Impact Evaluation of a Father Engagement Model in the Home Visiting Humanitarian Play Lab (HPL) Program in Rohingya Camps and Host Community in Cox's Bazar, Bangladesh

AUTHORS

Yeshim Iqbal[1], Hirokazu Yoshikawa[1], Duja Michael[1], Sneha Bolisetty[1], Kate Schwartz[1], Sakila Yesmin[3], Ashraf Mian*[4], Maung Nyeu[1], Shikhty Sunny[2], Anaga Ramachandran[1], Dennis Hilgendorf*[1], Priyamvada Tiwari[1], Silvana Freire Barrios[1], Kuri Chisim[3], Md. Sydur Mur Salin[3], Nadya Hossain[3], Syeda Sazia Zaman[3], A R M Mehrab Ali[4], Sadia Chowdhury[4], Merina Islam Mou[4], Adeeb Haroon[4], A. Brooks Bowden[5], Sangyoo Lee[5], Anika Alam[5], Jere Behrman[5], Jennifer Hill[1], Erum Mariam[3], Alice Wuermli[1]

[1]Global TIES for Children, New York University
[2]Independent Consultant
[3]BRAC Institute of Educational Development
[4]ARCED Foundation
[5]University of Pennsylvania

*Affiliation during involvement in study

Last revised: Jan 17, 2024

Table of Contents

Abstract

This study evaluates a 6-month early childhood development (ECD) intervention delivered in-person to fathers in the Rohingya camps and surrounding host communities in Cox's Bazar, Bangladesh. The intervention, part of the BRAC-IED-led Humanitarian Play Lab (HPL) initiative, is an added component to an existing intervention that works with mothers of 0-3 year old children to maximize positive outcomes of child development. The new component targets fathers with children below three years old. The objectives of this added component are to promote fathers' wellbeing by improving their emotional literacy, encourage fathers to develop relationships with their spouses and children, and encourage responsive and stimulating caregiving practices among fathers. We utilize a cluster-randomized controlled trial design in which a total of 2002 families (786 in the Rohingya camps and 1216 in the host communities) were randomized such that families receive the mothers' intervention only in the control condition and received both the fathers' and mothers' interventions in the treatment condition. Before and after the intervention, we collected surveys in-person from both fathers and mothers, assessing a set of preregistered hypothesized outcomes (father parenting and engagement with family, father mental health, and child developmental outcomes). At endline, we also directly assess child-development outcomes. We find that the program has a positive impact on both father and mother-reports of the fathers' parenting and engagement with family, as well as on father-reported child social-emotional development. While the program did not have a main effect on fathers' wellbeing or directly assessed child-development outcomes, we do find evidence that the program had a positive impact on mental health and on the expressive language domain of the direct child assessment, as well as a stronger impact more generally on engagement and parenting, on families that were more disadvantaged. We also find associations between implementation factors (attendance and contact with program staff) and the outcomes, such that greater attendance in sessions and greater contact with the staff delivering the program are positively associated with the outcomes. Across all our findings, effects differ somewhat in the camp and host communities. Implications for father-directed programming in ECD are discussed.

Impact Evaluation of a Father Engagement Model in the Home visiting Humanitarian Play Lab (HPL) Program in Rohingya Camps and Host Community in Cox's Bazar, Bangladesh

Introduction

Throughout early childhood, fathers' engaged and responsive interactions with children positively impact cognitive development (Sethna et al., 2017), early literacy (Roopnarine & Yildirim, 2019), early numeracy (Frongillo et al., 2017), and social growth including self-regulatory capacities (McWayne et al., 2013). The impacts of father involvement in child development can begin prenatally (Tamis-LeMonda, Kahana-Kalman, & Yoshikawa, 2009), and overall, father's quality of interactions and amount of involvement with their children can have long-term developmental impacts (Barker, Iles, & Ramchandani, 2017).

The vast majority of existing research on father-child interactions and father's engagement with their young children occurs in WEIRD (Western, Educated, Industrialized, Rich Democracies; Henrich, Heine, & Horenzayan, 2010) contexts, and research on parenting interventions that take place with refugee and displaced populations primarily target families in these rich-country contexts (Gillespie, et al., 2022). This does not accurately reflect the circumstances for most displaced families, 76% of whom are hosted in low- and middle-income countries (LMICs), and 70% of whom are hosted in the neighboring countries to their country of origin (UNHCR, 2023). This highlights the gap in the knowledge base for exploring parenting interventions for fathers in LMIC contexts of forced migration. Understanding fathers' roles in these contexts can shed light on changes that may occur post-migration in traditional gender roles, culture, and potential impacts on mental health, family/community stability, and fathers' access to employment (Moving Minds Alliance Research Forum, 2022).

The present study is an impact evaluation of an intervention for fathers of 0-3 year old children in the Rohingya camps and surrounding host communities (Cox's Bazar Sadar, Ukhiya, Ramu, and Teknaf) in Cox's Bazar District, Bangladesh. The Rohingya in Bangladesh comprise one of the largest groups of forcibly displaced people in the world, with 963,038 living in Bangladesh, 932,431 of whom live in Cox's Bazar (UNHCR, 2023a). We use a randomized controlled trial design to examine impacts of the 6-month program, administered through home visits, on fathers' mental health, parenting, and engagement with the child and family, as well as children's development.

Background

Father involvement plays a crucial role in children's development throughout the lifespan. Prenatal involvement of fathers with pregnant mothers, for example, can predict engagement with children post-birth (Tamis-LeMonda et al., 2009), and research in infancy finds that fathers' involvement correlates with children's sense of security at later ages (Grossman, et.al., 2002). Fathers' involvement in early childhood is associated with higher levels of cognitive development (Cano, Perales, & Baxer, 2019; Sethna, et al., 2017), early literacy (Roopnarine & Yildirim, 2019), early numeracy (Frongillo, et al., 2017), and pro-social skills (McWayne, et al., 2013). Father attachment relationships also play a role in child social competence and father-child interactions can lead to more positive emotion regulation (Leidy, Schofield, & Parke, 2012). Fathers may also indirectly affect children through their communication and collaboration with the mother (Edin & Nelson, 2013).

Research on fathers who have been forcibly displaced across borders is crucial for multiple reasons. First, currently over 100 million individuals are displaced worldwide, with roughly 40% children and youth and 76% of these in LMICs (UNHCR, 2023). Understanding fathers' experiences can provide

insights into how this very large population copes with uncertainty, trauma, and displacement. Most literature around immigrant and refugee fathers has been on psychological and social stressors, which can include pre-migration trauma, acculturation stress, role reversal, social isolation, ambiguous loss, and discrimination (Bond, 2019). Second, families in settings of forced displacement may experience changes in traditional gender roles and family and community structures, as they adapt to new environments and cultures. For example, in the Rohingya context restrictions on employment in the camps of Cox's Bazar have resulted in fathers spending relatively more time at home, compared with typical former daily routines in Myanmar, which involved long workdays of agriculture or fishing. This time at home increased further during the COVID-19 pandemic, during which even more restrictions on movement were in place. Research on refugee fathers in Tanzania finds that rural camped refugee fathers demonstrated close involvement with families, which resulted in higher learning attainments for their children (Ndijuye & Tandika, 2022). However, it is uncertain whether such greater involvement pertains to the very early childhood period of the first 1,000 days.

Fathers and Parenting Interventions in LMIC Contexts

In the largest systematic review of early childhood parenting program evaluations across contexts to date, Jeong et al. (2021) found that parenting programs on average improved early child cognitive, language, motor, and socioemotional development, improved attachment, and reduced behavior problems. These interventions also improved parenting knowledge, practices, and parent-child interactions (Jeong et al, 2021). However, while parenting interventions show promise, they typically do not include fathers. In the same systematic review, only 7 interventions (~7%) engaged fathers to some degree, with only one study from Rwanda measuring paternal outcomes from fathers directly (Jeong et al., 2021). This study found significant changes in learning/play and nurturing/care behaviors for fathers involved in the program, as well as more positive discipline behaviors for fathers (Abimpaye, 2019) . Additionally, almost all interventions involving fathers are located in WEIRD contexts. Given the common focus on maternal stimulation, early childhood development research, programs, and policies may overlook important influences of fathers (Jeong et al., 2016).

A more recent systematic review (Jeong et al., 2023a; Jeong et al., 2023b) focusing on father-inclusive interventions in LMICs finds family-wide benefits of these interventions for women and children as well as the fathers. Specifically for paternal outcomes, 6 out of the 19 studies that directly assessed paternal outcomes found positive impacts on these outcomes, including on stimulation, attachment, and various childcare activities, (Jeong et al., 2023a), while two interventions also led to reductions in physical punishment (Ashburn et al., 2017; Doyle et al., 2018). This review found 44 studies that directly engaged fathers or male caregivers in LMIC contexts, highlighting the rapidly growing number of father-inclusive programs in the past few years.

In the literature reviewed, there is a lack of attention towards designing content specifically for fathers. Curricula developed for mothers were simply offered to fathers, without specific adaptation or tailoring to fathers' and men's concerns. For example, among the 23 programs including both mothers and fathers, the same program model was provided to both groups, with only two of these interventions tailoring the delivery for fathers (Jeong et al., 2023b). Luoto et al. (2021) examined a parenting intervention in Kenya, in which half the sample received a mothers only intervention, and the other half invited fathers to the group as well. Inviting fathers to the sessions did not have an added effect on child outcomes. Thus, it is important implementers explicitly target fathers and other male caregivers and design programming with them in mind (Jeong et al., 2023b).

Second, most father-directed programming does not focus on actual fathering behaviors – such as father-child stimulation or warmth. Rather, programs focused on involving fathers in reproductive / prenatal care (programs conducted in Bangladesh, Brazil, Burkina Faso, Kenya, Nepal and Rwanda;

Daniele et al., 2018; Dinga, 2018; Doyle et al., 2018; Hong et al., 2017; Mullany, 2013; and Susin and Giugliani, 2008) or on reducing intimate partner violence or child maltreatment (e.g., Lachman et al. (2020) in Tanzania, Skar et al. (2017) in Colombia, Su & Ouyang (2016) in China).

Finally, few of the programs for fathers reviewed were implemented in a context of forced displacement or migration. None have focused on the Rohingya population.

There are positive examples of interventions directed towards fathers with effects on fathering and/or child development. A program for both fathers and mothers in Rwanda (Abimpaye et al., 2019) focused on responsive and stimulating parenting for both groups; boosting literacy through book sharing; and an emphasis on health and nutrition. Both fathers and mothers in a "light touch" and full intervention conditions reported engaging in significantly more learning/play, nurturing/care, and positive discipline behaviors than parents in a control group.

Jeong et al. (2023) evaluated the Engaging Fathers for Effective Child Nutrition and Development intervention (EFFECTS), specifically for couples with children below 18 months, in Tanzania. Five study arms were evaluated: (1) nutrition intervention with mothers only, (2) a nutrition intervention with mothers and fathers, (3) a bundled intervention with nutrition and parenting for mothers only, (4) a bundled intervention with nutrition and parenting for mothers and fathers, (5) control group with no intervention. All intervention arms included a "core set of content pertaining to infant and young child feeding, agriculture, water, sanitation and hygiene (WASH), caregiver mental health, gender equity, couple's community, and decision-making" (Jeong et al., 2023, p. 3). In the curriculum for fathers, there was additional emphasis on gender norms, positive masculinity, and fatherhood. Findings displayed that engaging fathers did not improve ECD outcomes any more than engaging mothers only. There was improvement of paternal stimulation in both interventions by engaging fathers. Additionally, "engaging couples compared to mothers only significantly increased paternal and maternal gender-equitable attitudes, paternal time spent on domestic chores, and maternal decision-making power" and the bundled intervention increased "maternal leisure time, decreased maternal exposure to any IPV, and increased WDD over 7 days" (Galvin et al., 2023).

