parenting depression: CES-D 10 [55]; child conduct problems: SDQ [52]; and sexual health communication: RAPS [37].

To determine which variables could be included as a random effect in the regression model, we calculated the Intraclass Correlation Coefficient (ICC) of potential random effect factors (i.e., participant IDs, facilitator IDs, and wave of implementation) (see Table 9). The participant IDs had a relatively large ICC of 0.70 and was thus incorporated as a random effect in the regression model. Although facilitator ID also had a large ICC of 0.75, this variable had a high level of missingness in the dataset (56.3% missing values). As a result, it was not possible to include facilitator ID as a random effect. With respect to wave of implementation, this variable had a very small ICC so was not included as a random effect in the regression model.

**Table 9. Intraclass Correlation Coefficient (ICC) for Three Level Factors**

| Random effect | ICC | SE | 95% CI |
|---|---|---|---|
| Participant ID | 0.70 | 0.01 | 0.69, 0.71 |
| Facilitator ID | 0.75 | 0.03 | 0.69, 0.81 |
| Wave of Implementation | 0.12 | 0.11 | -0.11, 0.34 |

***Note.*** *Y = overall maltreatment (parent report), regression = Poisson.*

### 3.4.3 Distribution Check

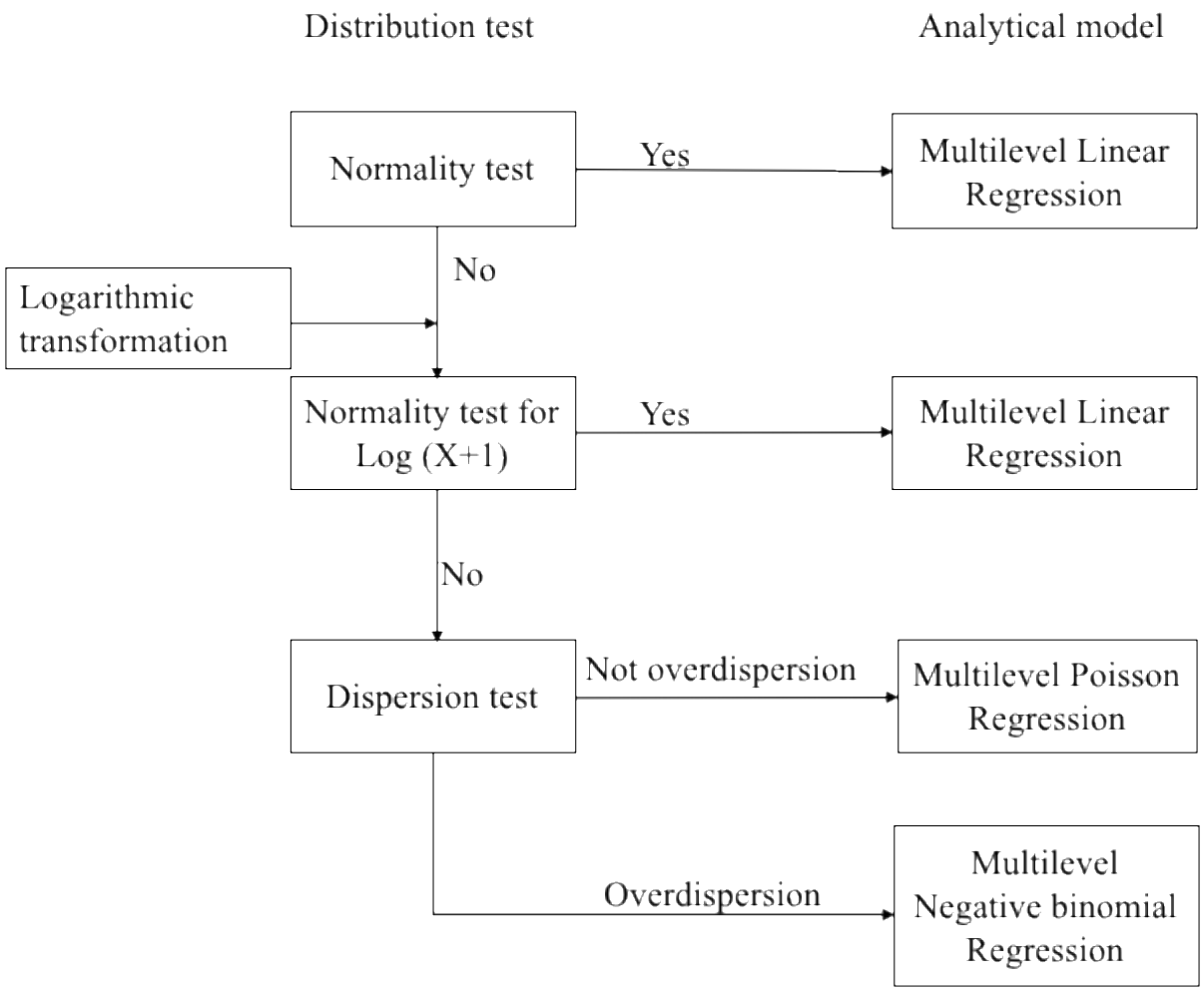
### Family outcomes.

This study applied multilevel regression to examine changes in family outcomes pre- and post-intervention. Distribution tests (displayed in *Figure* 5) were used to determine how variables measured on a frequency scale - overall maltreatment (caregiver and adolescent report), physical abuse (caregiver and adolescent report), psychological abuse (caregiver and adolescent report), IPV victimisation (caregiver report), IPV perpetration (caregiver report) and school violence victimisation (child report) – should be analysed. For other variables, we used a multilevel linear regression model. In all analyses, the family outcome was the dependent variable, the pre-and post-test timepoint was the fixed effect, and the participant ID was the random effect.

## Process variables.

Poisson regression was used to explore the relationship between process variables and demographic variables. Participant engagement (i.e., how many sessions caregivers and adolescents attended) was the dependent variable, demographic factors were independent variables. For our analysis of whether and how attendance predicted changes in family outcomes, multilevel regression models were used. As with the pre-post analysis, the types of regression selected depended on the distribution of outcome variables. In these models, the family outcome was the dependent variable, family attendance was the fixed effect, and participant ID was the random effect.

**Figure 9. Distribution Test Flowchart**



### 3.4.4 Caregiver-Reported Outcomes

Table 10 shows the results of the test for the distribution of caregiver-reported frequency variables. As these five variables were all Poisson distributed, multilevel Poisson/linear regression was used.

**Table 10. Distribution Check of Caregiver-Reported Frequency Variables[3]**

| | Anderson-Darling normality test | | Anderson-Darling normality test (log x+1) | | Dispersion test | | Distribution |
|---|---|---|---|---|---|---|---|
| | W | p value | W | p value | Chi-sq | p value | |
| Overall maltreatment | 3214.62 | <0.001 | 2398.79 | <0.001 | 42336.12 | 1.000 | Poisson |
| Physical abuse | 4892.51 | <0.001 | 4684.47 | <0.001 | 33045.52 | 1.000 | Poisson |
| Psychological abuse | 4008.22 | <0.001 | 3598.38 | <0.001 | 33962.32 | 1.000 | Poisson |
| IPV victimisation | 2520.33 | <0.001 | 2593.61 | <0.001 | 10377.84 | 1.000 | Poisson |
| IPV perpetration | 2700.31 | <0.001 | 2747.06 | <0.001 | 10286.34 | 1.000 | Poisson |

The multilevel regression results showed that most outcomes significantly improved at post-test (see *Table 11*). The results show that overall maltreatment, physical abuse, and psychological abuse reduced between 44%-49% and IPV victimisation and perpetration reduced by 14-19%. Poor parent supervision, financial insecurity, parenting stress, parenting depression, child conduct problems and sexual health communication all significantly improved. However, the analysis found that positive parent involvement and parent support of education decreased, but it is worth noting that these two behavioural variables were only measured during Wave 2 of implementation.

[3] Overall maltreatment, physical abuse, psychological abuse: ICAST [50]; IPV victimisation and perpetration: CTS2S [57]; positive parent involvement and poor parent supervision: APQ [51]; parent support of education: PSSS [56]; financial insecurity: FFCS [45]; parenting stress: PSS [53]; parenting depression: CES-D 10 [55]; child conduct problems: SDQ [52]; and sexual health communication: RAPS [37].

**Table 11. Multilevel Regression Analysis of Caregiver-Reported Outcomes[4]**

| | Mean pre | SD pre | Mean post | SD post | beta | SE | p value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|---|---|---|---|
| Overall maltreatment | 2.39 | 2.74 | 1.24 | 1.99 | -0.60 | 0.01 | <0.001 | 0.55 | 0.54 | 0.56 |
| Physical abuse | 1.11 | 1.48 | 0.55 | 1.10 | -0.66 | 0.01 | <0.001 | 0.51 | 0.50 | 0.53 |
| Psychological abuse | 1.28 | 1.60 | 0.69 | 1.15 | -0.58 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| IPV victimisation | 1.04 | 1.74 | 0.73 | 1.43 | -0.22 | 0.02 | <0.001 | 0.81 | 0.78 | 0.84 |
| IPV perpetration | 0.97 | 1.69 | 0.75 | 1.52 | -0.15 | 0.02 | <0.001 | 0.86 | 0.83 | 0.90 |
| Positive parent involvement | 4.80 | 4.06 | 3.43 | 3.86 | -0.25 | 0.01 | <0.001 | NA | NA | NA |
| Poor parent supervision | 1.32 | 1.97 | 0.82 | 1.56 | -0.50 | 0.02 | <0.001 | NA | NA | NA |
| Parent support of education | 5.17 | 2.81 | 4.38 | 2.67 | -0.72 | 0.04 | <0.001 | NA | NA | NA |
| Financial insecurity | 2.93 | 2.18 | 1.98 | 1.97 | -0.94 | 0.02 | <0.001 | NA | NA | NA |
| Parenting stress | 3.34 | 2.58 | 1.89 | 2.25 | -1.44 | 0.02 | <0.001 | NA | NA | NA |
| Parenting depression | 3.92 | 1.45 | 3.37 | 1.41 | -0.55 | 0.01 | <0.001 | NA | NA | NA |
| Child conduct problems | 1.71 | 1.76 | 1.47 | 1.78 | -0.22 | 0.01 | <0.001 | NA | NA | NA |
| Sexual health communication | 2.28 | 1.98 | 3.89 | 2.31 | 1.62 | 0.02 | <0.001 | NA | NA | NA |

[4] Overall maltreatment, physical abuse, psychological abuse: ICAST [50] ; IPV victimisation and perpetration: CTS2S [57]; positive parent involvement and poor parent supervision: APQ [51]; parent support of education: PSSS [56]; financial insecurity: FFCS [45]; parenting stress: PSS [53]; parenting depression: CES-D 10 [55]; child conduct problems: SDQ [52]; and sexual health communication: RAPS [37].

### 3.4.5 Adolescent-Reported Outcomes

The same method was used to analyse adolescent-reported outcomes. Distribution tests found that overall maltreatment, physical abuse, psychological abuse, and school violence victimisation were Poisson distributed. As a result, multilevel Poisson/linear regression was used for the adolescent-reported outcomes (see Table 12).

**Table 12. Distribution Check based on *Adolescent Report*[5]**

| | Anderson-Darling normality test | | Anderson-Darling normality test (log x+1) | | Dispersion test | | Distribution |
|---|---|---|---|---|---|---|---|
| | W | p-value | W | p-value | Chi-sq | p-value | |
| Overall maltreatment | 3920.18 | <0.001 | 3018.16 | <0.001 | 42336.12 | 0.982 | Poisson |
| Physical abuse | 5150.58 | <0.001 | 4660.03 | <0.001 | 33045.52 | 1.000 | Poisson |
| Psychological abuse | 4985.51 | <0.001 | 4512.29 | <0.001 | 33962.32 | 1.000 | Poisson |
| School violence victimisation | 1712.23 | <0.001 | 1492.15 | <0.001 | 10377.84 | 1.000 | Poisson |

The results showed that changes in child behaviour were very similar to those reported by parents. The primary variables - overall maltreatment, physical abuse, and psychological abuse - all decreased significantly (see *Table 13*). School violence victimisation and child emotional problems were found to improve. Decreases in positive parent involvement and parent support of education were also observed in adolescent reports.

[5] Overall maltreatment, physical abuse, psychological abuse: ICAST [50]; school violence victimisation: FAIR researchers based on ICAST [50]

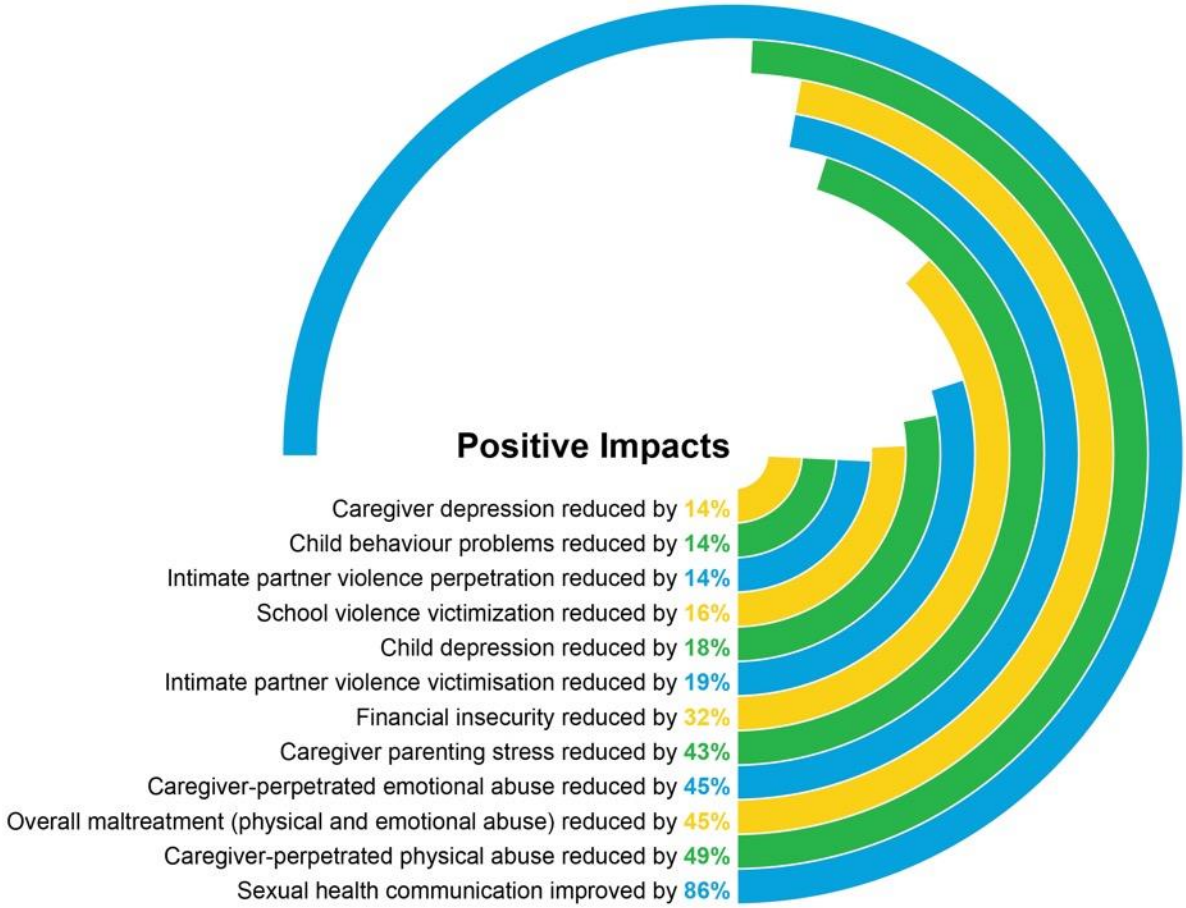
**Table 13. Multilevel Regression Analysis of Adolescent-Reported Outcomes[6]**

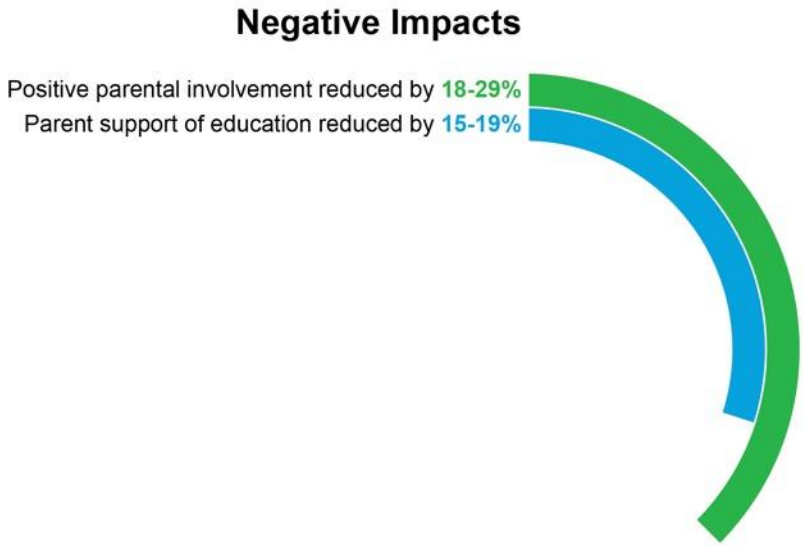
| | Mean pre | SD pre | Mean post | SD post | beta | SE | p-value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|---|---|---|---|
| Overall maltreatment | 2.33 | 2.87 | 1.23 | 2.23 | -0.57 | 0.01 | <0.001 | 0.57 | 0.56 | 0.58 |
| Physical abuse | 1.14 | 1.60 | 0.61 | 1.26 | -0.58 | 0.01 | <0.001 | 0.56 | 0.55 | 0.58 |
| Psychological abuse | 1.19 | 1.63 | 0.62 | 1.22 | -0.60 | 0.01 | <0.001 | 0.55 | 0.54 | 0.56 |
| School violence victimisation | 2.35 | 3.19 | 1.59 | 2.84 | -0.17 | 0.01 | <0.001 | 0.84 | 0.82 | 0.86 |
| Positive parent involvement | 5.06 | 3.83 | 4.17 | 3.62 | -0.82 | 0.05 | <0.001 | NA | NA | NA |
| Poor parent supervision | 1.43 | 1.98 | 0.81 | 1.46 | -0.63 | 0.02 | <0.001 | NA | NA | NA |
| Parent support of education | 2.83 | 2.67 | 2.28 | 2.70 | -0.50 | 0.04 | <0.001 | NA | NA | NA |
| Child depression | 2.47 | 2.04 | 2.03 | 1.99 | -0.43 | 0.02 | <0.001 | NA | NA | NA |
| Child emotional problems | 1.59 | 1.99 | 1.61 | 2.06 | 0.02 | 0.03 | 0.770 | NA | NA | NA |
| Child conduct problems | 1.58 | 1.72 | 1.38 | 1.74 | -0.17 | 0.01 | <0.001 | NA | NA | NA |
| Sexual health communication | 2.05 | 1.96 | 3.81 | 2.31 | 1.77 | 0.02 | <0.001 | NA | NA | NA |

[6] Overall maltreatment, physical abuse, psychological abuse: ICAST [50]; IPV victimisation and perpetration: CTS2S [57]; positive parent involvement and poor parent supervision: APQ [51]; parent support of education: PSSS [56]; financial insecurity: FFCS [45]; parenting stress: PSS [53]; parenting depression: CES-D 10 [55]; child conduct problems: SDQ [52]; and sexual health communication: RAPS [37].

### 3.4.6 Summary of Estimated Impact of Furaha Teens on Caregivers and Adolescents

The following chart summarises the findings of the pre-post analysis of the impact of Furaha Teens on family outcomes.

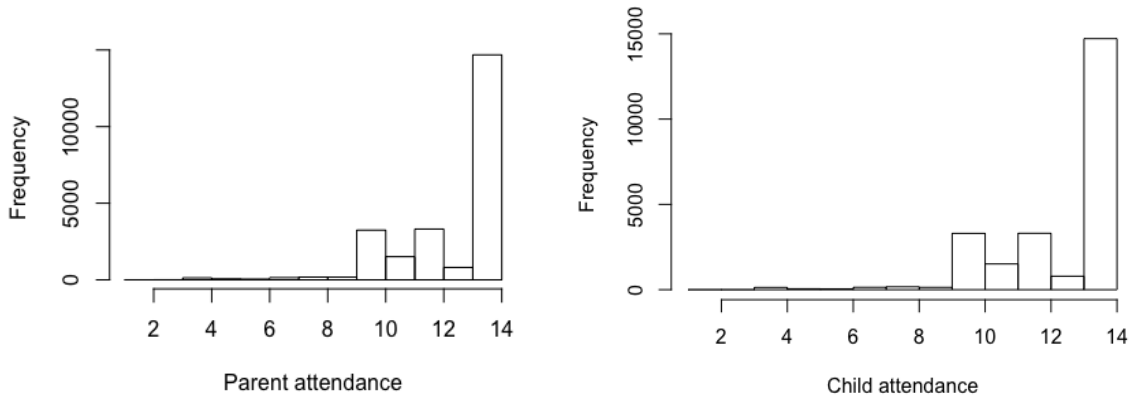


## 3.5 Participant Attendance

As shown in Figure 6, caregiver and adolescent attendance was high. The average participant attended 91% of programme sessions. Out of 14 possible sessions, caregivers attended an average of 12.75 sessions (*SD* = 1.84) and adolescents attended an average of 12.76 sessions (*SD* = 1.83). There were 14,684 parents and 14,718 adolescents who attended all 14 sessions, accounting for 60.3% of the total number of caregivers and 60.5% of the total number of adolescents respectively.

**Figure 10. Histogram for Parent Attendance and Child Attendance**




### 3.5.1 Attendance and Pre-Post Family Outcomes

We analysed whether caregivers and adolescents who attended all Furaha Teens sessions had better intervention primary and secondary outcomes on the primary and secondary outcomes for both caregiver- and adolescent-report.

### Caregiver-reported outcomes.

Overall maltreatment was found to decrease 13% more among caregivers who attended all sessions compared to those who did not attend all sessions. Pre-and post-test improvements in psychological abuse, poor supervision, parenting depression, child conduct problems, and sexual health communication of caregivers were also larger among those who attended all sessions (see *Table 14*). Positive parental involvement and parent support of education was found to decline less among caregivers who attended all sessions. However, the analyses found that IPV perpetration and victimisation were 69% and 99% greater among caregivers who did not attend each session.

**Table 14. Moderating Effects of Parent Attendance on Parent Report Behaviour Outcomes**

| | beta | SE | p-value | IRR/OR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|
| Time | -0.50 | 0.01 | <0.001 | 0.61 | 0.59 | 0.62 |
| Time *Overall maltreatment | -0.13 | 0.02 | <0.001 | 0.87 | 0.85 | 0.90 |
| Time | -0.62 | 0.02 | <0.001 | 0.54 | 0.52 | 0.56 |
| Time *Physical abuse | -0.02 | 0.02 | 0.382 | 0.98 | 0.93 | 1.03 |
| Time | -0.47 | 0.02 | <0.001 | 0.62 | 0.60 | 0.64 |
| Time *Psychological abuse | -0.15 | 0.02 | <0.001 | 0.86 | 0.83 | 0.90 |
| Time | -0.32 | 0.03 | <0.001 | 0.72 | 0.69 | 0.76 |
| Time *IPV perpetration | 0.53 | 0.04 | <0.001 | 1.69 | 1.55 | 1.85 |
| Time | -0.44 | 0.03 | <0.001 | 0.65 | 0.62 | 0.68 |
| Time *IPV victimisation | 0.69 | 0.04 | <0.001 | 1.99 | 1.82 | 2.16 |
| Time | -0.28 | 0.01 | <0.001 | NA | NA | NA |
| Time *Positive involvement | 0.26 | 0.03 | <0.001 | NA | NA | NA |
| Time | -0.21 | 0.03 | <0.001 | NA | NA | NA |
| Time *Poor supervision | -0.40 | 0.04 | <0.001 | NA | NA | NA |
| Time | -0.83 | 0.04 | <0.001 | NA | NA | NA |
| Time *Parent support of education | 0.73 | 0.10 | <0.001 | NA | NA | NA |
| Time | -0.87 | 0.03 | <0.001 | NA | NA | NA |
| Time *Financial insecurity | -0.07 | 0.04 | 0.096 | NA | NA | NA |

| | | | | | | |
|---|---|---|---|---|---|---|
| Time | -1.38 | 0.04 | <0.001 | NA | NA | NA |
| Time *Parenting stress | -0.08 | 0.05 | 0.096 | NA | NA | NA |
| Time | -0.37 | 0.02 | <0.001 | NA | NA | NA |
| Time *Parenting depression | -0.29 | 0.03 | <0.001 | NA | NA | NA |
| Time | -0.14 | 0.03 | <0.001 | NA | NA | NA |
| Time *Conduct problems | -0.02 | 0.03 | 0.559 | NA | NA | NA |
| Time | 1.04 | 0.03 | <0.001 | NA | NA | NA |
| Time *Sexual health | 0.90 | 0.04 | <0.001 | NA | NA | NA |

## Adolescent-reported outcomes.

Moderation analyses of adolescent attendance and adolescent-reported outcomes found that the intervention effects among adolescents who attended every session was better than adolescents who did not attend each session. However, this effect was not found for child conduct problems, which did not improve or worsen due to attendance (*Table 15*). Our analyses also found that positive involvement and parent support of education decreased less among those adolescents who attended each session.

**Table 15. The Moderating Effects of Child Attendance on Child Report Behaviour Outcomes**

| | beta | SE | p value | IRR/OR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|
| Time | -0.37 | 0.01 | <0.001 | 0.69 | 0.67 | 0.71 |
| Time *Overall maltreatment | -0.29 | 0.02 | <0.001 | 0.75 | 0.72 | 0.77 |
| Time | -0.41 | 0.02 | <0.001 | 0.67 | 0.64 | 0.69 |
| Time *Physical abuse | -0.24 | 0.02 | <0.001 | 0.79 | 0.75 | 0.82 |
| Time | -0.45 | 0.02 | <0.001 | 0.64 | 0.62 | 0.66 |
| Time *Psychological abuse | -0.23 | 0.02 | <0.001 | 0.80 | 0.76 | 0.84 |
| Time | -0.41 | 0.02 | <0.001 | 0.66 | 0.64 | 0.69 |
| Time *School violence victimisation | 0.97 | 0.04 | <0.001 | 2.64 | 2.47 | 2.83 |
| Time | -0.16 | 0.03 | <0.001 | NA | NA | NA |
| Time *Child emotional problems | 0.51 | 0.08 | <0.001 | NA | NA | NA |
| Time | -0.22 | 0.01 | <0.001 | NA | NA | NA |
| Time *Positive parent involvement | 0.34 | 0.02 | <0.001 | NA | NA | NA |
| Time | -0.50 | 0.03 | <0.001 | NA | NA | NA |
| Time *Poor parent supervision | -0.17 | 0.04 | <0.001 | NA | NA | NA |
| Time | -0.64 | 0.04 | <0.001 | NA | NA | NA |
| Time *Parent support of education | 0.85 | 0.09 | <0.001 | NA | NA | NA |
| Time | -0.27 | 0.03 | <0.001 | NA | NA | NA |
| Time *Child depression | -0.24 | 0.04 | <0.001 | NA | NA | NA |
| Time | -0.08 | 0.03 | 0.001 | NA | NA | NA |
| Time *Child conduct problems | -0.04 | 0.03 | 0.201 | NA | NA | NA |
| Time | 1.15 | 0.03 | <0.001 | NA | NA | NA |
| Time *Sexual health communication | 0.93 | 0.04 | <0.001 | NA | NA | NA |

### 3.5.2 The Association between Demographics and Attendance

We analysed associations between participant demographic variables and intervention attendance to determine whether attendance differed based on demographic characteristics. We found that attendance had an important effect on intervention effectiveness. Having unmarried parents, adolescents enrolled in school, non-biological parents, and non-orphans had a higher probability of attending all programme sessions among both caregivers and adolescents (see *Tables 16* and *17*). However, in cases where families were affected by poverty, had an unwell parent living at home, and the parent was unemployed, both the caregiver and adolescent were less likely to attend all programme sessions. Caregivers and adolescents were more likely attend all programme sessions when they were members of a households affected by someone passing away due to TB or HIV/AIDS, substance use issues, an unwell child, and a child with some form of disability.

**Table 16. Association between Demographics and Parent Attendance**

| | beta | SE | P value | OR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|
| Parent age | -0.01 | 0.00 | 0.043 | 0.99 | 0.99 | 1.00 |
| Parent literacy | -0.10 | 0.02 | <0.001 | 0.91 | 0.87 | 0.95 |
| Married caregiver | -0.26 | 0.08 | 0.001 | 0.77 | 0.66 | 0.91 |
| Child age | -0.05 | 0.02 | 0.019 | 0.96 | 0.92 | 0.99 |
| Parent gender | -0.06 | 0.06 | 0.293 | 0.94 | 0.83 | 1.06 |
| Child enrolled in school | 0.67 | 0.08 | <0.001 | 1.95 | 1.67 | 2.28 |
| Biological parent | -0.22 | 0.10 | 0.020 | 0.80 | 0.67 | 0.97 |
| Orphan | -0.31 | 0.09 | 0.001 | 0.73 | 0.61 | 0.88 |
| Run out of money | -0.99 | 0.06 | <0.001 | 0.37 | 0.33 | 0.42 |
| Adult unwell | -0.18 | 0.11 | 0.102 | 0.84 | 0.68 | 1.04 |
| Person passed away due to TB or HIV/AIDS | 0.69 | 0.13 | <0.001 | 1.99 | 1.54 | 2.56 |
| Drinking or drugs problem | 0.62 | 0.10 | <0.001 | 1.87 | 1.54 | 2.26 |
| Shouting or hitting problem | 0.21 | 0.11 | 0.057 | 1.23 | 0.99 | 1.52 |
| Parent employed | -0.71 | 0.07 | <0.001 | 0.49 | 0.43 | 0.57 |
| Child unwell | 0.40 | 0.10 | <0.001 | 1.49 | 1.22 | 1.82 |
| Child disability | 0.13 | 0.13 | 0.319 | 1.14 | 0.88 | 1.48 |

**Table 17. The Association between Demographics and Child Attendance**

| | beta | SE | P value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|
| Parent age | -0.01 | 0.00 | 0.037 | 0.99 | 0.99 | 1.00 |
| Parent literacy | -0.10 | 0.02 | <0.001 | 0.91 | 0.87 | 0.95 |
| Married caregiver | -0.26 | 0.08 | 0.001 | 0.77 | 0.66 | 0.90 |
| Child age | -0.05 | 0.02 | 0.014 | 0.95 | 0.92 | 0.99 |
| Parent gender | -0.06 | 0.06 | 0.295 | 0.94 | 0.83 | 1.06 |
| Child enrolled in school | 0.66 | 0.08 | <0.001 | 1.94 | 1.66 | 2.26 |
| Biological parent | -0.23 | 0.10 | 0.017 | 0.80 | 0.66 | 0.96 |
| Orphan | -0.32 | 0.09 | 0.001 | 0.72 | 0.60 | 0.87 |
| Run out of money | -0.99 | 0.06 | <0.001 | 0.37 | 0.33 | 0.42 |
| Adult unwell | -0.17 | 0.11 | 0.125 | 0.85 | 0.68 | 1.05 |
| Person passed away due to TB or HIV/AIDS | 0.68 | 0.13 | <0.001 | 1.97 | 1.52 | 2.54 |
| Drinking or drugs problem | 0.62 | 0.10 | <0.001 | 1.86 | 1.54 | 2.26 |
| Shouting or hitting problem | 0.20 | 0.11 | 0.065 | 1.22 | 0.99 | 1.51 |
| Parent employed | -0.71 | 0.07 | <0.001 | 0.49 | 0.43 | 0.56 |
| Child unwell | 0.39 | 0.10 | <0.001 | 1.48 | 1.21 | 1.81 |
| Child disability | 0.09 | 0.13 | 0.499 | 1.09 | 0.84 | 1.42 |

### 3.5.3 The Association Between Baseline Measurements and Attendance

We explored whether baseline levels of family outcomes predicted caregiver and adolescent attendance. Among caregivers, we found that lower levels of overall child maltreatment, physical abuse, psychological abuse, positive parent involvement, poor parent supervision, financial insecurity, parenting stress, child conduct problems, and sexual health communication was associated with higher probability of caregiver attendance at all Furaha sessions. In addition, higher levels of IPV victimisation, IPV perpetration, parent support of education, and parenting depression was associated with a higher probability of attending all programme sessions (see *Table 18*).