Research with Syrian refugees in Lebanon by Miller et al. (2023) examined the Caregiver Support Intervention (CSI) which worked with caregivers of children aged 3-12 who were affected by armed conflict and forced migration. To join the intervention, both primary caregivers of the child needed to participate, leading to father participation in this study. There were two pathways to strengthen parenting included in the CSI: (1) strengthening participants' knowledge and skills related to evidence-based parenting methods and (2) improving mental health and psychosocial wellbeing. Findings show that the intervention led to significant reductions in caregiver distress and harsh parenting, implying that parenting interventions in humanitarian contexts can maximize their effects by addressing caregiver wellbeing; though, importantly, outcomes are presented for caregivers as a group, not for mothers and fathers separately.

Betancourt et al. (2020) examined a home-visiting program in Rwanda titled *Sugira Muryango,* which provided coaching to promote early stimulation, play, nutrition, hygiene, responsive parenting, nonviolent interactions, and engagement of female and male caregivers. Families were eligible if they belonged to the most extreme level of poverty in the government's household-ranking system and if they had at least one child of 6-36 months. Results showed that the intervention, although only 12-16 weeks, resulted in improvements of caregiving practices including parent-child interactions and stimulation, nutrition, care seeking, and reduced violence. There were no improvements in the child's health status. Increased results in shared decision-making about what to do if a child was ill was "indicative of increased father involvement in childcare."

There are a few takeaways from these studies: first, involving fathers can lead to positive outcomes for both mothers and fathers, though this is somewhat more inconsistent (and assessed more infrequently) for child development outcomes. Reiterating the findings from Jeong et al.'s (2023) review,

programming almost always involves both fathers and mothers, often incorporating fathers into existing interventions intended for mothers, rather than designing them specifically for fathers themselves.

Challenges of involving fathers and recommendations for programming

There are three major barriers to fathers' involvement in parenting interventions in LMIC contexts: fathers' availability during typical work hours, restrictive gender attitudes, and challenges related to poverty (Jeong et al., 2022). Fathers' work schedules can serve as a main barrier to involvement in interventions (Rakotomanana et al., 2021). In addition, fathers are primarily seen as financial providers and decision makers in LMICs (Jeong et al., 2022) and may perceive their responsibility as limited to finding money for health care and purchasing needed items for their families (Rakotomanana et al., 2021). In a parenting intervention focusing on reproductive/maternal health and violence prevention in Rwanda, nearly all men in baseline were employed, primarily self employed. The men who dropped out of the program were more likely to be ones who were out of work or looking for work in comparison to men who remained in the study (Doyle, 2018).

As mentioned above, most studies on parenting in LMIC contexts focus exclusively on maternal practices, or examine parenting practices without distinguishing between mothers and fathers (Sun et al., 2016). The lack of any gender-related adaptations to program delivery for fathers can challenge men's participation, considering known gender differences in parental preferences, roles, and time use (Jeong et al., 2022). Additionally, many parenting programs are typically staffed by women, which can contribute to men's discomfort in getting involved, and may serve as a barrier to participation given gender attitudes depending on the context (Bond, 2019). There are also larger challenges around perceptions of childcare, where depending on community norms, fathers may be teased for participating in child care activities that are predominantly seen as a mother's responsibility, as found in research in Madagascar (Rakotomanana et al., 2021). This may be especially relevant for fathers of children during the infant / toddler period, the focus of the current study. Finally, poverty also serves as a limiting factor for father involvement. More parental engagement was reported in countries with more economic development and among fathers with more educated wives (Sun, 2016).

While there are limited parenting interventions focused on fathers in LMIC contexts, research suggests several areas of practice that may maximize father engagement and response. With regard to combating restrictive gender attitudes, Jeong et al. (2023b) suggests that practitioners ensure that the father-inclusive practices give attention to: structural and cultural barriers that impede fathers from participation, creation of a secure environment, attention to social and psychological stressors in different phases of migration, and an understanding of men's expressions of distress (Bond, 2019). Anger may be an important emotion to focus on, as it is linked to both intimate partner violence and to corporal punishment of young children.

Second, to respond to challenges around poverty and employment in LMIC contexts, it was also recommended that fathers be involved early on in the planning process of interventions and that flexible hours and engagement opportunities, such as home visits, could increase engagement (Panter-Brick et al., 2014). Flexible scheduling and integrating father engagement programs within existing delivery platforms or settings that fathers attend have been found to be success factors in engaging fathers in parenting programs (Jeong et al., 2022).

Third, the modality of father support may matter. Group based models have also been found useful in engaging fathers in parenting interventions, primarily in building peer support and facilitating social learning among men (Doyle et al, 2018; Jeong et al 2022; Luoto et al, 2021). Using multiple media, including short films, comic books, and street plays, can show an alternative view of masculinity and fatherhood, which can be a useful tool in designing father-inclusive interventions (Bhandar & Karkara, 2006).

Finally, supporting partners (mothers) may be critical. Those programs that have included this topic have emphasized communication between spouses, interpersonal support between spouses (Lopez Garcia et al, 2022), joint-decision making through skills based activities, gender equality, and supporting partners through all stages of prenatal and postnatal care (Doyle, 2018).

Current Context: The Rohingya and Host Communities in Cox's Bazar

Due to statelessness, discrimination, and violence, the Rohingya community is considered one of the most persecuted minorities in the world. The Rohingya population originally resided in the Northern Rakhine State, the border region of Myanmar previously known as Arakan (Kiragu, Rosi, & Morris, 2011). Many fled the region to Bangladesh due to violence in 1978, 1991-1992, and again in 2016 (Rohingya Refugee Crisis, 2019), with the largest exodus occurring in the months following August 2017. This influx to Cox's Bazar district included displacement and migration of approximately 750,000 people, including more than 400,000 children, and occurred following a massacre in Myanmar where thousands of Rohingya were murdered. Refugee camps in Cox's Bazar, Bangladesh are now home to over 900,000 forcibly displaced Rohingya people (Population Factsheet, 2022). The education and wellbeing of these children remain a primary concern; forced displacement is known to have a negative effect on children's mental health, particularly socio-emotional and peer related challenges, as well as broader development (Khan, et.al., 2018; Yoshikawa et al., 2019).

In addition to stresses and changes that displaced populations go through, host communities also encounter stresses where a large influx of refugees occur. The host population living alongside the Rohingya in Cox's Bazar district has one of the highest rates of poverty in Bangladesh (Sultana et al, 2023). Research on Bangladeshi host communities in Cox's Bazar finds that this host community has become increasingly vulnerable due to competition for scarce opportunities between the Rohingya and them (Sultana et al., 2023). Further research comparing neighboring and non-neighboring host communities finds that people living near the camps are less satisfied with transportation, pollution, housing density, safety from social unrest, and criminal activity than those living further away (Biswas, Ahsan, & Mallick, 2021). This research highlights the potentially increasing tension and stressors between the host community and Rohingya community in Cox's Bazar specifically.

The Rohingya context in Cox's Bazar is a complex linguistic environment, where multiple languages are being used to communicate. Rohingya, the primary language of the Rohingya population, is 70-90% mutually intelligible with Chittagonian Bangla, a dialect of Bangla spoken in Cox's Bazar and surrounding regions. Although there is a high overlap with Chittagonian Bangla, there are many phrases and words that do not translate, making translation challenging and susceptible to lost information (Goodfriend et al, 2022). In the context of this study, knowledge of the nuance between Chittagonian Bangla and Rohingya is incredibly important, as the enumerators, and host community participants we work with primarily communicate in Chittagonian Bangla, and the camp population speaks Rohingya.

The literature on fatherhood in Bangladesh, and with the Rohingya community, provides a starting point to understand the ideas and practices of the fathers in the Rohingya and Cox's Bazar host community context. Research in both rural and urban Bangladesh indicates that, as in many parts of the world, mothers are the primary caregiver and spend more time on childcare and associated tasks (such as helping with schoolwork) compared to fathers; this disparity in childcare responsibilities is particularly prominent in the newborn and infancy period and higher amongst rural families (Hossain, 2013; Hossain & Atencio, 2017). Social norms primarily dictate that fathers in Bangladesh are breadwinners and protectors of the family (Jesmin & Seward, 2011). This is further supported by literature in both Bangladeshi and Rohingya contexts suggesting that fathers tend to provide the bulk of financial support for families' needs and are the primary decision makers for children's healthcare, education, and social life (Ball & Khan Wahedi, 2010; Khaled & Afsana, 2020). Additionally, considering the practice of *purdah*

(Ball & Khan Wahedi, 2020), which governs how women present themselves in public spaces and therefore limiting their physical mobility (Coyle et al., 2020; the practices of *purdah* is especially relevant in the Rohingya context), fathers are deemed responsible for tasks that occur outside the house (Jesmin & Seward, 2011; Ball & Khan Wahedi, 2010). Although there are limited studies (existing research includes Foulds, 2022; Rahman et al., 2022; see also Bolisetty et al., 2022; Zahra et al, under review(a)); Zahra et al, under review (b) from Play to Learn research) on father involvement and engagement with early childhood in the context of Rohingya camps in Cox's Bazar, Bangladesh, this research on gendered traditions and norms of the Rohingya community, while not specific to fathers, can contribute to our understanding on how fathers, and men, in this community have specific roles.

Play to Learn

In 2018, the LEGO Foundation awarded $100 million to Sesame Workshop, BRAC, the IRC and NYU Global TIES to harness the power of play to deliver critical early learning opportunities to parents and caregivers affected by conflict and crisis in Rohingya and Syrian refugee crises (Sesame Workshop, 2018). Ultimately, Play to Learn aims to establish play-based early childhood development as an essential component of humanitarian response for all children and caregivers affected by crisis. In this consortium BRAC, Sesame Workshop, and the International Rescue Committee implement quality, play-based early childhood interventions that include direct services and mass media, and New York University's Global TIES for Children serves as the independent research partner. BRAC designed and delivered the Humanitarian Play Lab program for mothers and fathers of children aged 0-2 years, and NYU Global TIES led the impact evaluation.

Partners

The first data collection partner that engaged in this research was the Bangladesh branch of Innovations for Poverty Action (IPA). IPA is a global research organization known for their capacity to run large randomized controlled trials (RCTs), and worked closely on multiple studies as part of the Play to Learn project. They were selected as the team's primary partner, given their global capacity and reputation, experience of longitudinal and survey research in Cox's Bazar, and an assessment of their capacity to carry out the agreed scope of work according to agreed timelines and budgets. NYU-Global TIES worked with IPA-Bangladesh in this capacity until March 2022, when NYU determined IPA would no longer be able to serve as a data collection partner in Cox's Bazar. This decision followed significant internal management and operational challenges within IPA-Bangladesh that interrupted final data collection plans in 2021 and prevented them from being able to carry out the planned scope of work between November 2021 and March 2022. In late March 2022, IPA informed NYU that they would cease to be able to operate in Bangladesh entirely by the end of April 2022, when their Bangladesh registration would lapse.

Due to the closure of the Bangladesh branch, IPA was unable to be involved in this research from the Spring of 2022 onwards, and the NYU team engaged a new data collection partner, the Aureolin Research, Consultancy, and Expertise Development Foundation (ARCED) for all remaining data collection and research-related training activities. The ARCED foundation is a nonprofit organization that aims to provide quality tools and services on research, training, monitoring, and result management support. ARCED has served as the primary data collection partner for this impact evaluation. In addition to our primary data collection partners, we worked closely with the International Center for Diarrheal Disease Research, Bangladesh (icddr,b), an international health research institute based in Dhaka, Bangladesh with deep expertise in child direct assessments, caregiver-child interaction observations, and neurobiological measures. Icddr,b has served as a close partner in the training of enumerators for Child Direct Assessments that occurred during the endline portion of our data collection, as well as for

other components of the research conducted by NYU under Play to Learn. Finally, we partnered with the Center for Benefit-Cost Studies of Education (CBCSE) at the University of Pennsylvania for the cost-effectiveness evaluation as an integral component of the overall impact evaluation. The CBCSE brings substantial expertise in economic evaluations and is dedicated to promoting the rigorous and responsible development and application of cost-effectiveness and benefit-cost methods. In collaboration with NYU-Global TIES, the CBCSE team led the cost-effectiveness studies applying the ingredients method (Levin et al., 2018). This method aims to systematically identify and describe the resources provided in the intervention, supporting a deeper understanding of the delivery process. It also helps to understand the costs to produce effects by distinguishing resources provided to the intervention group in contrast to the control condition.