**Table 18. The Association Between Parent Reported Baseline Measurement and Parent Attendance[7]**

| | beta | SE | p value | OR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|
| Overall maltreatment | -0.12 | 0.00 | <0.001 | 0.88 | 0.88 | 0.89 |
| Physical abuse | -0.23 | 0.01 | <0.001 | 0.79 | 0.78 | 0.81 |
| Psychological abuse | -0.16 | 0.01 | <0.001 | 0.85 | 0.84 | 0.87 |
| IPV victimisation | 0.05 | 0.01 | <0.001 | 1.06 | 1.03 | 1.08 |
| IPV perpetration | 0.08 | 0.01 | <0.001 | 1.08 | 1.05 | 1.11 |
| Positive parent involvement | -0.22 | 0.01 | <0.001 | 0.80 | 0.79 | 0.81 |
| Poor parent supervision | 0.03 | 0.01 | <0.001 | 1.03 | 1.02 | 1.05 |
| Parent support of education | -0.25 | 0.01 | <0.001 | 0.78 | 0.76 | 0.79 |
| Financial insecurity | -0.03 | 0.01 | <0.001 | 0.97 | 0.96 | 0.98 |
| Parenting stress | 0.00 | 0.00 | 0.686 | 1.00 | 0.99 | 1.01 |
| Parenting depression | 0.04 | 0.01 | <0.001 | 1.04 | 1.02 | 1.06 |
| Child behaviour problems | -0.24 | 0.01 | <0.001 | 0.78 | 0.77 | 0.79 |
| Sexual health communication | -0.08 | 0.01 | <0.001 | 0.93 | 0.91 | 0.94 |

Among adolescents, we found that lower overall child maltreatment, physical abuse, psychological abuse, school violence victimisation, positive parent involvement, parent support of education, teen depression, child conduct problems and sexual health communication were associated with a higher probability of attending all programme sessions. In addition, higher levels of teen emotional problems and poor parent supervision were associated with a higher probability that adolescents attended all programme sessions (see Table 19).

**Table 19. The Association between Child Reported Baseline Measurement and Child Attendance[7]**

| | beta | SE | p value | OR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|
| Overall maltreatment | -0.13 | 0.00 | <0.001 | 0.88 | 0.87 | 0.89 |
| Physical abuse | -0.22 | 0.01 | <0.001 | 0.81 | 0.79 | 0.82 |
| Psychological abuse | -0.19 | 0.01 | <0.001 | 0.82 | 0.81 | 0.84 |
| School violence victimisation | -0.13 | 0.01 | <0.001 | 0.88 | 0.86 | 0.90 |
| Teen emotional problems | 0.14 | 0.01 | <0.001 | 1.14 | 1.12 | 1.17 |
| Positive parent involvement | -0.22 | 0.01 | <0.001 | 0.81 | 0.79 | 0.82 |
| Poor parent supervision | 0.02 | 0.01 | 0.001 | 1.02 | 1.01 | 1.04 |
| Parent support of education | -0.48 | 0.02 | <0.001 | 0.62 | 0.60 | 0.64 |
| Teen depression | -0.03 | 0.01 | <0.001 | 0.97 | 0.96 | 0.98 |
| Child conduct problems | -0.30 | 0.01 | <0.001 | 0.74 | 0.73 | 0.75 |

[7] Overall maltreatment, physical abuse, psychological abuse: ICAST [50]; IPV victimisation and perpetration: CTS2S [57]; positive parent involvement and poor parent supervision: APQ [51]; parent support of education: PSSS [56]; financial insecurity: FFCS [45]; parenting stress: PSS [53]; parenting depression: CES-D 10 [55]; child conduct problems: SDQ [52]; and sexual health communication: RAPS [37].

| | | | | | | |
|---|---|---|---|---|---|---|
| Sexual health communication | -0.08 | 0.01 | <0.001 | 0.93 | 0.92 | 0.94 |

## 3.6 Moderation Analyses – Do intervention effects vary by demographic characteristics?

To further understand whether intervention effects varied by demographic characteristics, we conducted moderation analyses for overall child maltreatment, IPV perpetration, IPV victimisation, positive parent involvement, and parental support of education. Testing for moderation was done by adding an interaction term to the Poisson/linear regression model. Due to the large sample size of Furaha participants, p-values and effect sizes were used to identify meaningful effects. Effects that differed by more than 10% between populations (i.e., IRR>1.1 or IRR <0.9) were considered as a meaningful difference. We discuss the results of each outcome below.

### 3.6.1 Moderation Analysis for Overall Maltreatment

The results of the moderating effects of demographic variables on caregiver- and adolescent-reported overall child maltreatment is shown in *Tables 20* and *21*. The results suggest that the intervention had an enhanced effect for younger children, children enrolled in school, parents with better reading skills, parents or other family members with jobs, parents without a partner, and orphans. A potential interpretation of these results is that the effects observed are due to these groups being more sensitive to the programme and thereby having an improved effected. It may also be because the baseline behavioural results of the corresponding population are at a relatively good level, and the amount of change is relatively small. Among the variables analysed, the adolescent's age and whether they were enrolled in school had particularly large moderating effects on overall child maltreatment. The results showed that caregiver-reported overall maltreatment decreased by 45% for every five-year reduction in their age and school enrolment decreased overall maltreatment by 31%. The analysis of the adolescent-reported outcomes found a 50% decrease in overall maltreatment for every 5-year reduction in their age and a 42% reduction among adolescents enrolled in school. These findings suggest that Furaha Teens is more effective for younger children who are enrolled in school.

In addition, families facing several vulnerabilities at once (poverty, family members who died of TB or HIV, household members with substance use issues, and teen parenthood) were observed to have enhanced intervention effects as the analyses showed that overall maltreatment decreased more among these families. We also found that receiving Furaha Teens in a school environment was associated with greater reductions in overall child maltreatment (caregiver-reported: 18%; adolescent-reported: 63%). Further, families that received the intervention in both schools and communities were found to have the best reductions in overall child maltreatment (caregiver-reported: 19%; adolescent-reported: 33%).

**Table 20. The Moderating Effects of Demographic on Caregiver-Reported Overall Maltreatment**

| | | beta | Std. Error | p value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|---|
| Parent age (every 5 years old) | Time | -0.92 | 0.03 | <0.001 | 0.40 | 0.38 | 0.43 |
| | Parent age | -0.01 | 0.00 | <0.001 | 0.99 | 0.98 | 0.99 |
| | Time*Parent Age | 0.04 | 0.00 | <0.001 | 1.04 | 1.03 | 1.04 |
| Child age (every 5 years old) | Time | -1.45 | 0.06 | <0.001 | 0.23 | 0.21 | 0.26 |
| | Child age | 0.06 | 0.02 | <0.001 | 1.06 | 1.02 | 1.11 |
| | Time*Child Age | 0.37 | 0.03 | <0.001 | 1.45 | 1.37 | 1.52 |
| Parent gender | Time | -0.52 | 0.01 | <0.001 | 0.59 | 0.58 | 0.61 |
| | Parent gender | 0.09 | 0.01 | <0.001 | 1.09 | 1.06 | 1.13 |
| | Time*Parent gender | -0.12 | 0.02 | <0.001 | 0.89 | 0.86 | 0.92 |
| Child enrolled in school | Time | -0.11 | 0.03 | <0.001 | 0.90 | 0.85 | 0.95 |
| | Child enrolled in school | 0.54 | 0.03 | <0.001 | 1.71 | 1.63 | 1.80 |
| | Time*Child enrolled in school | -0.37 | 0.03 | <0.001 | 0.69 | 0.65 | 0.73 |
| Parent literacy | Time | -0.37 | 0.02 | <0.001 | 0.69 | 0.67 | 0.71 |
| | Parent literacy | -0.01 | 0.01 | 0.038 | 0.99 | 0.98 | 1.00 |
| | Time*Parent literacy | -0.11 | 0.01 | <0.001 | 0.89 | 0.88 | 0.90 |
| Others employed | Time | -0.58 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| | Others employed | 0.25 | 0.02 | <0.001 | 1.29 | 1.24 | 1.33 |
| | Time*Others employed | -0.14 | 0.02 | <0.001 | 0.87 | 0.83 | 0.91 |
| Parent employed | Time | -0.52 | 0.01 | <0.001 | 0.59 | 0.58 | 0.60 |
| | Parent employed | 0.12 | 0.01 | <0.001 | 1.13 | 1.09 | 1.16 |
| | Time*Parent employed | -0.21 | 0.02 | <0.001 | 0.81 | 0.79 | 0.84 |
| Parent has a partner | Time | -0.72 | 0.03 | <0.001 | 0.49 | 0.46 | 0.52 |
| | Parent has a partner | -0.56 | 0.03 | <0.001 | 0.57 | 0.54 | 0.60 |
| | Time*Parent has a partner | 0.38 | 0.03 | <0.001 | 1.46 | 1.37 | 1.56 |
| Biological parent | Time | -0.66 | 0.02 | <0.001 | 0.52 | 0.50 | 0.54 |
| | Biological parent | 0.00 | 0.02 | 0.845 | 1.00 | 0.96 | 1.04 |
| | Time*Biological parent | 0.06 | 0.02 | 0.006 | 1.07 | 1.02 | 1.12 |
| Single or double orphan | Time | -0.58 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| | Single or double orphan | 0.17 | 0.02 | <0.001 | 1.18 | 1.14 | 1.23 |
| | Time*Single or double orphan | -0.12 | 0.02 | <0.001 | 0.89 | 0.86 | 0.93 |
| Ran out of money | Time | -0.53 | 0.01 | <0.001 | 0.59 | 0.58 | 0.60 |
| | Ran out of money | 0.22 | 0.01 | <0.001 | 1.25 | 1.21 | 1.28 |
| | Time*Ran out of money | -0.14 | 0.02 | <0.001 | 0.87 | 0.84 | 0.90 |
| Parent unwell | Time | -0.59 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| | Parent unwell | 0.24 | 0.02 | <0.001 | 1.27 | 1.21 | 1.32 |
| | Time*Parent unwell | -0.10 | 0.03 | <0.001 | 0.91 | 0.86 | 0.95 |
| TB or HIV death | Time | -0.59 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| | TB or HIV death | 0.31 | 0.03 | <0.001 | 1.37 | 1.30 | 1.44 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Time*TB or HIV death | -0.16 | 0.03 | <0.001 | 0.85 | 0.80 | 0.90 |
| Drinking or drugs problem | Time | -0.57 | 0.01 | <0.001 | 0.57 | 0.56 | 0.58 |
| | Drinking or drugs problem | 0.39 | 0.02 | <0.001 | 1.47 | 1.42 | 1.53 |
| | Time*Drinking or drugs problem | -0.19 | 0.02 | <0.001 | 0.83 | 0.79 | 0.86 |
| Arguments with shouting or hitting | Time | -0.57 | 0.01 | <0.001 | 0.57 | 0.56 | 0.58 |
| | Arguments with shouting or hitting | 0.54 | 0.02 | <0.001 | 1.71 | 1.64 | 1.78 |
| | Time*Arguments with shouting or hitting | -0.20 | 0.02 | <0.001 | 0.82 | 0.79 | 0.86 |
| Child unwell | Time | -0.59 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| | Child unwell | 0.34 | 0.02 | <0.001 | 1.40 | 1.35 | 1.46 |
| | Time*Child unwell | -0.10 | 0.02 | <0.001 | 0.91 | 0.87 | 0.95 |
| Child disabled | Time | -0.59 | 0.01 | <0.001 | 0.55 | 0.54 | 0.56 |
| | Child disabled | 0.25 | 0.03 | <0.001 | 1.29 | 1.22 | 1.36 |
| | Time*Child disabled | -0.11 | 0.03 | 0.001 | 0.90 | 0.84 | 0.95 |
| Vulnerability | Time | -0.47 | 0.01 | <0.001 | 0.62 | 0.61 | 0.64 |
| | Vulnerability | 0.19 | 0.01 | <0.001 | 1.21 | 1.19 | 1.22 |
| | Time*Vulnerability | -0.10 | 0.01 | <0.001 | 0.90 | 0.89 | 0.92 |
| Child education level | Time | -0.54 | 0.02 | <0.001 | 0.58 | 0.56 | 0.61 |
| | Child education level | 0.01 | 0.00 | 0.001 | 1.01 | 1.00 | 1.02 |
| | Time*Child education level | -0.01 | 0.00 | 0.007 | 0.99 | 0.98 | 1.00 |
| Child literacy | Time | -0.39 | 0.02 | <0.001 | 0.67 | 0.65 | 0.71 |
| | Child literacy | -0.01 | 0.01 | 0.058 | 0.99 | 0.97 | 1.00 |
| | Time*Child literacy | -0.08 | 0.01 | <0.001 | 0.92 | 0.90 | 0.94 |
| Teen has children of their own | Time | -0.61 | 0.01 | <0.001 | 0.54 | 0.54 | 0.55 |
| | Teen has children of their own | 0.12 | 0.04 | 0.001 | 1.13 | 1.05 | 1.21 |
| | Time*Teen has children of their own | 0.14 | 0.04 | 0.001 | 1.15 | 1.06 | 1.24 |
| Facilitator type | Time | -0.37 | 0.01 | <0.001 | 0.69 | 0.67 | 0.71 |
| | Facilitator type (Teacher/Volunteer) | 0.11 | 0.02 | <0.001 | 1.12 | 1.07 | 1.17 |
| | Time*Facilitator type | 0.04 | 0.03 | 0.110 | 1.04 | 0.99 | 1.10 |
| Location of sessions | Time (School) | -0.35 | 0.01 | <0.001 | 0.71 | 0.69 | 0.73 |
| | Community | -0.04 | 0.04 | 0.282 | 0.96 | 0.90 | 1.03 |
| | School & Community | 0.09 | 0.03 | <0.001 | 1.10 | 1.04 | 1.16 |
| | Time* Community | 0.17 | 0.03 | <0.001 | 1.18 | 1.11 | 1.26 |
| | Time*School & Community | -0.21 | 0.03 | <0.001 | 0.81 | 0.76 | 0.86 |