Our programmatic partner was BRAC-Institute of Educational Development (BRAC-IED), the implementer of the parenting intervention being evaluated in this study. BRAC has extensive experience in implementation and research and has been part of the emergency response for the Rohingya community since the beginning of the mass displacement into Cox's Bazar in 2017. By December 2017, over 700,000 Rohingya refugees had arrived in Bangladesh, with at least 370,000 of those refugees to be children (Save the Children). As of September 2023, there are 965,467 Rohingya refugees living in Bangladesh, with over 52% of that population being children under the age of 18, with 16% of the population being under the age of 5 (Joint Government of Bangladesh & UNHCR, 2023). Given the number of children in the camps, BRAC-IED began collecting elements of Rohingya culture to include in the curriculum in 2017, and in 2019, piloted home-based sessions for ages 2-4 around the HPL centers.

BRAC first launched 304 Humanitarian Play Labs (HPLs) for Rohingya children aged 0-6 (BRAC IED, 2019). These HPLs comprised of programming for both parents and children, followed by another 1,400 sites ("pockets") of a home-based model in 2020. The goal of the HPLs is to promote Rohingya language and culture and encourage healing and learning through play (Mariam, et.al., 2019). Programs for 2-6 year olds engage children directly, while programs for children aged 0-3 engage the children's caregivers. The intervention here is a version of the HPL model specifically developed for fathers. BRAC provided us with the groundwork and initial entry into research in this context. BRAC has also served as the primary recruiter and employer for the supervisors, paracounselors, and volunteers involved in this parenting program, as well as the curriculum and material developer for both camp and host activities. The curriculum for the HPL programming was developed in close consultation with the Rohingya participants themselves through an extensive co-creation process (Mariam et al., 2019; Mariam, Ahmad, & Sarwar, 2021) .

In addition to our multiple in-country institutional partners, we recruited a multilingual consultant. She has been exploring and studying the Rohingya population across its multiple waves of migration into Bangladesh since 2012, and has more than 10 years of experience in educational research and impact evaluations amongst refugee and displaced populations, as well as amongst indigenous and linguistic minorities. Given the unique nature of this context, finding researchers who understand all the involved languages of English, Bangla, Chittagonian, and Rohingya, is extremely rare, but incredibly valuable to the development of culturally contextualized research.

Present Study

The intervention we examine here is a 6-month early childhood development (ECD) program for fathers delivered in-person by male volunteers (through weekly home visits and monthly group sessions) in the Rohingya camps and surrounding host communities in Cox's Bazar District, Bangladesh. The program was designed as an addition to an existing intervention that had been working with mothers of 0-3 year old children to maximize positive outcomes of child development.

The impact evaluation employs a cluster randomized control trial in which a total of approximately 2000 families (786 in the Rohingya camps and 1216 in the host communities) were randomized such that families received the mothers' intervention only in the control condition and received both the fathers' and mothers' intervention in the treatment condition.

The present study adds valuable evidence to the field because the intervention itself, as described in detail below, has several features that specifically address the challenges that are known to exist regarding interventions designed to engage fathers (specifically, the intervention has a curriculum geared towards fathers, employs a group component, is delivered by male volunteers, and is flexibly scheduled based on the father's availability). The study also provides evidence on how interventions impact families from both the forcibly displaced population and the host community.

Research Questions

The confirmatory research questions below were pre-registered with the *Registry of Efficacy and Effectiveness* or REES, a combined effort of Society for Research on Educational Effectiveness (SREE) and the Inter-university Consortium for Political and Social Research (ICPSR).

Confirmatory Research Questions

1. What is the added impact of a parenting intervention, delivered by male volunteers, consisting of home visits (every week) and group sessions (every three weeks) to fathers of children aged 0-3 on fathers' parenting and engagement with family, in comparison to families who only receive a parenting intervention targeting mothers?

2. What is the added impact of this program for fathers on fathers' well-being, in comparison to families who only receive a parenting intervention targeting mothers?

3. What is the added impact of this program for fathers on child development (cognitive, language, and social-emotional domains), in comparison to families who only receive a parenting intervention targeting mothers?

Exploratory Research Questions

1. Are effects of the intervention on hypothesized outcomes in Research Questions 1, 2, and 3 moderated by camp/host community residence, parental education, household resources, parental health, child age/gender, or mother-report of mother-child stimulating behaviors?

2. Are implementation factors (attendance, observed quality of visits, and contact with program staff) associated with the hypothesized outcomes in RQs 1 and 2?

3. How do fathers, mothers and father volunteers experience the program, in their own words?

4. What resources are delivered through the 6-month father engagement model in the home visiting HPL program and what are the associated costs?

5. What is the incremental cost of the added father engagement model relative to families only receiving parenting intervention for mothers?

Methods

Intervention

Intervention Structure and Content

The intervention assessed in this study is a father-focused parenting intervention component added to an existing intervention implemented by BRAC working with mothers of 0-3 year old children to maximize positive outcomes of child development. The intervention was originally designed for the Rohingya camp context only. In response to limited permissions for data collection in the camps at the time of baseline data collection and to allow for a fully powered study, BRAC expanded the intervention (both the mothers' and fathers' components) to the host community, in Cox's Bazar Sadar, Ramu, Ukhiya and Teknaf regions (there are no local restrictions to data collection outside of the Rohingya camps); these are the areas in Bangladesh that surround the Rohingya camp community.

The objectives of the curriculum for fathers are to promote fathers' wellbeing by improving their emotional literacy, encourage fathers to develop relationships with their spouses and children, and encourage responsive caregiving practices among fathers (BRAC & Sesame Workshop, 2022; see Figure 1 for the theory of change). According to the theory of change, the general framework for this research was that fathers who participated in this program would gain knowledge on emotional well-being, ECD, and positive parenting, as well as practice self-care and emotional regulation. In addition, they would receive psychosocial support services. This would further lead to outcomes in improving fathers' wellbeing or reduce distress, change fathers' mindset towards child interaction and ECD, increase self-care practices, create a nurturing family, and ultimately improve children's development.

In both control and treatment conditions, the mothers in the families received a weekly group-based mothers' intervention, conducted by 'mother volunteers' (described in detail below). These hour-long sessions had the following curriculum objectives: "recognize, respect, and address the needs of cultural diversity and positive practices; increase awareness of parents' roles in child's development; give mothers a wide range of opportunities to share their experience of child rearing practices; facilitate the creation of a supportive network among group members; identify and recognize the importance of mother's mental health for her and child's well-being; and promote play as a medium of creating safe and secure bonding between mother and child" (BRAC IED, 2019a). Each session included four main tasks: (1) Well Wishes, (2) My Well-being, (3) Play and Grow, and (4) Follow up Task. The 'Well Wishes' task served as an opening at the beginning of the session where mothers would practice a mindfulness activity to relax. The 'My Well-being' task emphasized mother's well-being by discussing and practicing positive thinking, self-care, coping with difficult situations, identifying people close to them, and other activities centered on maternal well-being. The third 'Play and Grow' discussed the importance of mother-child relationship in child development, and emphasized play as a medium for creating a safe and nurturing space for the child. The fourth 'Follow up Task' provided mothers with a few tasks based on the content for the day to bring learning back to their home and child and reinforce the concepts outside of the group setting (BRAC IED, 2019a).

In addition to the weekly mothers' group-based intervention, the fathers in treatment group families received a weekly fathers' parenting intervention, delivered by 'father volunteers' (described in detail below). The objectives of the father-focused section of the intervention included increasing

fathers' knowledge on emotional literacy to support them with emotional regulation, encourage fathers to do daily self-care practices, enable fathers to explore their coping mechanisms, increase awareness on the importance of engaging with their child for better development through activities and play, promote healthy relationship practices with their wife and other family members, equip the father with the knowledge and skills about responsive caregiving through culturally appropriate child regarding practices, and provide opportunities to interact with other fathers to share their experience as a father and learn (BRAC IED & Sesame Workshop). Each father received the intervention for 6 months, with three individual home-visit sessions (lasting 30-45 min) and one group (lasting about an hour) visit per month. Each session covered a variety of topics, including: the importance of father's engagement in child development, building connections with the child, understanding how children respond to stress, and how to comfort them, and the importance of play in children's lives. This delivery schedule varied across the Rohingya camps due to external circumstances such as shifting political climates, natural disasters, or fires in the camps; the program team considered these variations part of typical program implementation in Cox's Bazar. Importantly, the weekly sessions were scheduled based on the father's availability, through regular communication between the volunteer and beneficiary father.

All volunteers worked under the guidance and supervision of BRAC-trained para counselors, who were all Bangladeshi**.** Paracounselors served as the primary supervisor for father and mother volunteers working with participants. Paracounselors were responsible for a number of roles including providing psycho-social support to complicated cases, providing guidance to the volunteer, working with the volunteer on managing stress, and understanding the rules and regulations for the protection and service of both the volunteer and participant (BRAC & Sesame Workshop - Training Manual). Paracounselors received training at the beginning of November 2022 prior to the start of the intervention in December 2022. This training was extensive; it took place over several weeks and all trainees had to pass an exam to be permitted to begin work. Paracounselors also operated under regular supervision and received monthly refresher training with BRAC supervisors.

Camp and host intervention differences

Although the camp and host communities received the same basic intervention, following the same core curriculum and delivery format, there were some differences in how it was implemented, as follows:

- The camp community beneficiaries received a booklet pertaining to the curriculum to keep; the host community beneficiaries did not receive this booklet, as there was not sufficient time to adapt and co-create this material for the host community. Volunteers did however use a flipchart with pictures to facilitate some of their sessions; this flipchart was used in both camp and host communities.
- The original design of the curriculum assumed a ten-month intervention for mothers; while camp community mothers received the full ten months, this ten months' worth of material was condensed into six months for the mothers in the host community.
- The mothers' intervention had existed in the camp community for several years, with the father engagement component being added and evaluated for this study; however, in the host community parents had not been receiving any intervention at all. Both the mothers' and fathers' intervention started simultaneously in the host community.

Intervention pilot

The intervention was first piloted in the Rohingya community in Camp 10, with 52 pockets and 643 fathers, in the summer of 2022. A short pilot of group sessions was also done with 146 fathers to determine whether or not group sessions would be incorporated when the program was scaled up. This

received a positive response from fathers and was therefore included as part of the intervention. The intervention was also briefly piloted in the host communities in December 2022.

Volunteer Recruitment and Training

The parenting interventions were provided by trained volunteers[1], who all received a stipend for their work, with camp volunteers receiving a daily payment of 300 BDT and host volunteers receiving a monthly salary of 5000 BDT.Men (referred to as 'Father volunteers') provided the intervention to fathers and women (referred to as 'Mother volunteers') provided the intervention to mothers. All volunteers were selected directly from the communities that the intervention families belonged to.

In the camp community, the volunteers were recruited by the Camp-in-Charge (CIC), the Bangladeshi local government authority, in conjunction with BRAC. In the host community, BRAC recruited the volunteers. In both camp and host, father volunteers were recruited and trained after baseline data collection and randomization, since geographical location of the treatment households were relevant in selecting volunteers. Descriptions of the father volunteers are available in the sample descriptive section.

All volunteers received a basic 5-day training on the curriculum. In the camps, all the mother volunteers had already received this prior to the start of the intervention. Recruitment of the first set of father volunteers for the camp context was completed and training was done in late December 2022. The second batch of father volunteers happened a week after the first batch, in parallel with the first batch of father volunteers beginning the intervention the week of December 26, 2022 (an exception is camps 8w and 22: due to unrest in these camps, BRAC completed the recruitment process in 8W for father volunteers and paracounselors in late February for 8w and early March for 22).

In the host communities, BRAC selected mother volunteers in December 2022 and recruited them at the beginning of January 2023. Recruitment for father volunteers for the host community started in late December 2022.

In addition to the initial training, all volunteers received a daylong monthly refresher training. This training covered the upcoming sessions' topics and served as a space for volunteers to debrief, share their experiences with one another and with the trainers and resolve any issues they were facing while working.

Delivery of the Intervention

The beneficiaries were divided into groups or 'pockets' based on the volunteers' geographical locations. Each pocket had approximately 10-14 fathers, and each father volunteer served 4 pockets, conducting individual home visits each week with all fathers from these 4 pockets. Once a month, each group of fathers from each pocket met together instead of a home visit. The duration of the one on one home visit sessions were 30 minutes, and in the case of group sessions, were 45 minutes to 1 hour depending on the number of fathers in the group.

The mothers' intervention was delivered in a similar structure, except that the mothers received group visits every week rather than one-on-one home visits.

In the camps, fathers groups were chosen based on existing mother pockets, while in the host,

[1] In humanitarian contexts due to regulations around employment, the use of the term volunteer combined with a stipend is a way of remaining well within local labor laws without exploiting people - so removed framing of 'although' because it's typical to find people who are called volunteers but are doing essentially a job and are getting a stipend, which is allowed by the government (but wouldn't be allowed to be hired as staff and paid a salary)

both mothers and fathers pockets were developed simultaneously.

The camp intervention began the week of December 26, 2022, and the host communities intervention began the week of January 8, 2023.

Piloting

Survey and Qualitative Measures Pilot

Pilot data collection was completed in two phases. In early stages of the Play to Learn project, when IPA was the primary data collection partner, we collected quantitative and qualitative pilot data in 2020 and 2021, in partnership with other NYU-led studies under Play to Learn. The first was a large-scale combined pilot study that piloted components of multiple studies with the Play to Learn project, all of which were occuring in the Rohingya refugee context. As part of this combined pilot, the Play to Learn team piloted a number of relevant measures and protocols related to this specific study including testing measures of refugee camp environment (e.g., the Perceived Refugee Environment Index), child social-emotional development (e.g., Child Behavioral and Problem Competence Scale) the and caregiver mental health (the Patient Health Questionnaire (Iqbal et al., 2022), as well as semi-structured interview protocols and child direct assessments (Goodfriend, 2022). The qualitative pilot, done as part of this combined pilot study, originally collected data from 10 mothers and 10 fathers. Although at that point we intended to evaluate a different component of the HPL model, this pilot data continued to inform our selection of measures and our understanding of the process of research with caregivers of young children (Goodfriend et al., 2022; Iqbal et al., 2022).

After this initial combined pilot study, there was a second phase of the pilot that specifically targeted survey measures used in this study related to fathers engagement. Over the course of the pandemic and directly after, IPA ceased to be our data collection partner and our evaluation shifted to the father engagement component of the HPLs. For this evaluation, BRAC collected pilot survey data from 200 fathers and 200 mothers using measures specifically focused on fathers' engagement in June/July 2022. This pilot, taking place during the period when we were transitioning between IPA to ARCED as a primary data collection partner, served primarily to determine procedures for locating fathers and assessing how long survey measures would take in relation to fathers' available time for participation. We surmised that the pilot sample would be a very similar demographic to our camp study sample. The pilot study had 200 mothers and 203 fathers. Of the mothers, more than half (59.5%) were 32-33 years old, with 20.5% being between the ages of 13 and 22 and 16% being between 34 and 40. Most (75%) mothers reported they could not read, with slightly more able to read in Burmese than in Bangla; 43% reported never having been to school, while 20% reported attending madrasa and 36% reported having been to public school.

Of the 203 fathers, about half (54%) reported being 32-33 years old, with approximately 20% being between the ages of 34 and 42. Slightly more than half of the fathers reported being unable to read (55%). Schooling rates were somewhat higher for fathers than for mothers: 25% reported not attending any form of school, while 41% reported attending public school and 25% reported attending madrasa.

Based off of this pilot, we found a need to greatly shorten and streamline surveys to account for time and the complexity of the camp environment prior to the start of baseline. Piloting of the

instrument was not done in the host community due to the incredibly short timeline on which the host community intervention was implemented.

BRAC also collected pilot qualitative data, in the form of semi-structured interviews, from 10 fathers and 10 mothers who had participated in the (mothers' only) intervention. This data was intended to inform cost-effectiveness questions to include at the endline.

Child Direct Assessment (Bayley-4) Pilot

The Play to Learn project is the first time that child direct assessments using the Bayley-4 were conducted on a large scale in the Rohingya camps and therefore required an extensive process of preparing materials and piloting. We designed an iterative pilot to adapt the Bayley-4 scale, which included a one-time hiring and training of Bayley-specific enumerators followed by two phases of data collection and analyses to test data-driven modifications of the assessment and its implementation protocol. Piloting in two phases helped us with rapid iteration, as we analyzed the data after phase 1 (N= 80) and made modifications to the tool and the process to be empirically tested on phase 2 (N=235). The pilot was a collaboration between NYU and icddr,b and was intended to inform both the current impact evaluation as well as the longitudinal prenatal birth cohort study being conducted under Play to Learn.

Certain adaptations to the Bayley-4 took place during the pilot, for two main reasons: 1) the diverse linguistic background of the Rohingya children and b) low-resourced settings including diverse cultural context. In order to linguistically adapt the instrument for use with Rohingya children and parents in Cox's Bazar, we took a culturally responsive and equity-based approach to identify the right words and phrases to be used in the assessment. For example, for an item measuring children's knowledge of colors, we first asked the enumerators to list names of all colors as per the Rohingya language. We tested that list with the parents and asked for other words that parents might use to teach colors to their children. In the case of the green, we found out that the child could recognise it as '*pata rong'* (literally translating to "leaf color") or the word *sabuz* (green in Bengali), or the word *green* (as in English). A correct response in any language - Rohingya, Chittagonian, Burmese, English, or Bangla - was considered valid in scoring. Similarly for expressive vocabulary assessment, e.g., name body parts, a child may answer '*Theng'* (Rohingya), *'Pa'* (Bangla), '*Hkyayh*'(Burmese), or '*Leg*' (English) for legs and any of these answers are considered valid. We also modified certain scales to reflect local knowledge, immediate environment, and culture to appropriately measure development milestones of young Rohingya children. For example, items in the Bayley assessment use the images of a wading pool (inflatable backyard kiddie pool), bathroom sink with faucet, etc. to administer items on receptive language skill, which is inappropriate as wading pools, sinks, faucets, etc. do not feature in the everyday life of Rohingya children. The images of white children swimming in such pools wearing one piece swimsuits was replaced with Rohingya children swimming in lakes/streams with Rohingya clothing. Similarly, the bathroom sink with faucet was replaced with jugs and pitchers filled with water (see Figure 2 for some examples of this).

Pilot data was collected from 315 households spread across various camp locations in two phases for the pilot (August and September 2022) across seven age bands of six months each: 0-6, 7-12, 13-18, 19-24, 25-30, 31-36 and 37-42 months. Along with Bayley-4 data, other household information

was also collected which included data on parents' level of education, parents' socio-economic status and anthropometric data (child's MUAC, height, and weight). Focus groups with enumerators were also conducted during both phases of data collection to understand and solve for challenges faced by enumerator to administer Bayley items (in terms of their understanding of the item or scoring, etc.) or process of data collection (such as identifying the right participants, successfully engaging the parents, etc.).

The findings from the pilot study showed progression by age group, in both the cognitive and receptive language domain. All domain-level mean scores showed variability across the pilot sample and approximated normal distributions, reflecting good between-child discrimination. The Cronbach's Alpha of 42 receptive language items was 0.90, indicating excellent internal consistency. Rohingya children, both male and female, showed the developmentally typical "vocabulary spurt" (Benedict, 1979; Carey, 1978; Goldfield & Reznick, 1990) between 18-24 months.

RRRC Permissions

All research and service activities conducted by NGOs or international organizations in the Rohingya Camps require permission from the local governing authority, the Office Of The Refugee Relief And Repatriation Commissioner (RRRC) (more information at https://rrrc.gov.bd/). When seeking out RRRC permissions for baseline data collection in the camps, the RRRC only provided permissions for 25 total people (1/4th of the original ask) and limited access to only 15 days (half of the intended data collection time). This led to a massive shift in study planning to account for the power of the study if we only had about 1/8th of our original plan. In order to account for these limitations we reduced survey length to allow for 4 surveys rather than 3 per day, and relaxed our sampling strategy to allow for inclusion of households that were closer together in order to increase daily productivity. However, the most important pivot we made in response to these restrictions was to request that BRAC expand the intervention into the host communities of Cox's Bazar Sadar, Teknaf, Ukiya, and Ramu as well; in the event that RRRC permissions would not be granted, this would allow us to shift the entire study to the host community, with the additional advantage of serving a larger population with the intervention. Ultimately, RRRC permission was granted for midline and endline from May 1st to August 31st 2023, with a total of 80 enumerators. Unlike baseline, there were no additional restrictions for the research team for midline or endline.

Institutional Review Board (IRB) - Institute of Health Economics, University of Dhaka

This IRB was submitted and approved through the University of Dhaka's institute of Health Economics. The IRB that was initially approved on August 5, 2022 for the study's baseline, midline, and endline had a sample of 2,000 camp families (n=1,000 in treatment and n=1,000 in control), as well as child direct assessments, using Bayley, at baseline and endline. Due to challenges in receiving approval from RRRC, as highlighted previously, changes were made to the final design that resulted in sampling and intervention in both host and camp communities. The IRB was therefore re-submitted to include the host-community and approved in November of 2022.

Enumerators and Enumerator Training

Baseline survey training was conducted with 80 enumerators, though only 25 of these were involved in data collection in the camps. The full team of 80 conducted data collection in the host communities. The endline survey also had a full team of 80 enumerators (60% returners from baseline), working in both camp and host communities. Approximately 70% of these enumerators were women. Most of them were in the process of obtaining their Bachelors' degree, with their ages ranging mostly from 21-24 years. All of them were fluent in Standard and Chittagonian Bangla. During data collection, enumerators were accompanied by a team of 11 field supervisors, with each supervisor therefore being responsible for 7-8 enumerators.

Survey training (for all measures collected from the father and mother) was approximately ten days long, covering the basic theory and concepts behind the constructs being assessed, the specifics of the measures and response types themselves, the consenting process, protocols and logistics for field operation, and usage of the device and software. One important aspect of enumerator training in this context is the function it serves to clarify the language use in conducting the surveys. Neither the Rohingya dialect nor Chittagonian Bangla have a written script, and are therefore translated in the moment by the enumerator reading the survey text (which is in Standard Bangla). In training, enumerators repeatedly practice this process out loud, clarifying and standardizing the spoken language to be used and where necessary adding transliterated words to the surveys. At baseline, because there was a gap of a few weeks in between camp and host data collection, enumerators received a three-day refresher from November 30th, 2022 to December 2nd, 2022.