**Table 21. The Moderating Effects of Demographic on Adolescent-Reported Overall Maltreatment**

| | | beta | Std. Error | p value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|---|
| Parent age (every 5 years old) | Time | -0.71 | 0.03 | <0.001 | 0.49 | 0.46 | 0.52 |
| | Parent age | 0.00 | 0.00 | 0.630 | 1.00 | 1.00 | 1.01 |
| | Time*Parent Age | 0.02 | 0.00 | <0.001 | 1.02 | 1.01 | 1.02 |
| Child age (every 5 years old) | Time | -1.51 | 0.06 | <0.001 | 0.22 | 0.20 | 0.25 |
| | Child age | 0.12 | 0.03 | <0.001 | 1.13 | 1.07 | 1.19 |
| | Time*Child Age | 0.41 | 0.03 | <0.001 | 1.50 | 1.42 | 1.58 |
| Parent gender | Time | -0.48 | 0.01 | <0.001 | 0.62 | 0.60 | 0.64 |
| | Parent gender | 0.07 | 0.02 | <0.001 | 1.07 | 1.04 | 1.11 |
| | Time*Parent gender | -0.13 | 0.02 | <0.001 | 0.88 | 0.85 | 0.91 |
| Child enrolled in school | Time | -0.18 | 0.03 | <0.001 | 0.83 | 0.79 | 0.88 |
| | Child enrolled in school | 0.35 | 0.03 | <0.001 | 1.42 | 1.35 | 1.49 |
| | Time*Child enrolled in school | -0.09 | 0.03 | 0.001 | 0.91 | 0.86 | 0.96 |
| Parent literacy | Time | -0.25 | 0.02 | <0.001 | 0.78 | 0.75 | 0.80 |
| | Parent literacy | 0.00 | 0.01 | 0.775 | 1.00 | 0.99 | 1.02 |
| | Time*Parent literacy | -0.16 | 0.01 | <0.001 | 0.85 | 0.84 | 0.86 |
| Others employed | Time | -0.58 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| | Others employed | 0.08 | 0.02 | <0.001 | 1.08 | 1.04 | 1.13 |
| | Time*Others employed | 0.09 | 0.02 | <0.001 | 1.10 | 1.05 | 1.15 |
| Parent employed | Time | -0.56 | 0.01 | <0.001 | 0.57 | 0.56 | 0.58 |
| | Parent employed | -0.06 | 0.02 | 0.001 | 0.95 | 0.92 | 0.98 |
| | Time*Parent employed | -0.02 | 0.02 | 0.285 | 0.98 | 0.95 | 1.02 |
| Parent has a partner | Time | -0.42 | 0.03 | <0.001 | 0.65 | 0.62 | 0.69 |
| | Parent has a partner | -0.35 | 0.03 | <0.001 | 0.71 | 0.67 | 0.75 |
| | Time*Parent has a partner | 0.20 | 0.03 | <0.001 | 1.22 | 1.15 | 1.30 |
| Biological parent | Time | -0.58 | 0.02 | <0.001 | 0.56 | 0.54 | 0.59 |
| | Biological parent | 0.03 | 0.02 | 0.239 | 1.03 | 0.98 | 1.07 |
| | Time*Biological parent | 0.01 | 0.02 | 0.661 | 1.01 | 0.97 | 1.06 |
| | Time | -0.59 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Single or double orphan | Single or double orphan | 0.00 | 0.02 | 0.993 | 1.00 | 0.96 | 1.04 |
| | Time*Single or double orphan | 0.08 | 0.02 | <0.001 | 1.09 | 1.05 | 1.13 |
| Ran out of money | Time | -0.50 | 0.01 | <0.001 | 0.60 | 0.59 | 0.62 |
| | Ran out of money | 0.18 | 0.02 | <0.001 | 1.20 | 1.16 | 1.24 |
| | Time*Ran out of money | -0.12 | 0.02 | <0.001 | 0.89 | 0.86 | 0.92 |
| Parent unwell | Time | -0.59 | 0.01 | <0.001 | 0.55 | 0.54 | 0.56 |
| | Parent unwell | 0.11 | 0.03 | <0.001 | 1.12 | 1.06 | 1.18 |
| | Time*Parent unwell | 0.08 | 0.03 | 0.002 | 1.08 | 1.03 | 1.14 |
| TB or HIV death | Time | -0.59 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| | TB or HIV death | 0.09 | 0.03 | 0.002 | 1.10 | 1.04 | 1.17 |
| | Time*TB or HIV death | 0.18 | 0.03 | <0.001 | 1.20 | 1.13 | 1.27 |
| Drinking or drugs problem | Time | -0.59 | 0.01 | <0.001 | 0.55 | 0.54 | 0.56 |
| | Drinking or drugs problem | 0.19 | 0.02 | <0.001 | 1.21 | 1.16 | 1.26 |
| | Time*Drinking or drugs problem | 0.11 | 0.02 | <0.001 | 1.11 | 1.07 | 1.16 |
| Arguments with shouting or hitting | Time | -0.59 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| | Arguments with shouting or hitting | 0.30 | 0.02 | <0.001 | 1.35 | 1.29 | 1.42 |
| | Time*Arguments with shouting or hitting | 0.11 | 0.02 | <0.001 | 1.11 | 1.06 | 1.16 |
| Child unwell | Time | -0.62 | 0.01 | <0.001 | 0.54 | 0.53 | 0.55 |
| | Child unwell | 0.11 | 0.02 | <0.001 | 1.12 | 1.07 | 1.17 |
| | Time*Child unwell | 0.31 | 0.02 | <0.001 | 1.37 | 1.31 | 1.43 |
| Child disabled | Time | -0.58 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| | Child disabled | 0.12 | 0.03 | <0.001 | 1.13 | 1.06 | 1.20 |
| | Time*Child disabled | 0.19 | 0.03 | <0.001 | 1.21 | 1.14 | 1.29 |
| Vulnerability | Time | -0.58 | 0.01 | <0.001 | 0.56 | 0.55 | 0.58 |
| | Vulnerability | 0.11 | 0.01 | <0.001 | 1.12 | 1.10 | 1.14 |
| | Time*Vulnerability | 0.01 | 0.01 | 0.363 | 1.01 | 0.99 | 1.02 |
| Child education level | Time | -0.34 | 0.02 | <0.001 | 0.71 | 0.68 | 0.74 |
| | Child education level | 0.03 | 0.00 | <0.001 | 1.03 | 1.02 | 1.04 |
| | Time*Child education level | -0.05 | 0.00 | <0.001 | 0.95 | 0.94 | 0.96 |
| Child literacy | Time | -0.16 | 0.02 | <0.001 | 0.85 | 0.82 | 0.89 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Child literacy | 0.00 | 0.01 | 0.606 | 1.00 | 0.98 | 1.01 |
| | Time*Child literacy | -0.17 | 0.01 | <0.001 | 0.85 | 0.83 | 0.86 |
| | Time | -0.58 | 0.01 | <0.001 | 0.56 | 0.55 | 0.57 |
| Teen has children of their own | Teen has children of their own | 0.21 | 0.04 | <0.001 | 1.23 | 1.14 | 1.33 |
| | Time*Teen has children of their own | 0.20 | 0.04 | <0.001 | 1.22 | 1.13 | 1.32 |
| | Time | -0.29 | 0.01 | <0.001 | 0.75 | 0.73 | 0.77 |
| Facilitator type | Facilitator type (Teacher/Volunteer) | 0.17 | 0.02 | <0.001 | 1.18 | 1.13 | 1.24 |
| | Time*Facilitator type | 0.19 | 0.03 | <0.001 | 1.21 | 1.14 | 1.27 |
| | Time (School) | -0.25 | 0.01 | <0.001 | 0.78 | 0.75 | 0.80 |
| | Community | -0.06 | 0.04 | 0.136 | 0.94 | 0.87 | 1.02 |
| Location of sessions | School & Community | 0.14 | 0.03 | <0.001 | 1.15 | 1.08 | 1.22 |
| | Time* Community | 0.49 | 0.04 | <0.001 | 1.63 | 1.52 | 1.75 |
| | Time*School & Community | -0.40 | 0.03 | <0.001 | 0.67 | 0.63 | 0.72 |

### 3.6.2 Moderation of IPV

Moderation analyses were conducted to explore whether there were differential effects of participant demographic variables on IPV. For IPV perpetration and IPV victimisation, we found that male caregivers, parents with better literacy, and parents without a partner had a greater intervention effect for IPV perpetration and IPV victimisation (see *Tables 22* and *23*). We also found that families with a series of risk factors had a greater reduction in IPV perpetration – those who are affected by poverty, have an unwell adult living in the house, have a family member who died of TB or HIV, have someone in the family with drug or alcohol problems, and have arguments with shouting or hitting (see *Tables 22* and *23*). This finding suggests that the impact of Furaha Teens on IPV perpetration and victimisation may be particularly effective for more vulnerable families.

**Table 22. Moderating Effects of Demographic Variables on IPV Perpetration**

| | | beta | Std. Error | p value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|---|
| Parent age | Time | -0.24 | 0.08 | 0.002 | 0.79 | 0.68 | 0.91 |
| | Parent age | 0.00 | 0.01 | 0.590 | 1.00 | 0.99 | 1.02 |
| | Time*Parent Age | 0.01 | 0.01 | 0.137 | 1.01 | 1.00 | 1.03 |
| Parent gender | Time | 0.01 | 0.03 | 0.798 | 1.01 | 0.95 | 1.07 |
| | Parent gender | 0.23 | 0.04 | <0.001 | 1.25 | 1.17 | 1.35 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Time*Parent gender | -0.26 | 0.04 | <0.001 | 0.77 | 0.72 | 0.84 |
| | Time | 0.07 | 0.03 | 0.056 | 1.07 | 1.00 | 1.14 |
| Parent literacy | Parent literacy | -0.02 | 0.01 | 0.106 | 0.98 | 0.95 | 1.01 |
| | Time*Parent literacy | -0.11 | 0.02 | <0.001 | 0.89 | 0.87 | 0.92 |
| | Time | -0.11 | 0.02 | <0.001 | 0.89 | 0.85 | 0.93 |
| Others employed | Others employed | 0.49 | 0.05 | <0.001 | 1.64 | 1.50 | 1.79 |
| | Time*Others employed | -0.08 | 0.05 | 0.100 | 0.93 | 0.84 | 1.01 |
| | Time | -0.44 | 0.05 | <0.001 | 0.64 | 0.59 | 0.71 |
| Parent has a partner | Parent has a partner | -0.69 | 0.05 | <0.001 | 0.50 | 0.46 | 0.55 |
| | Time*Parent has a partner | 0.37 | 0.05 | <0.001 | 1.45 | 1.31 | 1.61 |
| | Time | -0.06 | 0.03 | 0.024 | 0.94 | 0.89 | 0.99 |
| Ran out of money | Ran out of money | 0.06 | 0.04 | 0.093 | 1.06 | 0.99 | 1.14 |
| | Time*Ran out of money | -0.14 | 0.04 | <0.001 | 0.87 | 0.80 | 0.94 |
| | Time | -0.02 | 0.02 | 0.355 | 0.98 | 0.94 | 1.02 |
| Parent unwell | Parent unwell | 0.40 | 0.06 | <0.001 | 1.49 | 1.33 | 1.67 |
| | Time*Parent unwell | -0.24 | 0.06 | <0.001 | 0.78 | 0.70 | 0.88 |
| | Time | -0.08 | 0.02 | <0.001 | 0.92 | 0.89 | 0.96 |
| TB or HIV death | TB or HIV death | 0.59 | 0.06 | <0.001 | 1.80 | 1.59 | 2.03 |
| | Time*TB or HIV death | -0.39 | 0.06 | <0.001 | 0.68 | 0.60 | 0.76 |
| | Time | -0.08 | 0.02 | <0.001 | 0.92 | 0.88 | 0.96 |
| Drinking or drugs problem | Drinking or drugs problem | 0.58 | 0.04 | <0.001 | 1.78 | 1.64 | 1.95 |
| | Time*Drinking or drugs problem | -0.20 | 0.04 | <0.001 | 0.82 | 0.75 | 0.89 |
| | Time | -0.09 | 0.02 | <0.001 | 0.92 | 0.88 | 0.96 |
| Arguments with shouting or hitting | Arguments with shouting or hitting | 0.64 | 0.05 | <0.001 | 1.90 | 1.73 | 2.09 |
| | Time*Arguments with shouting or hitting | -0.21 | 0.05 | <0.001 | 0.81 | 0.74 | 0.89 |

**Table 23. Moderating Effects of Demographic on IPV victimisation**

| | | beta | Std. Error | p value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|---|
| Parent age | Time | -0.29 | 0.07 | -3.86 | <0.001 | 0.75 | 0.65 |
| | Parent age | 0.00 | 0.01 | -0.17 | 0.865 | 1.00 | 0.99 |
| | Time*Parent Age | 0.01 | 0.01 | 1.31 | 0.189 | 1.01 | 0.99 |
| Parent gender | Time | -0.10 | 0.03 | -3.06 | 0.002 | 0.91 | 0.85 |
| | Parent gender | 0.21 | 0.04 | 5.87 | <0.001 | 1.23 | 1.15 |
| | Time*Parent gender | -0.20 | 0.04 | -4.89 | <0.001 | 0.82 | 0.76 |
| Parent literacy | Time | -0.02 | 0.03 | -0.49 | 0.625 | 0.98 | 0.92 |
| | Parent literacy | -0.01 | 0.01 | -0.82 | 0.411 | 0.99 | 0.96 |
| | Time*Parent literacy | -0.10 | 0.02 | -6.41 | <0.001 | 0.90 | 0.88 |
| Others employed | Time | -0.19 | 0.02 | -8.41 | <0.001 | 0.83 | 0.79 |
| | Others employed | 0.46 | 0.04 | 10.78 | <0.001 | 1.59 | 1.46 |
| | Time*Others employed | -0.02 | 0.05 | -0.47 | 0.639 | 0.98 | 0.89 |
| Parents have a partner | Time | -0.50 | 0.05 | -10.50 | <0.001 | 0.61 | 0.56 |
| | Parents have a partner | -0.69 | 0.04 | -15.32 | <0.001 | 0.50 | 0.46 |
| | Time*Parent have a partner | 0.37 | 0.05 | 7.07 | <0.001 | 1.44 | 1.30 |
| Ran out of money | Time | -0.11 | 0.03 | -3.80 | <0.001 | 0.90 | 0.85 |
| | Ran out of money | 0.17 | 0.03 | 5.06 | <0.001 | 1.19 | 1.11 |
| | Time*Ran out of money | -0.17 | 0.04 | -4.31 | <0.001 | 0.84 | 0.78 |
| Parent unwell | Time | -0.10 | 0.02 | -4.60 | <0.001 | 0.90 | 0.86 |
| | Parent unwell | 0.34 | 0.06 | 6.14 | <0.001 | 1.41 | 1.26 |
| | Time*Parent unwell | -0.19 | 0.06 | -3.21 | 0.001 | 0.83 | 0.74 |
| TB or HIV death | Time | -0.15 | 0.02 | -7.02 | <0.001 | 0.86 | 0.83 |
| | TB or HIV death | 0.50 | 0.06 | 8.51 | <0.001 | 1.64 | 1.46 |
| | Time*TB or HIV death | -0.35 | 0.06 | -6.04 | <0.001 | 0.71 | 0.63 |
| Drinking or drugs problem | Time | -0.14 | 0.02 | -6.28 | <0.001 | 0.87 | 0.83 |
| | Drinking or drugs problem | 0.53 | 0.04 | 12.60 | <0.001 | 1.70 | 1.56 |
| | Time*Drinking or drugs problem | -0.20 | 0.04 | -4.59 | <0.001 | 0.82 | 0.75 |
| Arguments with shouting or hitting | Time | -0.17 | 0.02 | -7.46 | <0.001 | 0.85 | 0.81 |
| | Arguments with shouting or hitting | 0.57 | 0.05 | 12.64 | <0.001 | 1.77 | 1.62 |
| | Time*Arguments with shouting or hitting | -0.14 | 0.05 | -3.05 | 0.002 | 0.87 | 0.79 |

### 3.6.3 Moderation of Positive Parental Involvement and Parent Support of Education

In our pre-post analysis, we found that positive parental involvement and parent support of education declined at post-test. We conducted a moderation analysis for each demographic factor individually to examine whether this decline was different among certain groups. Moderation analyses of caregiver-reported positive parent involvement suggest that younger adolescents, male caregivers, adolescents not in school, biological parents, families not troubled by poverty, adolescents with lower literacy, and teen parents saw a smaller decrease in parent report positive parental involvement (*Table 24*). For adolescent-reported positive parental involvement, those who were out of school, orphaned, families not troubled by poverty, and teen parents saw a smaller decrease (*Table 25*). For parental support of education, families with young adolescents, adolescents out of school, and families not troubled by poverty saw a smaller decrease in this outcome. Orphans and teen parents also experienced less of a decline in parental support of education (*Table 26)*.