The training for administering the Bayley-4 happened with a separate group of enumerators. Training for Bayley-4 was an extensive process starting from hiring enumerators with prior experience of working with children and then training them in the technical knowledge and soft skills required to administer Bayley. 27 enumerators were selected for training based on their experience (such as having worked with children in a learning setting) and willingness to commit to a month long training followed by data collection. A five week training was then conducted, divided into four parts: a) theoretical training on the cognitive and language domain of the assessment, b) introduction of the Bayley-4 assessment tool to practice administering the tool item by item, c) mock practice in pairs among the enumerators with part or whole assessment and d) hands-on full test practice with children at the training venue. In the last part of the training, which was also the longest, children across age bands (0-5, 8-16, 20-28, 30-42 months) were invited to the training for enumerators to practice testing with the children and their mothers. The enumerators were divided into groups of 4-5 where one enumerator would lead the administration with others observing and each enumerator scoring independently, including the lead enumerator. Each group was paired with a gold standard trainer from icddr,b who observed the practice test, intervened to provide support when needed and debriefed in the end to match scores and discuss and rectify differences thereby cementing enumerators understanding of the assessment. Each group was also assigned an ARCED supervisor who monitored the process and ensured rotation of roles within the group. By the end of the hands-on training, a reliability test was conducted as a measure of ensuring quality in which the gold-standard trainers parallel scored at least three Bayley assessments with each enumerator. The aim was to secure more than 85% match in scoring of the trainer and the enumerator (91.07% was achieved). The results of the parallel scoring helped select the

final 18 enumerators who met the quality standards to conduct the final data collection. Tablets were introduced in the final stage of the training which were pre-loaded with Bayley-4 Computer-Assisted Personal Interview form (Bayley-4 CAPI) which were to be used for data collection in the field. To ensure that the enumerators were adept at using the tablet-based version (paper-based version of Bayley-4 was used in part 1 and 2 of the training as its an easier medium to introduce and build an understanding of the tool), a field practice day was organized where enumerators, in groups and along with a gold standard trainer and ARCED supervisor assigned to each group, visited households to conduct practice tests with children using the tablet.

Translation of protocols, surveys, and data for analysis

The primary language of communication in the camps is Rohingya, which has no written script and has an estimated 70-90% overlap with Chittagonian Bangla. Chittagonian Bangla is the language spoken by a majority of the enumerators.

The many layers of language difference between the Rohingya and the researchers at NYU resulted in a complex translation and iteration process to best collect and analyze data from the camps. This protocol began with the drafting of English language research protocols and surveys for piloting, which included multiple reviews to identify words and topics that might be difficult to translate. The final version of this protocol or survey was then translated from English to Bangla, and then reviewed by Bangla-English-Chittagonian speaking members of the research team. The survey/protocol was then used by enumerators in a combination of Chittagonian Bangla and Rohingya. In the case of qualitative research, transcription was done with audio recordings into Standard Bangla. All data was then translated once again from Standard Bengali into English, and data analysis took place in both Bangla and English by multi-lingual members of the research team (Goodfriend et al, 2022).

Baseline Data Collection

For both the camp and host communities, the baseline was sampled from databases that BRAC provided of families eligible for inclusion in the study. BRAC created these databases through systematic canvassing of all households in the relevant areas. For the Rohingya camps, this meant all camps in which BRAC could feasibly provide the intervention; for the host communities, this meant including households grouped around government primary schools through which BRAC had previously provided services and supplementing those households with others as necessary based on geographical proximity. Figure 3 shows the approximate locations, based on GPS coordinates, of baseline data collection. Generally speaking across both the camp and host communities, due to difficulties finding fathers and tight timelines for completion of data collections, families that had fathers available were prioritized for inclusion into the baseline sample. This means that if a mother was found but a father was not available, this family would be passed over in favor of a family whose father was available. Although this does bias our baseline sample towards fathers who were unemployed, employed near home, or otherwise near their residences during the hours of data collection, this was the only feasible way of completing data collection.

Camp Baseline

The existing intervention for mothers only had been running in the camps since 2018 (though the exact modality has changed given evolving conditions and the pandemic). Families involved with the HPL model and fit the criteria based on having children under two years old were included in the database from which we sampled for baseline data collection. This database also included pregnant mothers (mostly in their third trimester; identified by BRAC through a survey) who would age into the intervention in the next several months.

Sampling Strategy. We sampled 250 randomly selected mother volunteers (out of 350 total mother volunteers) and 1 household from each of the 4 pockets the volunteer supervised, leading to a total of 1000 focal children's fathers and mothers across 27 camps (excluding camp 10, in which the pilot of the intervention had been run).

Data Collection Procedures and Challenges. Data collection took place in-person, with female enumerators surveying mothers and male enumerators surveying fathers. Mothers' data collection almost always took place inside the home within their private space (given females' limited movement outside of their households), while fathers' interviews took place in the home or at a nearby outdoor location. On average, surveys took 34 minutes to complete for mothers and 45 minutes for fathers (with a longer duration for fathers because this often includes extra time in locating fathers once the enumerators arrived at the household). Due to RRRC restrictions, ARCED enumerators were only able to collect 1000 father and 408 mother surveys; the remaining (592) mother surveys were then conducted by BRAC staff who had permission to be in the camps, though they continued to be supervised by ARCED field supervisors, and they used the same CAPI that ARCED enumerators had used in the camps. Camp baseline data collection was conducted from September 26th, 2022 to October 13th, 2022.

Conducting survey data collection had several challenges in this context. Given the infrastructure of the camps, enumerators were almost always required to walk from one household to the next; locating the households was also time-consuming at baseline (at baseline, GPS coordinates were collected for each household (or in some cases for the pocket) , which facilitated finding families at endline. Since baseline was the first time we were contacting the families, and because these families did not have formal contact information, they had to be located with support from BRAC staff who had interacted with them, such as father volunteers or paracounselors). While mothers were usually found in their homes, locating the fathers was also often time-consuming if they were not at home. Crowded conditions usually meant that interviews were conducted with little privacy and frequent interruptions.

Host Baseline

Unlike the camps, the intervention for mothers did not exist in the host community prior to the study, and the mothers' and fathers' intervention began approximately concurrently. We sampled for baseline from a database that BRAC provided of all potential families who might take part in the intervention; inclusion criteria for this database was being in or near BRAC's existing pockets (the set of

households geographically proximal to play labs situated in government primary schools), having at least one child under the age of 2, and the father residing with the family for at least the next 8 months.

Sampling Strategy. The database provided by BRAC included approximately 8000 families. At baseline, we sampled all 125 mother volunteers, and 4 households from each of the 4 pockets a volunteer supervised, leading to a total of 2000 focal children's fathers and mothers.

Data Collection Procedures and Challenges. Challenges of data collection in the host community were somewhat different from challenges in the camps. Because the intervention was new to host communities,the families in the initial database had much more variability in terms of their availability and interest in being a part of the research. In the host community, distances between households were much further than the camps, and finding fathers who were available to participate in the survey was an even greater challenge, since fathers were often absent from the households for work. On average, surveys took 33 minutes to complete for mothers and 49 for fathers. Host baseline data collection was conducted from December 3rd, 2022 to December 19th, 2022.

Data Quality Assurance. At baseline, a simple random sample of 10% of the participants were followed up with a backcheck, where a different enumerator than the one conducting the full survey cross-checked a small portion of the survey to ensure accuracy.

Randomization

We assume *randomization at mother volunteer level,* with each mother volunteer (and her full caseload) randomly allocated to treatment or control. In the camps, the caseloads of 125 mother volunteers were allocated to treatment; this means that the husbands of the mothers assigned to these mother volunteers received the intervention, delivered by father volunteers. In the host, the caseloads of 63 mother volunteers were assigned to treatment.

We randomized the camp and host baseline data immediately to provide BRAC with treatment and control allocations; this information was vital to them to begin the intervention as father volunteers would be recruited and trained based on the locations of the treatment condition households. In the host community, given the large baseline sample, we performed simple randomization. Balance checks on potential confounders indicate that the randomization was successful.

In the camps, we performed constrained randomization to ensure covariate balance between arms on all potential confounders. Constrained randomization involves generating a large number of possible allocation schemes and calculating a balance score that assesses covariate imbalance for each of those schemes. It then limits the randomization space to a pre-specified percentage of candidate allocations before randomly selecting one scheme to implement. For our study, we used the l2 balance metric, which was first introduced by Raab and Butcher (2001), and constrained the randomization space to the 10% of schemes that provided the best balance. The covariates that were used included camp number/location, mother volunteer characteristics (age and tenure at BRAC), caseload characteristics (mother health, education, literacy, and age; father education, literacy, and age; the number of children under 2 in the household; whether the mother is pregnant, and whether the mother

suffered a serious injury in the last year) and baseline versions of the outcomes aggregated to the caseload level.

Figure 4 summarizes the recruitment, randomization, and sample sizes of treatment and control groups in the study.

Midline Data Collection

In the first three weeks of June (i.e. approximately the last 6-8 weeks of implementation of the intervention), we conducted observations of the quality of one-on-one father home visits, using a structured observation tool adapted from the HOVRS (Roggman et al, 2019; a forthcoming research brief by Bolisetty et al. will provide a full description of the process of adapting and developing the instrument). We conducted a total of 600 observations, split evenly between host and camp and representing all of the father volunteers.

Endline Survey Data Collection

After completion of the 6-month intervention, we collected endline data, which was also done in person. Unlike baseline, host and camp data collection overlapped; data collection ran from July 16, 2023 to August 20, 2023. Father surveys took approximately 45 minutes to complete and mother surveys took approximately 57 to complete.

Several considerations were taken into account for endline data collection. Specifically, we had a larger baseline sample for the host community than we required at endline; we therefore had to draw from this sample to create the endline sample. The strategy for this was as follows: first, we included all 300 fathers from the quality observation at midline. Then, we drew from the baseline host sample by randomly selecting 2 households per pocket (rather than the 4 that were in baseline).

In addition, two of the Rohingya camps, 8w and 22 (a total of 16 father volunteers and 124 households that had been included in baseline), received the intervention on a delayed schedule of a full three months after the rest of the sample. Inclusion of these camps would significantly delay completion of data collection, so we dropped them from the camp sample. These families are not considered attrited from the study; they were removed from the study entirely. Because we were therefore underpowered in the camp sample, we chose to overpower the host sample (this was a possibility given that we had a larger than necessary host sample from which to draw from).

Endline data collection specifically came with a number of challenges, the first and foremost of which was locating the fathers to participate in the surveys. Fathers were often unavailable for a variety of reasons, most of which were related to labor (i.e. they were gone from their homes for the fishing season, or had relocated for work).

In the host community, when fathers either could not be found or were unavailable to participate in the endline survey, they were replaced with a different father (and, accordingly, a different household (i.e. mother and child) entirely). Indeed, including the family in the endline sample, from the baseline sample, depended upon being able to locate the father (given that we did not want to be in a situation where we had collected child assessment and mother survey data but could not ultimately find the father). Two points are relevant in understanding the replacement strategy. First, a

father who was unavailable was always replaced with a father who was served by the same father volunteer. Second, fathers were only replaced through a multi-step approval process engaging ARCED's higher level staff; neither enumerators nor the enumerators' direct supervisors could decide on their own, in the field, that a family would be replaced with a different family. 184 families ("leavers") were ultimately replaced due to unavailability at endline. These fathers were unavailable due to being away for seasonal/temporary labor, having traveled abroad, being unavailable to meet with the enumerator during working hours.

The camp community followed the same multi-step approval process before a father was deemed inaccessible and therefore attrited; unlike the host community, these fathers could not be 'replaced' by different families from the camp sample. These fathers differed from the host sample in that these families could not be found at all, and we therefore do not have an explanation for their unavailability. There were 90 such fathers. There is no evidence of these 90 families being different from the main sample by treatment condition or across any of the covariates.

We included a total of 276 replacement fathers in the endline sample ("joiners"), covering both the 184 leavers from the host community as well as the 90 from the camp[2]. There is no evidence of joiners and leavers being different by treatment condition or across any of the covariates.

Ultimately, we ended up with 786 families from the camps and 1216 from the host at endline.

Endline Child Direct Assessment (Bayley-4)

The child direct assessment using the Bayley-4 was conducted at endline only and was a separate exercise from the father and mother survey data collection. 18 enumerators (7 male, 11 female) administered the assessment across both host (N=1265) and camp (N=822) households. An average of two assessments a day were conducted and the average duration for completing one assessment was 83 minutes in the camps and 75 minutes in the host. From the 822 assessments in camps, 407 or 51.85% were of male children and 378 or 48.15% were from female children. Similarly, from the 1265 assessments from the host community, 617 or 50.78% were boys and 598 or 49.22% were girls.

Data collection started in the first week of July. All 18 enumerators were assigned to the host households in the first week of data collection because the host community was a relatively easier context due to ease of access (no time-limits on accessing the host neighborhoods), fewer distractions and more space to conduct the assessments. This strategy helped the enumerators hone the peripheral skills required to conduct the Bayley assessment, such as toy and Bayley kit management skills, managing interfering parents or neighbors and/or other children, building rapport with the child, etc. From the second week of data collection, all the enumerators were assigned to the camps with the goal of completing camp data collection within the timeframe allowed by RRRC (i.e. by the end of August). We completed camp data collection by August 30th, and resumed host data collection after that point, which was completed by Sep 10th, 2023.

[2] Given the differing clustering structures across the host and camp samples, the additional families in the host sample cannot count as direct replacements for the leavers from the camp sample. We chose to overpower the host sample nonetheless, since we had the opportunity given our larger baseline sample, but these extra families should not be considered as replacing the families who attrited from the camp sample.

We were concerned about our ability to complete data collection within the period necessary for the impact evaluation's project timeline. A combination of strategies was employed to limit and maximize enumerator time for administering the assessment. An ARCED supervisor guided a group of four-five enumerators to pre-identify households and provided them with exact addresses along with the GPS location. This helped minimize time spent in arriving at the right households and led to optimal allocation of enumerators based on their locations. In the camps, ARCED supervisors coordinated with BRAC staff who offered GPS locations of households and assisted in understanding how to reach them.

Icddr,b gold standard trainers accompanied enumerators to co-score approximately four percent of the assessments as a measure of quality and observed the performance of the enumerators along with ARCED supervisors. In addition, for the same four percent of assessments, icddr,b trainers completed a 26-point *quality checks* which aimed to qualitatively measure the deviation, if any, between the scoring of the gold standard trainers and the enumerators. These quality checks also assess enumerators' soft skills, such as rapport building and managing the child, parents and crowd, etc. On technical skills (i.e., assessment administration), all the enumerators performed well; however, we met with a variety of challenges throughout data collection. It was observed, especially in the camps, that some enumerators took more time in building rapport with the child and struggled to successfully manage the focal child, or other neighboring children who were distracting the focal child. This led to delays in completing the assessments and had the potential to impact the quality of data collected. To mitigate this, we conducted a refresher training to rebuild these skills. We faced some parent-related challenges as well, where a parent would scold the child for performing poorly on the assessment. In very few cases, parents would withdraw consent to participate in the assessment due to cultural or religious reasons (e.g., does not approve the use of some toys, such as dolls, or some concepts and/or pictures which can be attributable to western culture. The enumerators were trained to address the parents' concerns with a standardized script in such cases.

Scheduling the enumerator visits was also a tricky task, as some households allowed only female enumerators, especially in the camps. Moreover, the visits ideally had to be scheduled around the child's nap time, lunchtime and household prayer time. In some instances, children were woken up to take the test and in some, the assessments were rescheduled.

Lastly, ensuring enumerator safety during data collection was a big challenge. Heavy rains caused flooding which not only stalled data collection for a few days but also resulted in hazardous working conditions for the enumerators. Seasonal or viral fever, mosquito infestation leading to cases of dengue, and other weather-related issues were prevalent during the data collection. Enumerators were provided umbrellas, ointments and other precautionary measures before the start of data collection and were offered days for rest and recovery as necessary. ARCED also constantly monitored the situation, based on which either locations were changed or updated in real-time or data collection paused to ensure enumerator's safety at all times.

Given asynchronous timelines for Bayley and survey data collection pieces, and some trial and error in the first few days of data collection as we worked on understanding the most efficient way to access households and complete data collection, we ended up with a number of children who completed the Bayley assignment for whom the parents did not ultimately participate. Our endline sample size for the Bayley is therefore higher than the endline sample size for the fathers and mothers (i.e. N = 822 for Bayley in the camps and 1265 in the host community).

Endline Qualitative Data Collection (Semi Structured Interviews)

During endline survey data collection, we also conducted semi-structured interviews with participants in the intervention to understand their experiences. We conducted a three-day training with five enumerators on July 12, 13, and 15th of 2023. These enumerators had all been part of the midline quality observation data collection process and therefore had familiarity with the program; most of them had also been involved in qualitative data collection in the past. These enumerators were also responsible for transcribing their interviews (conducted in Rohingya/Chittagonian Bangla) into written Standard Bangla; because of our extensive experience piloting, we had developed guidelines for both qualitative research and transcription and translation, which were used to train enumerators on these processes.

These enumerators then conducted a total of 41 interviews across camp and host communities, with a sample breakdown as follows: 11 father volunteers (6 in camp and 5 in host), 15 fathers (8 in camp and 7 in host), and 10 mothers whose husbands were in the intervention (split evenly between camp and host). Interviews were conducted from July 16, 2023 to July 20, 2023 and lasted about ninety minutes on average.

The fathers' interview protocol covered their daily routines, their perceptions of their role as fathers, their experience of the program and their interactions with the volunteers and BRAC staff, and the nature of their play and care for their young children. The mothers' protocol covered many of the same topics, with exploration, in addition, into their perceptions of their husbands' involvement in the parenting program and how it might have influenced his role as a father.

The father volunteers' interview protocol covered their experiences as a father volunteer, including their interactions with fathers and families, their training, supervision, and support from BRAC, challenges during their work, and their perceptions of the relevance of the curriculum and responses to it from families.

Results Workshop

Prior to finalizing the results, we held a series of meetings with various stakeholders in Bangladesh in late November 2023. The purpose of these meetings, or more broadly this 'results workshop', was to co-interpret the results with respect to the experiences of the implementers, participants, data collectors, and other team members on the ground. As part of the workshop, we included the following meetings:

1. Meeting with BRAC (implementer) and ARCED (data collection partner) team in Dhaka: This meeting consisted of presentations from the BRAC team about the intervention itself, as well as the NYU team with preliminary research findings. These meetings were concluded with sessions that provided insight into interpretation of some of the results with respect to context-specific circumstances.
2. Meeting with BRAC HMCP team and additional stakeholders in Cox's Bazar: This meeting included the original participants from the first meeting in Dhaka, the field staff from BRAC working in Cox's Bazar in Child Protection and Humanitarian Management, as well as partners from Sesame Workshop Bangladesh and IRC. In addition, select program staff (i.e.

paracounselors and program officers) attended as well. These members of the team work in close proximity to the intervention, and are well versed in the day-to-day operations of the program. They are also well aware of ongoing events in the camp and host communities, which provided us some further information on context-specific challenges and circumstances.

3. Meeting with enumerators in Cox's Bazar: There were two separate meetings with enumerators. The first was a small focus group of enumerators (primarily enumerators who were involved in Bayley-4 data collection) that allowed us to further specific questions about enumerator assignment, processes of finding households, and interactions with supervisors which confirmed some of the analytic choices we made in terms of estimation and inclusion/exclusion of enumerator effects. Enumerators were also able to share their experiences and challenges. The second was a larger meeting with a large group of enumerators from all stages of the study (baseline, quality assessment, endline, child direct assessment). This meeting primarily served to inform the group about our preliminary results and thank them for their work.
4. Focus Groups with Participants: Three focus groups were held in the field with participants in the intervention. The first included only fathers who participated in the program in the host community, the second included these fathers' wives (i.e., mothers in the host community), and the third included fathers from the program in the camp community. All three focus groups included questions related to experiences in the programs, challenges or concerns, recommendations for future programming, and whether or not the participants see lasting effects from what they learned in the program. This information further informed our understanding of the quantitative results (see discussion).
5. Final Meeting with various stakeholders in Dhaka: A final meeting was held that included the preliminary results, as well as information from the focus group and enumerators for various stakeholders, in Dhaka. This provided a culminating look into our findings and interpretations thus far.

Measures

For both baseline and endline, only measures that were absolutely required of the father were asked of him in the interest of keeping the fathers' survey as short as possible. This means that child developmental outcomes and information about the household and environment are reported by the mother only. Table 1 shows the alignment of measures with the theory of change. Table 2 shows a summary list of the outcome measures, with example items.

Demographic Information

All caregiver survey measures included items related to demographics of both Rohingya mothers and fathers. These measures include birth month and year, information on education, literacy, and media exposure, financial concerns, number of children in the family, and basic information on the child. The measures were piloted in early 2022 as part of piloting work for this project. These measures were originally developed and used in the Evaluation of Reach Up and Learn Phone-Based Home Visiting

Program in Jordan (Rafla et al., forthcoming) and the Evaluation of a Remote Early Learning Program in Lebanon (Schwartz et al., forthcoming).

Physical Health (mother reported only)

Mothers' physical health was assessed using three items: 1) how they would rate their overall health on a 5 point Likert scale ranging from 'very bad' to 'very good' 2) if the participant had suffered from a serious illness or injury in the past year (yes/no response) and 3) if the participant was currently pregnant (yes/no response).

Implementation check

Social Support (father reported). The social support scale is an instrument developed by researchers at NYU Global TIES for Children specifically for this study. The scale has four items that ask how much the caregiver has received the following within a span of two weeks: "information about their child from outside the family", "advice about their child from someone outside the family", "information about being a [father or mother] from someone outside the family", and "advice about being a [father or mother] from someone outside the family." Participants answered based on a 4-point likert scale that included (1) Never, (2) Rarely, (3) Sometimes, and (4) Often. Mean scores of these four items were used.

Outcomes - Mental Health

PHQ-8. As part of an outcome related to mental health, we used the PHQ-8 depression scale for both the mother and father surveys to assess depressive symptoms and the Generalized Anxiety Disorder-7 (GAD-7) scale to assess symptoms of anxiety in the fathers' survey. The PHQ-8 (Kroenke et al., 2009) was developed as a shortened version of the PHQ-9 (Kroenke, et al., 2001) in the United States. The difference between the PHQ-8 and the PHQ-9 is that the latter includes an item asking about participants suicidal ideation, while the PHQ-8 does not. In addition to settings in the United States, the measure has been validated in a number of contexts including India, Peru, Vietnam, and Botswana (Porter, et.al, 2021). The PHQ-8 was also used with the Rohingya population to assess signs of depression in a sample of married and unmarried adolescents in camp and host community contexts in Cox's Bazar (Guglielmi et al 2021). The PHQ-8 has been additionally used in the Rohingya context by BRAC, who use the measure in monitoring research related to the Play to Learn project, and was tested for validity and reliability during our pilot process (Iqbal, et al., 2022). In this study, all eight of the original items were included in the survey. The prompt for all items was "over the last month, how often have you been bothered by any of the following things" and participants answered based on a 4-point likert scale that included (1) Not at all, (2) Several day, (3) More than half of the days and (4) Almost every day. In line with previous use of this scale, factor analysis indicated a 1-factor solution and supported use of mean scores (α = 0.77 for fathers, 0.75 for mothers at endline).

GAD-7 (father reported only). The GAD-7 was developed by Spitzer et al. (2006) as a brief measure to identify probable causes of generalized anxiety and assess symptom severity. The GAD-7 was first used in primary care settings across the United States, but has been further used in Bangladesh (Dhira, et al., 2021), India (Man, et al. 2021), and Malaysia (Pheh, et al., 2023). In this study, all seven of

the original items were included in the endline survey for fathers. The prompt for all items was "over the last 2 weeks, how often have you been bothered by the following problems". Participants answered based on a 4-point likert scale that included (0) not at all, (1) several days, (2) more than half the days, (3) nearly every day. The GAD-7 was collected from fathers and at endline only. In line with previous use of this scale, factor analysis indicated a 1-factor solution and supported use of mean scores (α = 0.77 at endline).