**Table 24. The Moderating Effects of Demographic on Parent Report Positive Parent Involvement**

| | | beta | Std. Error | p value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|---|
| Parent age | Time | -0.10 | 0.03 | 0.004 | 0.91 | 0.85 | 0.97 |
| | Parent age | 0.00 | 0.00 | 0.416 | 1.00 | 1.00 | 1.01 |
| | Time*Parent Age | -0.02 | 0.00 | 0.000 | 0.98 | 0.98 | 0.99 |
| Child age | Time | 0.08 | 0.07 | 0.299 | 1.08 | 0.93 | 1.25 |
| | Child age | 0.04 | 0.03 | 0.257 | 1.04 | 0.97 | 1.10 |
| | Time*Child Age | -0.14 | 0.03 | <0.001 | 0.87 | 0.82 | 0.93 |
| Parent gender | Time | -0.33 | 0.00 | <0.001 | 0.72 | 0.72 | 0.72 |
| | Parent gender | 0.07 | 0.00 | <0.001 | 1.08 | 1.08 | 1.08 |
| | Time*Parent gender | 0.12 | 0.00 | <0.001 | 1.13 | 1.13 | 1.13 |
| Child enrolled in school | Time | 0.66 | 0.02 | <0.001 | 1.94 | 1.85 | 2.03 |
| | Child enrolled in school | 1.27 | 0.03 | <0.001 | 3.58 | 3.40 | 3.76 |
| | Time*Child enrolled in school | -1.10 | 0.03 | <0.001 | 0.33 | 0.32 | 0.35 |
| Parent literacy | Time | -0.19 | 0.02 | <0.001 | 0.82 | 0.80 | 0.85 |
| | Parent literacy | 0.12 | 0.01 | <0.001 | 1.12 | 1.11 | 1.14 |
| | Time*Parent literacy | -0.03 | 0.01 | <0.001 | 0.97 | 0.96 | 0.99 |
| Biological parent | Time | -0.35 | 0.02 | <0.001 | 0.71 | 0.67 | 0.74 |
| | Biological parent | -0.13 | 0.03 | <0.001 | 0.88 | 0.83 | 0.93 |
| | Time*Biological parent | 0.11 | 0.03 | <0.001 | 1.11 | 1.06 | 1.17 |
| Single or double orphan | Time | -0.28 | 0.01 | <0.001 | 0.75 | 0.74 | 0.77 |
| | Single or double orphan | -0.50 | 0.02 | <0.001 | 0.61 | 0.58 | 0.64 |
| | Time*Single or double orphan | 0.17 | 0.02 | <0.001 | 1.18 | 1.13 | 1.24 |
| Ran out of money | Time | -0.09 | 0.01 | <0.001 | 0.91 | 0.89 | 0.94 |
| | Ran out of money | 0.55 | 0.02 | <0.001 | 1.73 | 1.67 | 1.80 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Time*Ran out of money | -0.28 | 0.02 | <0.001 | 0.76 | 0.73 | 0.78 |
| Child education level | Time | -0.17 | 0.02 | <0.001 | 0.84 | 0.80 | 0.88 |
| | Child education level | 0.09 | 0.00 | <0.001 | 1.10 | 1.09 | 1.11 |
| | Time*Child education level | -0.02 | 0.01 | 0.002 | 0.98 | 0.97 | 0.99 |
| Child literacy | Time | 0.03 | 0.03 | 0.258 | 1.03 | 0.98 | 1.08 |
| | Child literacy | 0.28 | 0.01 | <0.001 | 1.33 | 1.30 | 1.35 |
| | Time*Child literacy | -0.11 | 0.01 | <0.001 | 0.89 | 0.88 | 0.91 |
| Teen has children of their own | Time | -0.26 | 0.01 | <0.001 | 0.77 | 0.75 | 0.78 |
| | Teen has children of their own | -0.38 | 0.05 | <0.001 | 0.68 | 0.62 | 0.75 |
| | Time*Teen has children of their own | 0.30 | 0.05 | <0.001 | 1.35 | 1.24 | 1.48 |

**Table 25. The Moderating Effects of Demographic on Child Report Positive parent involvement**

| | | beta | Std. Error | p value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|---|
| Parent age | Time | -0.07 | 0.03 | 0.038 | 0.94 | 0.88 | 1.00 |
| | Parent age | 0.00 | 0.00 | 0.969 | 1.00 | 0.99 | 1.01 |
| | Time*Parent Age | -0.01 | 0.00 | 0.001 | 0.99 | 0.98 | 0.99 |
| Child age | Time | -0.11 | 0.07 | 0.105 | 0.90 | 0.78 | 1.02 |
| | Child age | -0.01 | 0.02 | 0.659 | 0.99 | 0.94 | 1.04 |
| | Time*Child Age | -0.03 | 0.03 | 0.366 | 0.97 | 0.92 | 1.03 |
| Parent gender | Time | -0.20 | 0.01 | <0.001 | 0.82 | 0.79 | 0.84 |
| | Parent gender | 0.04 | 0.02 | 0.004 | 1.04 | 1.01 | 1.08 |
| | Time*Parent gender | 0.05 | 0.02 | 0.004 | 1.05 | 1.02 | 1.09 |
| Child enrolled in school | Time | 0.11 | 0.02 | <0.001 | 1.12 | 1.08 | 1.16 |
| | Child enrolled in school | 0.41 | 0.02 | <0.001 | 1.51 | 1.45 | 1.56 |
| | Time*Child enrolled in school | -0.38 | 0.02 | <0.001 | 0.68 | 0.66 | 0.71 |
| Parent literacy | Time | -0.20 | 0.02 | <0.001 | 0.82 | 0.79 | 0.84 |
| | Parent literacy | 0.04 | 0.01 | <0.001 | 1.04 | 1.03 | 1.05 |
| | Time*Parent literacy | 0.02 | 0.01 | 0.013 | 1.02 | 1.00 | 1.03 |
| Biological parent | Time | -0.16 | 0.02 | <0.001 | 0.85 | 0.82 | 0.90 |
| | Biological parent | 0.00 | 0.02 | 0.950 | 1.00 | 0.96 | 1.05 |
| | Time*Biological parent | -0.02 | 0.03 | 0.533 | 0.98 | 0.94 | 1.03 |
| Single or double orphan | Time | -0.20 | 0.01 | <0.001 | 0.82 | 0.80 | 0.83 |
| | Single or double orphan | -0.26 | 0.02 | <0.001 | 0.77 | 0.74 | 0.80 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ran out of money | Time*Single or double orphan | 0.14 | 0.02 | <0.001 | 1.15 | 1.11 | 1.20 |
| | Time | -0.07 | 0.01 | <0.001 | 0.93 | 0.91 | 0.95 |
| | Ran out of money | 0.27 | 0.01 | <0.001 | 1.32 | 1.28 | 1.35 |
| | Time*Ran out of money | -0.17 | 0.02 | <0.001 | 0.84 | 0.82 | 0.87 |
| Child education level | Time | -0.10 | 0.02 | <0.001 | 0.90 | 0.86 | 0.94 |
| | Child education level | 0.06 | 0.00 | <0.001 | 1.06 | 1.05 | 1.07 |
| | Time*Child education level | -0.01 | 0.00 | 0.004 | 0.99 | 0.98 | 1.00 |
| Child literacy | Time | -0.02 | 0.02 | 0.331 | 0.98 | 0.94 | 1.02 |
| | Child literacy | 0.14 | 0.01 | <0.001 | 1.15 | 1.13 | 1.17 |
| | Time*Child literacy | -0.06 | 0.01 | <0.001 | 0.94 | 0.93 | 0.96 |
| Teen has children of their own | Time | -0.18 | 0.01 | <0.001 | 0.83 | 0.82 | 0.85 |
| | Teen has children of their own | -0.39 | 0.04 | <0.001 | 0.67 | 0.63 | 0.72 |
| | Time*Teen has children of their own | 0.28 | 0.04 | <0.001 | 1.32 | 1.22 | 1.43 |

**Table 26. The Moderating Effects of Demographic on Parent Support of Education**

| | | beta | Std. Error | p value | IRR | 95% lower CI | 95% upper CI |
|---|---|---|---|---|---|---|---|
| Parent age | Time | -0.07 | 0.03 | 0.020 | 0.93 | 0.88 | 0.99 |
| | Parent age | 0.00 | 0.00 | 0.794 | 1.00 | 1.00 | 1.00 |
| | Time*Parent Age | -0.01 | 0.00 | 0.004 | 0.99 | 0.98 | 1.00 |
| Child age | Time | 0.26 | 0.06 | <0.001 | 1.29 | 1.15 | 1.46 |
| | Child age | 0.03 | 0.02 | 0.111 | 1.03 | 0.99 | 1.06 |
| | Time*Child Age | -0.17 | 0.03 | <0.001 | 0.84 | 0.80 | 0.89 |
| Parent gender | Time | -0.18 | 0.01 | <0.001 | 0.84 | 0.82 | 0.86 |
| | Parent gender | 0.01 | 0.01 | 0.494 | 1.01 | 0.99 | 1.03 |
| | Time*Parent gender | 0.05 | 0.02 | 0.002 | 1.05 | 1.02 | 1.08 |
| Child enrolled in school | Time | 0.40 | 0.02 | <0.001 | 1.50 | 1.45 | 1.55 |
| | Child enrolled in school | 0.74 | 0.01 | <0.001 | 2.09 | 2.04 | 2.15 |
| | Time*Child enrolled in school | -0.70 | 0.02 | <0.001 | 0.50 | 0.48 | 0.52 |
| Parent literacy | Time | -0.10 | 0.01 | <0.001 | 0.91 | 0.88 | 0.93 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Parent literacy | 0.06 | 0.00 | <0.001 | 1.06 | 1.06 | 1.07 |
| | Time*Parent literacy | -0.02 | 0.01 | <0.001 | 0.98 | 0.97 | 0.99 |
| Biological parent | Time | -0.14 | 0.02 | <0.001 | 0.87 | 0.83 | 0.90 |
| | Biological parent | -0.05 | 0.02 | 0.003 | 0.96 | 0.93 | 0.98 |
| | Time*Biological parent | -0.01 | 0.02 | 0.692 | 0.99 | 0.95 | 1.04 |
| Single or double orphan | Time | -0.17 | 0.01 | <0.001 | 0.84 | 0.83 | 0.86 |
| | Single or double orphan | -0.23 | 0.01 | <0.001 | 0.80 | 0.78 | 0.82 |
| | Time*Single or double orphan | 0.13 | 0.02 | <0.001 | 1.14 | 1.10 | 1.18 |
| Ran out of money | Time | -0.02 | 0.01 | 0.032 | 0.98 | 0.96 | 1.00 |
| | Ran out of money | 0.31 | 0.01 | <0.001 | 1.36 | 1.33 | 1.39 |
| | Time*Ran out of money | -0.22 | 0.02 | <0.001 | 0.81 | 0.78 | 0.83 |
| Child education level | Time | 0.01 | 0.02 | 0.499 | 1.01 | 0.98 | 1.05 |
| | Child education level | 0.05 | 0.00 | <0.001 | 1.06 | 1.05 | 1.06 |
| | Time*Child education level | -0.03 | 0.00 | <0.001 | 0.97 | 0.96 | 0.98 |
| Child literacy | Time | 0.07 | 0.02 | <0.001 | 1.08 | 1.04 | 1.12 |
| | Child literacy | 0.13 | 0.01 | <0.001 | 1.14 | 1.13 | 1.15 |
| | Time*Child literacy | -0.09 | 0.01 | <0.001 | 0.92 | 0.90 | 0.93 |
| Teen has children of their own | Time | -0.15 | 0.01 | <0.001 | 0.86 | 0.85 | 0.87 |
| | Teen has children of their own | -0.15 | 0.02 | <0.001 | 0.86 | 0.82 | 0.90 |
| | Time*Teen has children of their own | 0.13 | 0.04 | <0.001 | 1.14 | 1.06 | 1.22 |

## 3.7 Facilitator Competent Adherence

We also assessed programme fidelity and quality of delivery, or competent adherence, of facilitators who facilitators delivered Furaha Teens in Tanzania. The PLH-FAT-T was created to conduct these assessments and modified based on the feedback provided by expert assessors at CWBSA, and then shared with coaches via training on how to conduct assessments. This section describes the results of an examination of the tool's initial psychometric properties (content validity, intra-rater reliability, and inter-rater reliability); the PLH-FAT-T data collected; and a summary of the competent adherence with which facilitators delivered Furaha Teens.

### 3.7.1 Facilitator Assessment Tool

#### PLH-FAT-T assessment procedure.

The PLH-Teens coaches in Tanzania assessed facilitator competent adherence using the Parenting for Lifelong Health for Teens Facilitator Assessment Form (PLH-FAT-T) by observing facilitator programme delivery live. Pact Tanzania decided to use live observational assessments of each facilitator instead of conducting video assessments due to the logistical challenges of filming programme delivery. Pact lacked the budget to purchase enough video cameras. Further, due to internet connectivity challenges, it was too difficult to share video files with coaches online to conduct assessments. The limitation of assessing facilitators live is that it requires substantially more coordination among programme staff.

By attending sessions live, assessors were asked to examine how well each facilitator delivered one of two programme components – the home activity or role play – and answered the questions (items) on the PLH-FAT-T. In responding to each item, assessors were trained to base their choice on the description provided in the PLH-FAT-T manual about how to score each point on the Likert scale. The two facilitators delivering the programme together were assessed at once.

#### Assessor training.

As part of this study, a PLH-FAT-T manual was drafted in collaboration with partners at CWBSA to provide an overview of the PLH-FAT-T and implementation instructions. Two Swahili-speaking PLH trainers from CWBSA ("lead assessors") were then trained to conduct assessments using the manual as a guide. The lead assessors were also trained on how to provide training to the 70 coaches ("assessors") who then conducted assessments of facilitators using the PLH-FAT-T. The coach training consisted of two full days (approximately 14 hours), over which the lead assessors provided an overview the PLH-FAT-T items; outlined how to conduct assessments; discussed potential challenges assessors might face and potential solutions to these challenges; had assessors conduct at least one practice assessment; compared the assessors' practice assessments with those completed by the lead assessors; and discussed how the practice assessment went.

### 3.7.2 Content validity of the PLH-FAT-T

In advance of coaches conducting assessments, several steps were taken to evaluate the content validity of the PLH-FAT-T and modify the tool accordingly. To begin, the results of a study on the psychometric properties of the version of the PLH-FAT used in PLH-Kids was reviewed and assessed for its applicability to the PLH-FAT-T. The findings resulted in relevant changes being made to the PLH-FAT-T. The updated version of the PLH-FAT-T was then further improved based on expert feedback and advice from staff at CWBSA, who have experience conducting and coordinating the assessments of PLH-Teens facilitators internationally. In sum, the PLH-FAT-T was modified in two major ways. First, the PLH-FAT-T form and assessment process were altered so that two facilitators could be assessed at once instead of just one at a time as has previously been the case. This change resulted in each facilitator being assessed in their delivery of only one activity - either the home activity discussion or role-play. Second, the measurement scale was altered so that facilitators are assessed on a three-point Likert scale instead of a four-point Likert scale as was utilised in the previous version of the PLH-FAT-T. These two modifications were made to simplify the assessment process and reduce discrepancies in measurement among assessors.

### 3.7.3 Intra-Rater Reliability

The intra-rater reliability of the two lead assessors was assessed to establish whether PLH-FAT-T assessors are consistent in their assessments of the same facilitator across multiple occasions. While there were 70 assessors conducting assessments, inter-rater reliability by

all assessors was not possible because Pact Tanzania deemed this to be too consuming and resource intensive. After assessor training, three steps were taken to collect the data needed to assess the tool's intra-rater reliability. First, the lead assessors were given two videos of facilitators leading one programme session (*N*=4). In order to minimise bias, the assessors had no prior relationship with the facilitators in the videos and were thus independent from them [62]. Second, each lead assessor was asked to watch each video of facilitator programme delivery and conduct an assessment. Third, each lead assessor was asked to watch the same videos a month or more later. This time frame was selected to reduce the likelihood that assessors remember their previous assessment. Further, prior to conducting their second assessments, assessors were instructed not to look at their first assessment.

Intra-rater reliability was examined by calculating percentage agreements and ICCs for each assessor and sub-scale [63, 64]. Percentage agreements were selected because they provide information on the ratio of instances wherein the assessors chose the same ratings on both assessments. Agreement levels above 70% will be considered acceptable [65]. ICCs were also selected because this statistic takes percentage agreement, chance agreement, and correlation of assessments into consideration [66, 67]. In other words, ICCs not only examine exact agreement, but also examine how close ratings are to each other. Higher ICCs result from ratings that are only one point apart (e.g., assessment 1: 2/3 and assessment 2: 3/3) whereas lower ICCs result from ratings that are two or three points apart (e.g., assessment 1: 0/3, assessment 2: 3/3) [67]. The analysis reveals that the two lead assessors achieved adequate but not strong intra-rater reliability. Trainer 1 had an overall percentage agreement of 83.3% with an ICC of 0.65 (95% CI: 0.50-0.76). Trainer 2 had an overall percentage agreement of 76.9% with an ICC of 0.40 (95% CI: 0-19-0.57). Although intra-rater reliability was not strong, the results are sufficient to conclude that the assessors are largely consistent in conducting their assessments of facilitators.

### 3.7.4 Inter-Rater Reliability

To examine the inter-rater reliability with which assessors rate facilitator delivery, the lead assessors (who were also the focus of the intra-rater reliability analysis) conducted a series of assessments at the same time as 22 randomly selected assessors who assessed 44 facilitators (11 assessors per lead assessor). A random sample of assessors was selected as, for financial and logistical reasons, it was not possible to conduct inter-rater reliability analyses with all 70 assessors. Random selection of assessors was stratified across geographic regions of programme delivery to ensure equal representation. Further, assessors and facilitators were selected randomly so as not to bias the results [62]. One of the lead assessors attended a live session of programme delivery along with an assessor wherein each assessed two facilitators at the same time. To reduce reporting bias, lead assessors and assessors were instructed not to discuss how they rated each facilitator. A similar method was used to assessed inter-rater reliability as was used for intra-rater reliability.

The analysis found that inter-rater reliability between the lead assessors and coaches was somewhat weak. Trainer 1 had an overall percentage agreement of 63.4% (*SD*: 13.1%) and an ICC of 0.46 (95% CI: 0.40-0.51). Trainer 2 had an overall percentage agreement of 69.3% (*SD*: 11.91%) and an ICC of 0.41 (95% CI: 0.35-0.46). However, when agreement was defined as being 1 point away, Trainer 1 achieved a percentage agreement of 99.9% and Trainer 2 had a percentage agreement of 100%. This reveals that the lead assessors and coaches rarely had extremely different assessments of facilitators (e.g., one assessed as 0 and the other assessed as 2). The inter-rater reliability findings suggest that although reliability is sufficient, further work should be done in future studies to enhance inter-rater reliability. Steps that could be taken include increasing assessor training time, conducting more practice assessments, refining item wording to enhance understanding, and ensuring meaning is consistent in Kiswahili.

## PLH-FAT-T Data Collected

As part of programme implementation, Pact Tanzania was responsible for coordinating the assessments of facilitators by 70 trained coaches using the PLH-FAT-T. Assessments of facilitators using the PLH-FAT-T started in September 2020 and continued through the end of March 2021. A total of 100 assessments were collected, representing approximately 22.5% of the facilitator sample. However, these 100 assessments were difficult to collect as Pact Tanzania, the LIPs, and the coaches experienced several challenges. First, there were several instances wherein Pact was not able to pay LIP staff due to delays in the release of funds from USAID. As a result, there was a significant period wherein coaches were not working and thus not conducting facilitator assessments. Second, due to the funding challenges, the plan was for most facilitator assessments to be collected in the final wave of programme delivery. Unfortunately, this wave of delivery was cut short due to funding running out. As a result, only 100 assessments were conducted, and the quality and completeness of these assessments is lacking in some respects. For instance, among the 100 assessments collected, 29 have some level of missing data (ranging from one missing item to many missing items) and 35 are missing facilitator IDs.

### 3.7.5 Facilitator Implementation Quality

We analysed the level of competent adherence with which facilitators delivered PLH-Teens using assessments with complete data. Analyses were completed both for individual facilitators as well as for the competent adherence with which facilitator pairs delivered the programme. The results are displayed in *Table 27*. The analysis revealed that facilitator competent adherence was assessed to be high, with individual facilitators achieving a mean of 80% overall and facilitator pairs achieving a mean of 79% overall. The analysis also suggests that facilitators were assessed to have better skills than adherence to programme activities. For instance, facilitator pairs achieved a mean of 80% on the Skills Subscale and a mean of 74% on the Activities Subscale.

**Table 27. Individual and Pair Facilitator Competent Adherence**

| PLH-FAT-T Results | Individual Percentages | | | Pair Percentages | | |
|---|---|---|---|---|---|---|
| | Overall (*N*=69) | Activities (*N*=77) | Skills (*N*=74) | Overall (*N*=58) | Activities (*N*=62) | Skills (*N*=58) |
| Mean | 80% (11%) | 74% (17%) | 82% (12%) | 79% (10%) | 74% (12%) | 80% (12%) |
| Median | 81% | 77% | 82% | 80% | 74% | 82% |
| Range | 50-99% | 14-100% | 43-100% | 52-97% | 50-100% | 47-96% |

The assessments collected also allowed for a determination of which facilitators were certified. Out of the 71 assessments with no missing data, 67 facilitators were certified due to receiving an assessment score of 60% or greater. Some amount of missing data was found in 29 assessments. As many assessments had missing data, the next step in our analyses will be to determine an appropriate method to handle the missingness (e.g., multiple imputation) and to re-run the analyses to include these assessments.

## 3.8 Cost Data Collection

Cost estimates were collected from facilitators, coaches, and LIP staff from all five regions where Furaha Teens was delivered. Staff completed forms which asked them to provide retrospective estimates of how much time and/or money a variety of tasks took them to complete. The forms were administered in Wave 2 of programme delivery. A total of 306 implementation staff submitted forms. A summary of the data collected is provided in *Table 28.* An analysis of the cost data is ongoing and will provide a breakdown of programme costs by district, LIP, facilitator type, family, and activity.

**Table 28. Cost Data Collected by Implementation Staff Type and Region**

| Category | Muleba DC | Shinyanga MC | Shinyanga DC | Kahama TC | Ushetu DC | Msalala DC | Totals |
|---|---|---|---|---|---|---|---|
| Facilitators | 56 | 40 | 77 | 28 | 40 | 30 | 271 |
| Coaches | 9 | 0 | 0 | 7 | 8 | 7 | 31 |
| LIPs | 2 | 0 | 0 | 0 | 1 | 1 | 4 |
| **Total** | **67** | **40** | **77** | **35** | **49** | **38** | **306** |

# 4. QUALITATIVE RESULTS

## 4.1 Primary Data Collection

The FAIR study resulted in the successful collection of a large amount of qualitative data. The data collected is summarised in *Table 29*. In sum, a total of 280 individuals participated in FGDs and 55 in-depth interviews. The qualitative data collection was conducted in two rounds – round one included both FGDs and individual interviews, and round two focused on individual interviews. The interview guides for round two were modified based on the findings and feedback from the first round.

**Figure 11. Furaha Teens families with their family guidebooks.**

**Table 29. Summary of Qualitative Data Collection**

| Participant Category | Focus Groups (28 FGDs, *N*=280) | Individual Interviews (*N*=67) |
|---|---|---|
| Coaches | 4 (N=40) | 20 |
| Facilitators | 8 (N=80) | 22 |
| Caregivers (Male) | 5 (N=50) | - |
| Caregivers (Female) | 5 (N=50) | - |
| Adolescents | 6 (N=60) | - |
| LIPs Coordinator and Managers) | - | 9 |
| School Principals | - | 7 |
| M & E Staff | - | 3 |
| CWBSA Staff | - | 3 |
| Pact Staff | - | 3 |

## 4.2 Programme Adaptations and Modifications

Using the qualitative data collected, we examined adaptations (planned changes of an evidence-informed intervention) and modifications (responsive changes of an evidence-informed intervention) made to the delivery of Furaha Teens. We also examined changes to the implementation strategies employed (e.g., staff training, technical support). Based on the initial findings from the first round of qualitative data collection, we developed a series of interview questions exploring changes to the programme in detail. The current analyses draw on interviews with programme facilitators (n=12), coaches (n=10), Pact staff (n=8), LIP coordinators, and managers, and CWBSA staff (n=3).

In documenting these adaptations and modifications, we conducted a comparison of the delivery of Furaha Teens in Tanzania to the original implementation plan in Tanzania; the original testing of the programme in South Africa within the RCT; and international PLH standard practices. Our analysis was guided by the FRAME and FRAME-IS frameworks [68, 69]. In this report, we share the results of our analyses of both pre-planned and responsive changes made to the programme, which were made to better fit the context of delivery; increase acceptability and effectiveness of the programme as perceived by the implementers; and meet the funding requirements, such as the delivery timelines. Below, we provide a few examples of the adaptations and modifications of the programme. We will discuss modifications and adaptations made to the intervention population; intervention content; personnel and training; and programme format and setting. Although our analyses of programme adaptations and modifications are ongoing, we have learned a great deal about how the programme and its implementation was modified in practice to suit the local context and practical realities.

### 4.2.1 Intervention Population

Since Furaha Teens was funded by the DREAMS initiative, only families with adolescent girls participated in the intervention. The programme was also delivered in combination with the Kizazi Kipya service package, which included a series of supports and interventions such as school uniforms, subsidies, and HIV counselling. As a result of being situated within a larger service context, families were recruited for the entire package of DREAMS and Kizazi Kipya services rather than just Furaha Teens. This provided different participant incentive streams than have typically been provided in previous implementations of PLH-Teens. However, some supports provided to enhance beneficiary participation, such as transportation to and from programme sessions, provided in the PLH-Teens trial in South Africa were not provided for Furaha Teens. These adaptations and modifications to the package of services and incentives received may have had an impact on the types of families who participated in the intervention. An additional adaptation to intervention population was that sometimes multiple caregivers attended the session despite only one registering, which was welcomed by the implementers.

### 4.2.2 Intervention Content

A series of planned and unplanned changes were made to programme content. In collaboration with programme developers, a series of pre-planned changes were made to the intervention manual. These changes included the: addition of HIV-specific content; translation of programme materials into Swahili; modification of character names to local names; and incorporation of local songs.

In addition to pre-planned changes, some minor changes were made by facilitators and coaches in response to the populations they worked with during programme implementation. For instance, facilitators translated their delivery of the programme from Swahili into the local languages spoken by participating families and swapped songs outlined in the manual to local songs. Interestingly, staff noted participating families often supported facilitators in translations to local languages. In addition, some unplanned adaptations were made due to practical

issues on the ground. To illustrate, sometimes there were shortages of handouts and other materials (e.g., flipcharts). This shortage of supplies meant that participants or facilitators were required to adjust, such as by asking participants to share handouts. Despite some unplanned changes, implementation staff overall indicated the importance of following the manual with fidelity, as is illustrated in the following quotes:

> *"I was not supposed to change anything in the teaching guide because this guide is teaching me how to conduct the class." (Facilitator)*

> *"I think the guideline contains everything." (Facilitator)*

### 4.2.3 Personnel and Training

When compared to the original testing of PLH-Teens in South Africa, a series of modifications were made. A major difference from the delivery of PLH-Teens in other countries was the use of teachers as programme facilitators. The delivery of Furaha Teens also employed a different system of coordination and support as facilitator supervision was done by newly trained coaches rather than expert staff from CWBSA.

### 4.2.4 Format and Setting

Alterations were also made to the format and setting of programme delivery. Regarding programme format, changes were made to the number and frequency of programme sessions. To meet the delivery timelines set out by programme funders, many delivery staff reported combining multiple sessions into one. Staff noted that this was most often done for sessions seven and eight due to similar content in these two sessions. Further, in numerous occasions, sessions were held twice a week with the same group and at flexible delivery times (e.g., on weekends) to accommodate family schedules.

The nature of the COVID-19 pandemic also necessitated a series of changes to the programme format and setting as programme delivery paused for several months due to lockdowns. The ramifications of this on programme delivery required re-engaging families, contacting families via phone to reorganize programme delivering, conducting refresher sessions, modifying seating arrangements to allow for physical distancing, and setting up stations to allow for handwashing.

## 4.3 Implementer Experiences of Programme Delivery and Scale-Up

To examine implementer perspectives and experiences on delivering the programme at scale, we analysed the transcripts of 67 semi-structured in-depth interviews and 12 FGDs conducted with facilitators, coaches, Pact staff, and LIP staff. Thematic analyses revealed three themes: 1) motivation for programme implementation; 2) factors promoting scale-up; and 3) barriers to scale-up.

### 4.3.1 Factors that Motivated Implementation

A key theme that emerged in the data was implementer perspectives on their motivations to engage with and deliver Furaha Teens at scale. Facilitators and coaches reported that they were motivated to support the implementation of Furaha Teens because delivering the programme enhanced their social standing in and garnered respect from their community, provided them with financial benefits, offered opportunities for skill development, and had a positive impact on their own parenting.

As it relates to their standing in the community, facilitators described the prestige that was associated with being an educator in their communities and the respect they earned for teaching the parenting programme:

> *I mean this project has brought us respect… We are valued in the community. Every day when we pass by in the village people celebrate us. [IDI, Facilitator]*

Facilitators were motivated to support programme delivery as it allowed them to develop and refine a variety of skills. Findings also suggest that prior experience delivering community programmes to prevent violence and reduce gender inequality was an important influence in facilitator registration to participate in delivering the programme. One school principal involved in the selection of facilitators for the delivery of Furaha Teens described the selected facilitators as enthusiastic and experienced with gender issues.

> *When I informed them concerning participation in the training for this program, they were very happy…I mean the response was very good because these teachers are guardians here at school, they had also participated in gender violence programmes. [IDI, school principal]*

Facilitators mentioned that the training they received increased their programme delivery skills and knowledge on the prevention of VAC and that the resulting certification process enhanced their chances of future employment in development projects.

> *When they were selected, they were happy because they knew very well that they were going to increase their skills on how to serve these female children. [IDI, school principal]*

The implementers also described the positive impact of Furaha Teens on their own lives and how that had motivated them to continue delivering the programme. Implementers reported that the programme had enhanced their own parenting skills, particularly in family conflict management, problem solving, and positive parent-child interaction. For instance, one facilitator said:

> *I liked the programme because it changed me personally. There are some things I have changed… Naturally, I am a short-tempered person, so there is that lesson I liked on what you are supposed to do when angry. [FGD, facilitators]*

Most implementers also mentioned that the programme helped them manage their own parenting stress:

> *The Furaha sessions can help reduce emotional disturbance… Also, something that I have really liked is the session on congratulating each other, because when you praise a child or a parent, they are motivated to do what you tell them. That creates a good relationship and eventually the family functions well. So, that also motivates me to continue. [FGD, Coaches]*

**Figure 12. Furaha Teens facilitator training**

### 4.3.2 Factors that Enhanced Scale-up

Implementers described factors that promoted successful scale-up as: the perception of Furaha as very valuable to families and children in Tanzania; planning and working closely with communities and beneficiaries; delivering the programme through role plays; delivery of the programme by skilled implementers; government support of the programme; and support from experienced trainers CWBSA.