Outcomes - Parenting and Engagement with Family

To assess perceptions of fathers' involvement in their children's life, we used a set of items about the fathers' engagement with the child, communication with the wife, and involvement in daily household activities in relation to the family. Many of these items were drawn from the Father Involvement Questionnaire (FIQ), which was developed specifically for a study on paternal involvement amongst refugee families in Beirut, Lebanon (Hein et al, 2020); some were adapted from findings from a qualitative study on fathers' roles and coparenting in rural Pakistan (Jeong et al, 2018). Both fathers and mothers answered these items, with the father responding with his perceptions about himself and the mother responding with perceptions about her husband. For fathers, the prompt for the item was, "How often in the last week have you," or "how often in the last week have you helped [child name] do the following," while for mothers the prompt was about how often her husband had done the following. Participants answered on a 5-point Likert scale ranging from "not at all" to "every day of the week". Example items included 'how often in the last week have you talked to your wife about something that was concerning about your child' and 'how often in the last week has your mother given advice about raising your child'. The baseline version of this scale consisted of 41 items, which, following psychometric analyses, was cut to 29 items at endline. Baseline psychometrics indicated a six-factor substructure, as follows: 1) Collaboration with wife about child (8 items, example item: "I share my views about our child with my wife") 2) Physical support for wife (4 items, example item: " I physically helped my wife with something when she was tired") 3) Warmth/play (3 items, example item "I hug and cuddle my child"), 4) Harsh discipline (3 items, example item: "I yell when disciplining my child"), 5) Responding to child news and ensuring safety (7 item, example item: "I intervene when my child is about to do something dangerous" and 6) Communication with wife (4 items, example item:"I speak to my wife in a respectful manner"). This factor structure held for both fathers' responses as well as mothers', and was confirmed at endline using separate CFAs for father-report and mother-report of these outcomes (RMSEA = 0.046, CFI = 0.903, TLI = .89, SRMR = 0.047 for father report; RMSEA = 0.046, CFI = 0.961, TLI = 0.905, SRMR = 0.048 for mother report). Factor scores were used for analyses.

Beliefs about family engagement and fathering (father reported). The items on fathers' beliefs about family engagement and fathering were developed by researchers at NYU specifically for this study. Fathers only were asked an additional set of items about their perceptions of the importance of engaging in various activities. Participants answered on a 5 point Likert scale ranging from 'not at all important to 'extremely important'. Examples of the items include 'how important is it for a father to discipline the child when they are naughty' and 'how important is it for a father to cuddle with the child.' The original rendition of the scale included 31 items, of which we used 16 in baseline and endline.

Baseline psychometrics did not indicate latent factors emerging from these items. We also re-ran psychometrics at endline in case they yielded different results (since some of the items may have been more strongly emphasized by the curriculum than others) however, we still did not find evidence of latent factors and therefore used these items as one scale (mean score); α = 0.84.

Caregiver-child stimulating behaviors (mother and father reported). Items assessing the degree to which caregivers do stimulating behaviors with the child were originally developed and piloted under the Play to Learn project to understand child development in the 3-4 age range; the scale was then adapted for the purpose of this study. The items seek to understand how often each day the caregiver engages with stimulating activities with the child, including general activities such as counting objects or naming colors, to more culturally specific activities including playing *tuki* or reciting *kabbiya* with the children. Participants had the following options for response: 1) Not at all 2) 1-2 days a week 3) 3-4 days a week 4) 5-6 days a week 5) Every day of the week. This instrument was used with both mothers and fathers, with each person responding about themselves. The father-reported measure was used as an outcome, while the mother-reported measure was a moderator. Eleven of the 15 items held well together at baseline in both the mother and father reports, and those were the questions asked again at endline. Factor scores were used for analyses. We obtained factor scores for mother and father reports using the same model whereby the eleven items reported by each caregiver loaded on one factor (RMSEA = 0.049, CFI = 0.913, TLI =0.903, SRMR = 0.037).

Outcomes - Child Development

To measure child development, we used the Caregiver-Reported Early Development Instruments (CREDI) and the Bayley Scales of Infant and Toddler Development (Bayley-4) at endline.

CREDI. The CREDI is a caregiver-reported, cross-culturally comparable, population-level measure of ECD designed to function across a variety of cultural, linguistic, and socioeconomic contexts. CREDI validation was done in 17 low-, middle-, and high-income countries, including Bangladesh, and has been further validated in Tanzania (McCoy et al., 2017a), Brazil (Altafim et al., 2020), China (Li et al., 2020), and India (Alderman, et al., 2020). There are two versions of the CREDI, short form (McCoy et al., 2018) and long form (Waldman et al., 2021) The long form CREDI is used to provide detailed information to researchers studying specific developmental domains, while the short form is intended to provide a "snapshot" of overall ECD status at the population level (McCoy et al., 2017). In this study, we use the long form for the mothers survey. As part of the long form, participants answer a series of questions with yes, no, or don't know responses. The questions are categorized chronologically by age and enumerators begin questions where the child's age matches. The mother continues answering questions, going up in age, until the participant answers "no" or "don't know" 5 times.

Because of a mistake in how data collection took place[3], the baseline CREDI data was unusable. At endline, mothers reported on the full long form CREDI, while fathers reported on the social-emotional subscale of the CREDI.

[3] The CREDI involves going through a set of yes/no questions, starting at the section for the child's age and stopping at the point at which the respondent has said 'no' 5 times in a row. In many cases, this

The internal consistency of all CREDI domains/subscales, cognitive, motor, language, and socio-emotional, show high Cronbach's alphas, ranging from 0.96 to 0.98. When internal consistency was measured by age bands, the alpha coefficients, although decreased slightly for children over one year old, remained between 0.92 to 0.98, indicating high internal consistency. We also found a strong correlation between the CREDI subscales of cognitive, language, motor, and socio-emotional, with correlation coefficients ranging from 0.88 to 0.96, all correlations significant at $p < .001$, which illustrates acceptable criteria-related validity. Moreover, for both the camp (Figure 9) and host community (Figure 10) children, the CREDI scores show progression by age in all domains, providing evidence of construct validity. When male and female children were analyzed separately, both genders show progression by age across all domains. These findings suggest that the CREDI tool displays adequate reliability and evidence of validity for children both in camps and host communities.

Bayley-4. The Bayley Scales of Infant and Toddler Development 4 or Bayley- 4 was used as the direct measure for child development outcomes in the study and is one of the most widely acceptable tools to determine children's developmental functioning due to its accuracy, rigor, and holistic approach (Pearson, 2019). The Bayley-4 scale measures a child's growth level across five domains - physical development, cognitive development, communication, socio-emotional development and adaptive development (Balasundaram & Avulakunta, 2022). In the context of the present study, we measured only the cognitive and language development domains for children using the assessment. Key considerations of feasibility include domains of interest, assessment time, domains of interest, and costs. Our primary domains of interest were cognitive and language development. Although motor development domain is also of interest, a number of cognitive assessment items require hand and body movement and thus include motor functions. The assessment is also time-consuming; assessment of all five domains could have required more than two hours per child. With limited days of access to study participants and restricted time per day, this would greatly limit our ability to assess the full sample of children. Another important consideration was the licensing cost of the Bayley-4 licensing cost, paid to Pearson per assessment per child. Assessing children in all 5 domains would have been prohibitively expensive.

The Bayley-III (which has many similarities to the Bayley-IV) has been used and adapted worldwide including in many low and middle income countries, but it has not been used or validated in humanitarian settings before this study, which called for rigorous piloting of the tool with the young children in the Rohingya community described above.

Bayley-4 data has three types of scores: raw, scaled, and standardized. Raw scores of successfully completed assessments are converted into scaled scores based on Pearson's Bayley-4 conversion tables. The scaled scores are scaled to a metric with a range of 1 to 19, a mean of 10, and standard deviation of 3. The scaled scores later converted into standard score based on Pearson's

'stop' rule will mean asking the respondent questions beyond the set of items that was pre-set for a child's age range, moving into questions belonging to subsequent age ranges. During baseline data collection, this 'stop rule' was not clearly established, and enumerators administered questions only within the child's age range and not past it. This resulted in very little variation and therefore unusable data.

Bayley-4 conversion tables. The standard scores are scaled to a metric with a range of 40 to 160, a mean of 100, and a standard deviation of 15. These norm-referenced scores are used to determine the child's development in each domain relative to typically developing children of the same age (in months) based on American norms (Bayley, 2006b). Thus, based on American norms, a score of 100 reflects the average score in child development of a given age group compared with the American sample.

Since conversion from a wider range raw score to a shorter range scaled score may lose important and meaningful variation in data, we decided to conduct analysis using the raw score while controlling for age. Additionally, in our study, we found a few children scored below 3 standard deviations from the mean. Further investigation revealed that enumerators reported each of them as children with some type of disabilities (such as, speech impairments, vision, physical difficulties with crawling, sitting, or walking, etc.). These, however, could be delayed children and may later catch up with treatment. For our analysis, we decided to exclude these children.

Both in Rohingya camps and host communities, the domain-level Bayley-4 mean scores showed variability and approximated normal distributions, reflecting good between-child discrimination. When separated into age-bands, the stratified data yielded increasing domain level scores by child age band for all domains, showing a strong linear developmental progression for each. Furthermore, when language domain scores were separated into expressive language and receptive language scores, these sub-domain scores also show strong developmental progression as they mature (these effects are shown in Figures 5 and 6). These findings indicate that the measurement tool is sensitive to potential differences in children's developmental abilities in the dimension of age and evidence of construct validity. A similar trend was found for both male and female infants and toddlers. We also found a strong correlation between the raw scores of the Bayley-4 cognitive scale, expressive language, and receptive language, with correlation coefficients ranging from .79 to .84, (all correlations significant at $p < .001$), which illustrates acceptable criteria-related validity. In addition, the international consistency of cognitive and language items within each domain ranges from .88 to .90, indicating high reliability. Results from analysis suggest that the Bayley-4 adapted version displays adequate reliability for population-level measurement, as well as evidence of validity.

Environment

The *Perceived Refugee Environment Index (PREI)*, specifically the households needs and support subsections were used to understand the participants' living conditions.

Environment (PREI) (mother-reported). The PREI was developed by Pluess et al. (2022) for the Biological Pathways of Risk and Resilience in Syrian Refugee Children (BIOPATH) study in Lebanon (McEwan et al., 2021). This measure is used to assess household resources and social supports available to families. Participants are prompted to answer how often in the last 30 days they felt a specified item in their environment. Participants respond based on a 4 point likert scale that includes the following: (0) almost never, (1) less than half of the time, (2) more than half of the time, (3) almost always.

Example items include 'how much in the last 30 days has your household had access to clean drinking water whenever you need it' and 'how often in the last 30 days have you worried about petty

crimes where you are living'. Data from this instrument was only collected from mothers at baseline only.

Baseline psychometric analyses indicated a two-factor structure for the PREI items, specifically, subscales of 'Household Resources' (9 items) and 'Housing Quality' (5 items). This was consistent with NYU-TIES' previous studies using this scale, and was confirmed with a CFA at endline. This two-factor solution had good model fit (RMSEA =.059, CFI =.954, TLI =.946, SRMR =.055). Factor scores were used in analyses.

Implementation Measures

Attendance. Both mothers and fathers' attendance in the program was monitored by BRAC and provided as the number of sessions attended out of the total number of sessions conducted for that caregiver (for the fathers, this was the number of one-on-one visits and group sessions with the father volunteer (out of a possible 3 one-on-one and 1 group session each month). On average, the camp fathers (n=397) attended 88% of the sessions conducted and the host fathers (N=601) attended 89% of conducted sessions. The mean number of sessions conducted was 21.5 with a minimum of 20 and a maximum of 22. As for mothers' groups, the average number of sessions conducted was 21.8 (min=19; max=23). In the camp community (n=806), mothers attended on average 91% of the sessions conducted, while in the host community (n=1,233), they attended at a rate of 93%.

Observed Visit Quality (Midline). The Father Home Visit Quality Instrument that was developed for this study was adapted from the HOVRS (Roggman, 2019) included the following four subscales: (1) relationship between father volunteer and caregiver/father (6 items), (2) responsiveness to family strengths, culture, needs, and circumstances (5 items), (3) active listening (7 items), and (4) parent engagement (6 items). Details on the development of this instrument are available in a supplementary research brief (Bolisetty et al., forthcoming).