Implementers reported that meeting and planning with beneficiaries was crucial for the successful implementation of the programme. This enhanced trust and community buy-in from participating families and other community members. An implementer described the widespread acceptability of Furaha Teens in the following:

> *The interest in the programme is beyond the project beneficiaries. We have seen other community members being motivated and interested and even attending the sessions. [IDI with Pact staff]*

Implementers also reported that Furaha Teens was well aligned with the policies of the government of Tanzania regarding ending VAC and delivering support within the existing government structures (e.g., schools). The alignment of Furaha Teens with the broader goals of VAC policy and practice in Tanzania promoted facilitator and coach confidence in the programme, as is illustrated in the following:

> *Since the government had an existing national parenting and education for family manual, we had to explain what was new in the Furaha Teens programme and after explaining the government was positive and they cooperated with us. Further, we were permitted to use facilitators who were teachers, government employees to supporting the delivery of the intervention., so for me I would say that is a good thing that I feel or see about the process of adapting the curriculum and the way it was delivered. [IDI Pact staff].*

Furaha Teens was widely accepted and perceived as empowering to parents/caregivers and communities. The LIPs reflected on the role of Furaha Teens and described how its relevance to families and children had promoted their interest in scaling up the programme. Pact also reported that beneficiaries were on the forefront of promoting the programme to others who

had to been part of the programme, hence scaling up the aspects of the programme in their communities. Pact Tanzania reported:

> *First, I am happy to be part of the process of the scale up in Tanzania because this was the first time, Pact through Clowns Without Borders brought together children and parents in a single roof. Given our Tanzanian culture sometimes it is not easy to teach parents in the same space with children…But with [Furaha Teens] it has been different. It has been proven that this can be done. The contribution of this programme has been felt in families and communities, in terms of building that relationship, strengthening their communication skills, but the biggest part is supporting parents into understanding the emotions of their children. It is a very good intervention, a very good achievement. I happened to be in some few sessions and in the communities and I personally saw other caregivers and children who were not part of the project, but they were sensitised by beneficiaries who came out of the session. Beneficiaries gave positive testimonies to others in their communities. [IDI Pact staff]*

Facilitators and coaches reported that the programme's mode of delivery was important to successful implementation and uptake. For instance, staff noted that the role plays were very engaging for participants and motivated them to remain in the programme. Staff described how the open and inclusive seating arrangement specified in the programme manual and implemented during group sessions encouraged equal participation and made participants feel comfortable to engage with programme implementers. Coaches compared their experience delivering Furaha Teens to that of other programmes:

> *That Furaha programme is a bit different from other programs. First, when in our circular houses [seating in circle] it doesn't matter if you are an instructor or a listener, we all share ideas and solve our problems together. Second, the seating pattern is circular, which is different from other programs where you get, they have sat here and other side which you can well identify a person who is teaching from the leaners … but this programme is different as it makes parents free to express themselves because it has created friendship among us and parents. [FGD, Coaches]*

Facilitators and coaches reported that they found the training from professional CWBSA trainers useful. They mentioned that CWBSA trainers emphasised values such as respect during the delivery of sessions. This was manifested in the way they treated facilitators and coaches during the training sessions. A coach participating in FGD reported:

> *Something else that encouraged me were those trainers from South Africa [CWBSA]. They ensured that there was no discrimination... they did not discriminate that this one is from a certain level…No, we were all equal. During the training, everyone was treated equally, and we all laughed and enjoyed together. [FGD, Coaches]*

Implementation of the programme through schools was also perceived to enhance scale-up. Based on facilitator experiences of beneficiary recruitment, delivery of the programme was adapted from its originally planned community setting to school-based delivery. Schools were considered more suitable to scale-up as these environments provided easy access to an environment familiar to children and families. Schools were also perceived as more convenient to facilitators as many of them were teachers.

> *I remember we made changes to deliver Furaha at school instead of the community because it was much easier to reach children in schools. [FGD, Coaches]*

### 4.3.3 Implementers reflections on barriers to scale up.

Implementers shared several challenges regarding the delivery of Furaha Teens at scale. These included the length of the programme; understaffing to reach target numbers of beneficiaries; conflicting demands on staff time; initial doubt among beneficiaries about the

value of the programme; COVID-19 related disruptions; and logistical challenges that affected how both implementers and parents/caregivers engaged with the programme. Despite these obstacles, implementers also indicated how they managed to remain flexible to scheduling changes and adapted the programme to ensure successful completion.

Most implementers reported that the length of the Furaha Teens programme (i.e., 14 weekly sessions) limited consistent attendance and constrained facilitator ability to reach their targeted numbers of beneficiaries within the timeframes dictated by funding agreements. The lack of sufficient numbers of facilitators and coaches further complicated their ability to deliver the programme at sufficient scale within target timeframes. This combination of contextual factors resulted in implementers having to rush through programme delivery to complete the curriculum.

> *As I have said earlier, the major challenge facing this programme is the timeline. This is a very long programme; it takes three months to complete the intervention…. So, if there is the possibility of having a shorter timeline, it would be great. If the programme would combine some sessions, that would be great as it will allow us to cover a larger number of beneficiaries and start another cohort of another group of beneficiaries. So, if the timeline is shorter then we can have the assurance of reaching more people and completing the sessions. [IDI, Facilitators]*

Furaha Teens trainers came from CWBSA in South Africa, and thus limited the number of facilitators and coaches they could train each time. Pact staff felt that the scale-up of Furaha Teens in Tanzania was hampered by the limited number of experienced local trainers to train facilitators and coaches to implement the programme to the required standard.

> *I know using trainers as the only people to train facilitators is a bit of challenge because we have very few trainers in Tanzania. So, if you have larger targets of facilitators that need training that means you need to have a lot of weeks to complete the huge target.… I think using the trainers from CWBSA is just how the program was designed. I don't know if they can allow the supervisors to be trainers as they have now mastered the programme… I don't know if it is possible to do that. [ IDI Pact staff]*

In as much as programme delivery was intended to be delivered by volunteers receiving a stipend, most facilitators and coaches expected more compensation for their time as well as renumeration for transportation costs. Most staff reported finding it difficult to implement the programme consistently without receiving sufficient financial compensation. For instance, staff sometimes had to spend significant time and resources to travel from their homes to the venues where the sessions were held as well as to conduct home visits for parents/caregivers who had missed sessions. Facilitators struggled to conduct these follow-up sessions as stipulated in the delivery of the parenting programme given the lack of organisational support and the need to use their own limited resources. In addition, facilitators and coaches also reported that the payment given to them in the form of allowances were irregular which made it challenging for them to travel to sessions.

> *You think you are within the ward but when you look at the distance you get you can even spend ten thousand [$5]. Also, there are some places even a motorbike cannot reach. So, walking there and then teaching that lesson and completing it then coming back, was a big challenge for sure… You also spend lots of time on movements catching up with parents and that disrupts all your other activities [FGD, Facilitators]*

Facilitators who were teachers in the local primary schools reported that there were frequent scheduling conflicts between Furaha Teens, DREAMS project, and school activities. Facilitators shared that when scheduling conflicts arose, they prioritised school activities over

Furaha Teens. Recounting how involvement in DREAMS programme activities made it difficult for staff to balance conflicting responsibilities, one coach reported:

> *To be honest, these are lots of responsibilities. You do all of them and the salary is still the same...there is nothing like being given more because of what you are doing…. Even though we train well, the main issue is that we have lots of responsibilities…. You find that the staff who are involved in Furaha project also have lots of responsibilities in DREAMS project. [FGD, coaches].*

Relatedly, school timetables were sometimes unpredictable, which hindered the planning of Furaha Teens sessions. Community facilitators reported how they were forced to postpone sessions to allow children to write exams. School timetables presented a challenge as this was not considered in the initial programme planning stages. For instance, a community volunteer facilitator mentioned:

> *Some of the sessions were scheduled during exam period…. Now you find that the exam classes have revisions in the evenings [programme time] …so due to that they miss the sessions. [FGD, Facilitators]*

There was also a general expectation that whenever community members were invited to participate in any community programme, they could be paid for attending. This presented a challenge for facilitators to keep parents and caregivers motivated to attend sessions without monetary benefits.

> *The community expected to be paid allowances or given incentives whenever they were invited to attend a session, or a meeting related to the study…We were providing them just education but that was not enough…some of the participants expected to receive gifts but found that it was just education. [FGD, Facilitators]*

Pact staff also emphasised their preference for local implementers versus teachers or those that are hired by the programme from outside the communities:

> *It is better to have facilitators from the same community where these sessions are being delivered to avoid all these inconveniences and costs of transporting them from one point to another. Carrying facilitators from one area to the other is time consuming. That is why sometimes they rush through sessions because they arrive very late. For example, the teachers by the time they arrive from school it is already late…So, I would say it is better to tailor the training course to facilitators from the community where these interventions will take place rather than using facilitators that are available, but they are coming from outside the communities. [IDI, Pact staff]*

In some cases, language was a barrier for programme facilitators, especially when teachers delivered the programme instead of community volunteers. While community volunteers often spoke the local languages of participating families, this was not the case for many teachers in the study who predominantly only spoke Swahili. Although many parents/caregivers were able to speak Swahili, older caregivers struggled to express themselves and preferred to speak their local language which was sometimes unfamiliar to the facilitators:

> *We were trained to teach in Kiswahili, but Kiswahili is a challenge for many caregivers in this setting. You also find that some caregivers like the grandparents are old… After you start teaching and realize this problem you switch to the local language so that they can understand you. [FGD, Facilitators]*

To overcome this language barrier, facilitators sometimes used literate parents/caregivers to help deliver the programme through translation:

*The books are in Kiswahili but in the remote parts people don't know Swahili and yet you are asking the person to read and act out a role play that has been written in Kiswahili. Now it becomes difficult for the instructor [facilitator] to implement that program. You find the instructor picks those people who know how to read to do it. [FGD, coaches]*

The COVID-19 pandemic resulted in disruption of in-person programme delivery. Although Tanzania did not experience a national lockdown for an extended period, coaches reported that the implementing organisations were instructed by the Pact to stop delivering sessions due to the fears of infections spreading.

*When Corona occurred suddenly, it affected Furaha program sessions. These sessions are a continuation…the first and second lesson are almost the same and we had already taught like six sessions, so we stopped from there and the schools were shut, and people told to avoid gatherings… [FGD, Coaches]*

Facilitators were also forced to delivery multiple sessions during a week when in-person delivery resumed to meet key performance indicators and targets.

*After CORONA came to an end, we resumed and started hurrying through to meet deadlines…we worked but it wasn't very effective because we merged some of the sessions so that we can meet those deadlines that had been set. FGD, Coaches]*

## 4.4 Participant Experiences of Programme Delivery and Scale-Up

To examine participant perspectives and experiences of Furaha Teens, we analysed 12 FGDs with parents. The FGDs explored beneficiary views of Furaha Teens and the appropriateness of the programme to their cultural context. In this section, we discuss our findings on the acceptability and appropriateness of Furaha Teens based on caregiver and adolescent views. The findings are presented by discussing three overarching themes: 1) programme acceptability; 2) cultural appropriateness; and 3) contextual factors and challenges related to programme delivery.

**Figure 13. Participants in small group discussions**

### 4.4.1 Programme Acceptability

There was widespread acceptability of Furaha Teens among individual families as well as the broader community. Both male and female caregivers described the programme as beneficial and worth attending. A female caregiver expressed her interest in the programme in the following statement:

*I am very happy I have been given knowledge together with my children during Furaha group. [FGD, Female caregiver]*

Parents/caregivers enrolled in the parenting programme reported sharing information from Furaha with other parents in their communities. Participants indicated that they championed the programme to others and encouraged those who did not take their children to school or with truant children to attend school to benefit from such programmes. Widespread acceptability of the programme was also reflected in the willingness of parents/caregivers to

encourage non-beneficiaries to join and benefit from the intervention, as is illustrated in the following quote:

> *If I meet with a parent or guardian who has not joined the programme and they have not sent their children to school, I advise them to take their children to school because it's a place where they learn many things and that's where many programs like this are accessed. This are not accessible to children not in school. [FGD, Female Caregiver]*

The acceptability of Furaha Teens programme was also evident in participant comments regarding the numerous tangible benefits that children and families received from the programme. Parents/caregivers talked about receiving relief from economic strain as the larger package of Kizazi Kipya services provided their children with school uniforms and other school needs.

> *I feel happy about this programme …I like the way my child received help through Furaha program…. she didn't have school shoes, uniform and a bag [FGD, Female caregiver]*

Parents/caregivers also demonstrated their views on the acceptability of the programme by talking about the positive impact that it had on family outcomes. For instance, many of them indicated that they are now aware that children emulate and learn from their caregivers, and this could impact their futures.

> *If I will find a family with misunderstandings and quarrel, or a family of alcoholics and children are affected, I will tell the parents that in this era of globalisation children are watching you and will copy your misbehaviours. [FGD, Female Caregiver]*

In addition to family outcomes, parents expressed their acceptability of the programme in their comments indicating they wish the programme to continue in future and be implemented with other families.

> *And also, to end family problems everywhere I just ask for this education to be further enhanced, to be more numerous to reduce the impact of family problems. [FGD, Male caregiver]*

Fathers reported that through the parenting programme, they became role models in their communities (*Kioo cha jamii)* due to being perceived as advocates for children as well as advisors for families that are struggling with parenting.

> *Like what I said before we have become the image of the society [FGD, Male caregiver]*

Further illustrating how caregivers who received the programme have become agents of change, fathers reported:

> *Sometimes you get a neighbour punishing her child. But now since you have stopped punishing yours and become a defender/advocate of children [mtetezi wa Watoto], whenever children from the next home are beaten, they run towards you …You sit with their parent, and you start educating him by telling him that "it's not right to punish a child…So we have to become the mirror of the society because of the Furaha sessions. [FGD, Male caregiver]*

### 4.4.2 Cultural Appropriateness of Furaha Teens

Furaha Teens was perceived as in line with cultural ways of parenting in Tanzania and was viewed as culturally appropriate for a variety of reasons. For one, caregivers shared that the group-based programme helped remind each other of key aspects covered and to correct each other's children.

*Those sessions where about how children are raised or should be raised. In that seminar, we learnt that it is not only about our children but also those of our neighbours…Those sessions have changed how we interact with our neighbours' children… That I should protect them and correct them when they are wrong [FGD, Male Caregiver]*

The views on the appropriateness of certain programme topics were connected to views on gender and caregiving. At the beginning of the programme, many fathers and male caregivers reported that they thought parenting was for women. However, the comments provided by male caregivers indicated that some of these views changed as they were exposed to the parenting sessions. As a result of the programme, they appeared increasingly aware of their potential role and changing their views with respect to be involved with their family. Further, fathers and male caregivers reported that women were happy to see men in the sessions.

*When you come to this seminar, attending a seminar like us fathers, it is difficult to come to those seminars…Everyone is busy with work instead of coming to the seminars. Before coming, I was telling myself that these seminars are for women, but when I got here, I found four to five men. Women were very many….When the women saw us, they were very happy, that "Aaaah the fathers were joining in too"… Now that encouraged me and I said that there is nothing wrong with men coming to the parenting seminars [FGD, Male Caregiver]*

Although parents ultimately appreciated the mixed and group formats, this was a source of hesitation at the start of the programme. Initially, parents found mixed groups inappropriate as they thought this format would cause too much familiarity among parents and teens and would thereby be disrespectful to parents. However, as programme delivery continued in mixed groups, families came to appreciate the value of this mode of delivery.

*Eeh because sitting together with a child as if am a student, now we were asking ourselves what these people were trying to do to us. During the first time those exercises were very difficult to speak the truth because we were afraid, but they continued telling us to continue doing the exercise, being cheerful, so we now saw it was normal and we have become like our children, mm … that is the reason we are very happy with this program as it has enlightened us. [FGD, Female caregiver]*

The delivery of the programme through mixed groups enhanced parent/caregiver attendance and engagement. Parents reported that bringing adolescents and caregivers together encouraged engagement in the programme as adolescents and caregivers challenged each other to participate like other parents/caregivers in their community. A mother gave an example of being pressured to enrol and attend the session by her child in the following:

*But a child was now forcing me to continue, she used to remind me when it was a lesson day…But I feared that they would ask for money [pay for the session] and I did not have it … I decided to just participate, in case there will be money we shall sort it out along the way. [FGD, Female caregiver]*

In addition, having adolescents and caregivers together facilitated parent-child communication and encouraged learning together beyond the sessions. Participants also had a lot to say about the role play component of the programme. Parents reported that they liked the role plays, indicating that this activity taught them valuable lessons as well as enabled them to practice important parenting skills, such as listening to their children, enhancing parent-child communication, and paying attention to their children. Parents/caregivers talked about practicing the skills taught at home, which they found useful. Both male and female caregivers expressed these views.

*I was happy to stay together with my child because when we came back home, she always remembered the exercises we had done, and she started singing the songs while I had forgotten them… Also, when we had come back to our home my child explained what he had learned to his young brother and sister, sings for them and they became happy. He tells them to study hard so that they can join the program [FGD, Female caregiver]*

In addition to their value, caregivers shared that the role plays were fun. Many caregivers indicated that they had never played or laughed with their children, and the role plays offered this opportunity for positive parent child interaction.

*As participant number five, those exercise we were given to do at our homes brought happiness, because children got to play with their mothers, some of my young children were laughing saying that I have skipped on that day, I have done this so with that it has brought happiness in our homes [FGD, Female caregiver]*

Although both positive and negative role plays passed on some learnings to parents/caregivers, the positive roles plays were considered culturally relevant and liked most.

*There was a negative role play on the needs of a child from a parent and getting her attention …the mother is on the phone and just says aaaah[agrees] and does not want the child to disturb her… I mean the mother just remains focused on her phone, when the child is talking to her. A child pleads with the mother to pay attention, but the mother pays no attention. She continues to chat with her phone. [FGD, Female caregiver]*

### 4.4.3 Challenges to Participant Acceptability

Several challenges and contextual factors limited the acceptability and cultural appropriateness of Furaha Teens. In as much as the programme was widely accepted, a few caregivers reported that they sometimes found it difficult to attend the parenting programme due to community mistrust and discouragement from early adopters of the programme. At the start of the programme, there was some fear and concerns regarding the safety of the programme. Some participants reported that there was fear that parents who had enrolled their children had sold them to the free mason cult [satanism]. They reported they had been warned and discouraged by other community members, but most ignored this advice and continued to enrol in the programme due to the value they saw in participating.

*As participant number two, said, the first challenge, after being told to register children, when people came and told us that we were going to sacrifice our children to freemason and will never see them again as they were going to disappear one after the other…I was really afraid. But later I realised the organisation had the intention of helping my child. Now, I am grateful to God as I have been empowered. [FGD, Female caregiver]*

However, the use of community-born facilitators enhanced trust about the programme among families. While some community members doubted Furaha facilitators, others believed that they were good people as they were known by their community.

*Fortunately, I knew everyone who was teaching us in the lessons, they were born here, they were people from here, so we had been given a program that serves even old people … [FGD, Female caregiver]*

On top of rumours regarding the involvement of free masons, some parents talked about being told by community members that Furaha Teens was a waste of time and that their time would be better spent on more productive activities, such as farming. One mother discussed her experience in the following:

*As you continue learning you meet with a person who discourages you by saying that we don't have time to work as we spend time roaming about [at the sessions] instead of weeding the farms. I encountered such challenges. I If I would have listened to them, I could not have learnt all this. [FGD, Female caregiver]*

In addition to hearing negative views from community members on Furaha Teens, other factors limited participant enrolment in the programme. Many of these factors were linked to the acceptability and appropriateness of the intervention to the Tanzanian context. The expectation of monetary benefits was an important factor in the decision to participate in the programme. Parents/caregivers reported that when they first joined the programme, people within their networks indicated that they should not participate without payment. Despite this, many decided to participate as they saw the benefits of the programme.

*Yes, those who were not participating I mean a person just sees you and asks where you are going … You start explaining to the person that you have being called because of this and that. They ask if there was money and if they will be given money. That makes you ask yourself if it is worth going or not. [FGD, Female caregiver]*

Once enrolled in the programme, there were several topics discussed in programme sessions that discouraged attendance and engagement. For instance, some topics were considered shameful, which speaks to the cultural acceptability and appropriateness of some subjects within the communities reached. Since Furaha Teens involved conversations on the sexual and reproductive health of adolescents, caregivers reported feeling uncomfortable when these topics were covered in mixed group sessions with their teens. Parents indicated they were particularly uncomfortable discussing HIV risk and prevention.

*I don't know if it's a misunderstanding about sex…That a child should be taught how to wear a condom is something that did not, please us parents. …Mmh (yes) it didn't make us happy…."How do you teach her to wear a condom when she is just a child , I mean she is my child. I did not take that teaching well. [FGD, Male caregiver]*

## 4.5 Observations on M&E at Scale

As a result of our experience conducting and analysing mixed methods data from the implementation of Furaha Teens in Tanzania, the team has collected a series of observations on factors that promoted and hindered M&E of a parenting programme at scale. Since we worked with data collected as part of routine service delivery, we were able to reflect on the M&E system used to deliver Furaha Teens in practice (as opposed to in the context of a highly controlled study). Monitoring and evaluation staff were able to successfully capture a huge amount of data. Further, their focus on beneficiary outcomes rather than solely on the number of beneficiaries reached was a real strength of the M&E process. Knowledge of the Furaha M&E system, combined with experience analysing the data produced from this system, allowed us to reflect as a team on considerations for using M&E data in future research and practice.

### 4.5.1 Furaha Teens M&E Process

Based on our analysis of the quantitative and qualitative data, we have summarised the M&E process used for Furaha Teens to be as follows:

1. Participants enrolled in the programme and agreed to contribute their data.
2. Facilitators collected pre-tests from families during the first programme session, attendance data from families during each programme session, and post-tests from families after the last programme session.

3. Data from the paper forms were entered into CommCare by Pact's data clerks based at LIPs.
4. Pact's M&E staff conducted spot checks of the data entered.
5. Pact's country office staff completed data analyses and reporting.
6. Pact staff shared anonymised secondary data with FAIR researchers.

### 4.5.2 Lessons Learned from Utilising M&E Data

Based on our use of the quantitative data collected via a routine M&E system as well as speaking to staff members via our qualitative data collection, we have reflected as a team on how the M&E process could be enhanced in future. First, large amounts of data were collected via paper forms and then manually captured in the digital storage system. Data collection via paper forms is commonly used within this context due to limited access to technology in the field. However, this process is prone to errors in the form of misplacing forms and entering the data incorrectly. As so much data was collected, it was not feasible to conduct case-by-case checks to ensure data accuracy. As a result, future M&E systems would benefit from securing sufficient funding to purchase devices (such as tablets), training staff to use the technology, and then having participants provide their data digitally. If this is not feasible, collecting data from a small sample of randomly selected participants may be more feasible and less error prone.

The team also identified numerous errors in the data regarding participant IDs. For instance, there were a substantial number of cases wherein a given participant had more than two observations (i.e., each participant should have one pre-test and one post-test). There were also a substantial number of instances in which it was not possible to link the data provided by caregiver and adolescents from the same family. As a result, it appears as if the M&E system may benefit from a more efficient process for allotting participants to an ID number.

There were numerous instances wherein participants provided information that did not line up with expectations regarding programme delivery. For instance, thousands of participants provided the same answer to each question in the pre- and post-tests. To illustrate, 1,752 adolescents provided "0" to every question on the post-test. Future M&E efforts would benefit from gaining clarity on the reasons participants selected the same answer for each question (e.g., participants did not want to answer questions, or they may not have understood the questions.

The team also found that there was a large amount of missing data wherein responses to every item were not provided. It would be worth exploring reasons for this in future M&E practices. In addressing these challenges, research and practice from other fields might prove useful. For instance, other fields may have best practices regarding how to collect data from multiple people per family, randomly selecting sub-samples of participants, and instituting feedback loops to flag when data errors are arising in real time to address them.

Overall, using routinely collected data, such as M&E data, requires "translating" the data into the categories used in research. For instance, M&E efforts have focused on families who completed at least one questionnaire and attended at least some of the programme sessions. However, for research purposes, we have considered the overall flow of families through the project to understand the process for creation of the sample included in the M&E data.

**Figure 14. Pact Tanzania and local implementing partners M&E teams with participant questionnaires**

# 5. DISCUSSION, SUMMARY, AND CONCLUSION

The Furaha Adolescent Implementation Research study is the first effort of its kind to examine the large-scale implementation of a parenting programme aiming to reduce VAC in East Africa. The study's results are important for the Parenting for Lifelong Health suite and broader parenting programme literature. The results provide key insights into the impact, acceptability, appropriateness, feasibility, costs, and optimisation of large-scale parenting programme delivery in both school and community settings.

## 5.1 Impact of Furaha Teens

Findings suggest that the programme was impactful in improving several family outcomes, including our primary outcome, overall maltreatment, which was reduced by 45%. In addition, caregivers and adolescents reported reduced physical abuse by 49% and reduced emotional abuse by 45%. Encouragingly, intimate partner violence (IPV) reported by both men and women was also reduced with 19% reductions in victimisation and 14% reductions in perpetration. Adolescent girls also reported 16% reductions in school violence victimisation and 18% reductions in child depression at post-test. Additional secondary outcomes included 14% reductions in child behaviour problems, 43% reductions in caregiver parenting and 14% reductions in caregiver depression, and 32% reductions in family financial insecurity. Parents and adolescents also reported 86% increases in the frequency of sexual health communication. However, parents and adolescent girls also reported reduced positive parental involvement by 18-29% and parent support of education by 15-19%. While qualitative results suggest improvements in parent-child relationships and engagement in school, these negative findings are worth further exploration in future analyses. Nonetheless, the results suggest that Furaha Teens may have had a positive impact on families. These findings are bolstered by the insights into the value of the programme provided by participants who participated in our qualitative research. By and large, participants shared that participation in Furaha Teens was beneficial for adolescents and caregivers, as well as their broader communities. The moderation analyses also provide additional information on what factors may support some families from benefiting more from the programme.

Although causal conclusions cannot be drawn due to the observational nature of our pre-post analyses, these findings suggest that the programme may have had a positive impact on families. The quantitative findings on the impact of Furaha Teens are bolstered by the insights into the value of the programme provided by participants who engaged in our qualitative data collection. By and large, participants shared that the programme was beneficial for adolescents and caregivers, as well as their broader communities. The moderation analyses also provide additional information on what factors may support some families from benefiting more from the programme.

## 5.2 Quality of Furaha Teens Implementation

Our analyses suggest that the programme was delivered to a high level of quality. The average participant attended 91% of the sessions and the average facilitator delivered 80% of expected programme activities and skills. The moderation analyses also reveal some ways in which participant attendance may be altered by participant baseline characteristics and outcomes. Further, our psychometric evaluation of the PLH-FAT-T, the tool used to assess facilitator quality of delivery, demonstrated that the measure has promising initial psychometric properties. Despite finding a high level of delivery, facilitators and coaches who participated in the qualitative interviews and FGDs provided key insights into the difficulty of conducting assessments of facilitator delivery. Although programme staff indicated that they saw benefits in conducting assessments, barriers including delays in receiving payments and having to travel to attend programme sessions in-person made it challenging for coaches in practice.

## 5.3 Acceptability and Appropriateness of Furaha Teens

The results of our qualitative analyses suggest that the programme was widely accepted and culturally appropriate for the Tanzanian context. Further, many families expressed their wish that the programme was also available for boys and that it would continue to be implemented in future. Parents also expressed that they enjoyed the mode of programme delivery, including the group-based format and the role-play activities. Despite the programme being largely acceptable and culturally appropriate, several topics and barriers to attendance were identified which could be given further thought in future implementation.

## 5.4 Feasibility and Scalability of Furaha Teens

The mixed methods findings of this study suggest that it was feasible to successfully deliver Furaha Teens on a very large scale in Tanzania through public schools and communities settings using local facilitators and coaches. As indicated in the high attendance rates and the positive results, the programme appeared to be effective in both school- and community-settings. Despite successful scale up, facilitators and coaches experienced a few logistical challenges such as expectations of payment and travelling long distances to catch up with participants who had missed some sessions. Given the high motivation of the facilitators and the widespread acceptability by the communities, facilitators managed to creatively work around the challenges to successfully deliver the programme in all areas.

## 5.5 Study Impact

The delivery of PLH-Teens in Tanzania to 38,802 adolescent girls and their parents/caregivers (a total of 75,061 beneficiaries) was an unprecedented opportunity to study the implementation and impact of a parenting programme aiming to reduce VAC at scale in a LMIC. Although PLH-Teens has been delivered in 16 LMICs to over 300,000 beneficiaries, the recent delivery of PLH-Teens in Tanzania was the largest implementation of the programme to date. This study seized the opportunity to learn from the delivery of the programme on such a large scale. To do this, it used innovative mixed-methods implementation science methods to examine the impact of PLH-Teens at scale and the key elements of programme implementation identified by Proctor [22] - the acceptability, appropriateness, feasibility, benefits, and challenges of the intervention to families and implementation staff; the extent to which the programme was adopted, implemented, and disseminated as intended; how implementation was associated with outcomes (*still in progress*); the extent to which the program was embedded within existing systems and services; and how much it costs to deliver the programme on a large-scale (*still in progress*).

## 5.6 Limitations

This study had several limitations that warrant discussion. First, the delivery of PLH-Teens was delayed for a number of months due to the COVID-19 pandemic. In response, the study approach and timeline required flexibility. The delays and challenges associated with the pandemic meant that the team was able to collect less data than originally planned (e.g., facilitator assessments). Second, this study relied on secondary data collected by study partners. As collecting comprehensive assessments of family-level outcomes from approximately 72,000 beneficiaries is challenging, there were some issues with data quality. As a result, the data was treated using FUPS (flawed, uncertain, proximate, and sparse) advice [61]. Third, our analyses rely on self-reports from PLH-Teens beneficiaries and programme staff, which could be susceptible to factors such as social desirability bias.

## 5.7 Strengths

Despite these limitations, the study had several strengths. First, this study was a successful collaboration between implementers and researchers from Tanzania, South Africa, and the

United Kingdom, which demonstrated that non-profit and academic partnerships can be incredibly fruitful. For instance, in working together, the team found a necessary balance between practicality and research rigor. Second, the study collected a substantial amount of data from adolescents via self-reported surveys as well as through focus group discussions. The inclusion of the adolescent perspective in our evaluation of PLH-Teens is a key strength of the study. Third, approximately 25% of the parents/caregivers reached in the delivery of PLH-Teens were fathers, representing a high level of engagement from male caregivers not often seen in other implementations of parenting interventions. Thus, the FAIR study offers key insight into the views, experiences, and outcomes of male caregivers and their families. Fourth, in collecting a substantial amount of data, this study used mixed methods to triangulate findings and to thereby provide a holistic view of the delivery and outcomes of PLH-Teens in Tanzania. Fifth, and finally, the team's disseminations efforts in both research and practice have been successful. The results of the study have been presented to both academic and policy audiences as is illustrated in our research uptake strategy.

## 5.8 Recommendations

Due to the positive impact and effective implementation of Furaha Teens, we recommend that PLH continue to be implemented on a large scale in Tanzania. As we found that families who experienced more adversities tended to do less well, additional supports could be provided to improve adolescent and caregiver outcomes among those most vulnerable. Although our findings suggest that the programme was feasible and scalable in its delivery, the substantial time, resources, and difficulties associated with large scale implementation may indicate that digital delivery systems are worth testing. For instance, hybrid models with both in-person and online components may be of value to families. Our findings suggest that programme adaptations may be required to scale programmes to large cohorts, new contexts, and populations. To ensure successful delivery at scale, funders and other stakeholders should support implementers in sharing adaptations, learning from them, and reflecting on whether and how adaptations may enhance or hinder programme mechanisms of change.

## 5.9 Conclusion

The results of this study have and will continue to contribute to the larger SUPER study on the implementation of PLH programmes globally (45). The results are also being used to inform future thinking about the programme's sustainability and to communicate evidence-based recommendations regarding how programme delivery could be modified to sustain and improve effectiveness at scale both in Tanzania and the 24 other LMICs where PLH programmes are delivered. These study impacts have already been seen as we engage in research uptake activities, including our meeting to share study findings with policymakers from the Tanzanian government and officials from UNICEF Tanzania.

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