Each of the 24 total items had four response categories rated from 1 for the lowest level of quality to 4 for the highest (descriptors for each response category were specific to each item). All 24 items were coded for each visit. In addition, the instrument also contained items assessing start and stop time of the home visit and how long, if at all, any supervisors from BRAC were present.

The instrument development team developed "gold codes" for 4 practice videos provided by BRAC. A team of 14 enumerators were trained on the instrument and with these videos. Of them, 10 reached our criteria for reliability (exact agreement with gold codes on 18 out of 24 items; within 1-point agreement on 4 items; and within 2-point agreement on 2 items) on the last video. The remaining 4 were considered borderline, but not weak enough to drop, and they therefore shadowed the strongest of the 10 enumerators for the first week of data collection. By the end of this week, their scores converged with the stronger enumerators' scores almost exactly and they were then approved for data collection on their own. Data collection took place from May 29, 2023 to June 25, 2023, for a total of 300 observations in camp (representing 2-3 from each of the 109 father volunteers) and 300 in host (representing 4-5 from each of the 63 father volunteers).

Cross-validation was used when conducting the factor analysis. Observations were randomly divided into training (n=300) and validation (n=300) samples, which included both host and camp

observations (about 50% each). Exploratory factor analysis (EFA) was conducted in the training sample using Mplus version 8.9 ran through Stata 18. Several EFA iterations were run assessing 1- to 6-factor solutions. In almost all the different iterations and factor solutions the parent engagement (PE) items loaded together in a separate factor. We therefore ran a final EFA model excluding the PE items to assess how the items from the other theoretical sub-scales loaded. This revealed a 2-factor solution with items clustering on to a "father volunteer responsiveness to the family and curriculum" subscale and a "general positive interactions with the caregiver" subscale, which might be thought as a prerequisite for achieving the more advanced skills. The third factor was composed of the parent engagement items that loaded separately.

Based on the results from the 2-factor EFA solution, we ran a 3-factor confirmatory factor analysis using the validation sample (n=300): Factor 1 represents father volunteer responsiveness to the family and curriculum, factor 2 encompasses general positive interactions, and factor 3 includes parent engagement items.

IRT analysis indicated that items "familiar with family beyond what is strictly necessary for the visit" and "handles expressions of intense caregiver emotions effectively" were redundant and did not provided new information for the scales, so we decided to drop them. The item on handling intense emotions had more than 50% of missing data given that it was non-applicable in some circumstances.

The final CFA model excluded the following items (based on previous CFA and IRT analysis): "Plans topics of this or future home visit based on parent input", "Familiar with family beyond what is strictly necessary for the visit", "Interrupts the caregiver when they are speaking", and "handles expressions of intense caregiver emotions effectively". Goodness of fit indicators showed adequate fit of this model, although RMSEA value was slightly over what we would have wanted (RMSEA =.061, CFI =.952, TLI =.946, SRMR =.082.)

Contact with program staff. For endline only we surveyed fathers on their own experiences with program staff. The questions were adapted to use specific programmatic features in this intervention, but similar items have been used in the Evaluation of Reach Up and Learn Phone-Based Home Visiting Program in Jordan (Rafla et al., forthcoming). Questions used in this section include: "How often did you speak to a father volunteer," (treatment group only) "How often did you speak to a paracounselor", and "How often did you speak to a different member of BRAC staff (e.g. PO)." Participant response options included: (1) Never, (2) Once a week, (3) More than once a week, (4) 1-2 times a day (5) Very frequently - because they live close by.

Cost Data and Estimation

We apply the ingredients method (Levin et al., 2018) to examine the resources related to BRAC's parent and caregiver engagement efforts with a goal of estimating the total costs of the mother and father program and the incremental costs of the father engagement component relative to the existing mother-focused parenting intervention. The ingredients method includes all resources, regardless of how they are financed, to reflect the intervention's economic value and to estimate the costs relative to the services received by the control condition. As a result, the costs reflect the process and resources delivered to produce effects

and can inform future replication and scale up decisions. The method includes identifying ingredients, valuing ingredients with prices, and calculating costs. We describe the methods used to collect data and conduct each of these steps below.

Ingredients. We designed the study to collect data on the quantities and qualities of the intervention's ingredients using the operational guideline for the father engagement model developed by BRAC and Sesame, as well as the information described in the Humanitarian Play Lab's program curriculum. We then collected data on the ingredients used from implementation records, interviews with BRAC, and survey questions for caregivers administered as part of broader endline data collection. The ingredients included key program personnel, facilities, materials, and training subsidies. Fathers' time was also a key ingredient as fathers were required to meet with father volunteers three times a month for 30-minutes and once a month for a 1-hour group meeting. We collected time allocation data with a survey for fathers that asked about their time spent on providing physical care for their child (i.e., feeding meals, putting them to bed, bathing etc.), parenting practices, and engaging in educational or play activities.

Estimating Price Values of Ingredients. BRAC provided expenditure data to reflect the actual expenses incurred by the organization for the ingredients that they financed. These prices reflect prevailing local market prices during the program's implementation. We approximated the value of father and mother participants' time using the monthly wage provided to respective father and mother volunteers. The rationale behind this valuation is that both mothers and volunteers were recruited from the same community, therefore their wage valuations would be the same. Moreover, considering that official paid work was prohibited in the camp, using a volunteer's wage serves as a reasonable approximation. BRAC records are in 2023 Bangladeshi Taka (BDT). BRAC data include program staff, volunteers, and training. To support comparisons of our findings across different studies and contexts, we also adjust the cost estimates to US Dollars (USD) using an exchange rate of approximately 110 BDT for every 1 USD, reflecting the exchange rate during the implementation period. Presenting economic values only in USD is limiting because many of the contextual aspects of markets are lost. Thus, we show results in both monetary values.

Cost estimation. We multiply ingredient quantities and prices, sum across ingredients, and divide by the number of fathers and children served to estimate the average cost per household. We also calculate the costs borne by the households and those borne by BRAC.

Measurement Invariance

We tested for measurement invariance between camp and host at baseline for all measures that we use as factor scores for. Our data exhibits invariance at the configural level, which indicates that the basic organization of the constructs is similar across the two communities.

Missing data

In the camps, we surveyed 789 of the 876 (90%) of families from baseline that were slated for inclusion at endline. In the host community, our baseline sample was twice as large as we needed from endline. We therefore surveyed the full 1124 as well as an additional 92 to have a slightly larger host sample. Item level missingness was very low (<1%) on covariates; a complete case analysis would have resulted in 1974 for fathers and 1964 for mothers. In order to have a full analytic sample, we ran a single imputation (using nearest neighbor matching) for the covariates which had missing data (we did not impute any outcomes), leading to an analytic sample of 2002 for fathers and 2000 for mothers. This also included the few cases in which we had baseline surveys for the father or mother but not both; in these cases we imputed the missing baseline covariates.

Analytic Approach

Our study implements similar (but not identical) interventions in two separate communities: the host community and the refugee community. Caseloads from these two communities were randomized into the treatment arms separately. Thus, while we have balance on potential confounders within community, the levels/magnitudes of covariates (as well as the mechanism through which they might affect the outcomes) could vary significantly across communities. This could threaten the validity of our coefficients. In order to minimize this threat while analyzing the results as a pooled sample, we used the following procedure:

1) We pooled the data from both communities into one dataset and created an indicator variable that identifies whether a certain household is from the camp/refugee or host community.
2) To test whether there are significant differences in how covariates predict outcomes between the two communities, we interacted the community indicator variable with all the covariates in the model.
3) We tested the significance of each interaction using a t-test. All interactions with a p-value greater than 0.1 were deemed not meaningfully different and were dropped from the estimating equation for parsimony. To ensure a consistent set of interaction terms across all outcomes, we kept the interaction terms in all models (i.e. for each outcome) if it appeared with a p-value less than 0.1 in *any* of the outcomes. Ultimately, this led to us dropping the interaction terms for caregiver school type, child gender, mother health, whether there were children under the age of 3, and the household quality subscale of the PREI.

The covariates included caregiver age, caregiver school type, highest grade to which the caregiver went to school, whether or not the caregiver reported being literate[4], child gender, child age, mother's health, whether or not the mother had suffered serious injuries or illnesses in the last year, whether the mother was pregnant, the number of children under the age of 3 in the family, financial

[4] The covariates for age, school type, grade, and literacy are for the father when the outcome is father-reported and for the mother when the outcome is mother-reported. The subsequent set of covariates are the same across both father and mother-reported outcomes.

concerns, and the two PREI factors (housing quality and household resources). We also included the baseline measure of each outcome (except in cases where we did not have it, i.e. the Bayley and the CREDI).

We accounted for clustering in both the camp and host sample at the mother volunteer level as well as at the neighborhood level[5]. We used a mixed effects model, estimated through restricted maximum likelihood (REML), to identify the treatment effects for each outcome.

$$y_{ijk} = \beta_0 + \alpha\, tx_k + \gamma\, camp_k + \beta_N covN_{ijk} + \delta_M camp * covM_{ijk} + \zeta_k + \mu_{jk} + \epsilon_{ijk}$$

Mixed effects model where,

y_{ijk} is the outcome variable, measured at the individual level i within pocket j and mother volunteer k

α is the treatment effect

tx is the treatment assignment with a subscript k given cluster randomization

ζ_k is the random effect at the mother volunteer level

μ_{jk} is the random effect at the pocket level

and ϵ_{ijk} is the individual level error

We grouped the outcome variables into conceptual groupings (see Benjamini & Yekutieli, 2001; Schochet, 2008) and conducted p-value adjustments using false discovery rate methods (Benjamini & Yekutieli, 2001), to adjust for multiple hypothesis testing. The groupings are as follows: 1) Father's well being (PHQ and GAD), 2) Fathers' parenting and engagement with family, reported by father (ensuring child's safety and responding to needs, collaboration with wife about child, physical support for wife, communication with wife, father-child warmth/play, father-child harsh discipline, father-child stimulating behaviors), 3) Father's parenting and engagement with family, reported by mother (same sub-scales as previous point, without the stimulating behaviors scale), 4) Child development (Bayley-4, Mother-reported CREDI, father-reported social-emotional subscale of CREDI). Beliefs about fathering was not included in these adjustments. The models in which the Bayley-4 was the outcome also controlled for enumerator effects.

Results

Descriptives

Sample Characteristics

Fathers' characteristics were reported by fathers only, while mother and household characteristics were reported by mothers only. Camp and host characteristics are presented separately for fathers, mothers,

[5] The pocket level clustering was only relevant for the host community and for almost all outcomes, it explained very little to no variation. This random effect was dropped in the cases where its inclusion led to convergence issues.

and children below, given substantial differences in their educational backgrounds and literacy. Child date of birth for all analyses is the date of birth provided during the Bayley assessment[6].

Father characteristics (reported by fathers)

Camp. Fathers' mean age was 32.9 (SD = 8.76) and ranged from 18 to 76. Fathers' schooling and literacy rates were low: 66% of fathers reported that they had attended primary school or less (with 46% never having attended school at all), and 57% reported that they were unable to read. Fathers do however have some exposure to media, with 62% reporting they watch television or video at least once a week and 28% reporting listening to the radio at least once a week.

Host. Fathers' mean age was 34.6 (SD =7.72) and ranged from 18 to 66. Literacy and schooling were higher than in the camp population: while 59% of fathers reported that they had attended primary school or less, 14% reported not having attended school at all, and 28% reported not being able to read.

Mother characteristics (reported by mothers)

Camp. Mothers' mean age at baseline was 28.15 (SD = 5.73) and ranged from 15 to 57[7]. Mothers' schooling and literacy was also low in the camps: 87% of mothers reported attending primary

[6] There are five sources of child date of birth in collected data for the study: father baseline, father endline, mother baseline, mother endline, and the Bayley assessment (conducted in an additional visit). We created a deliberate protocol to attempt to minimize this error and to resolve the cases in which they did occur.

First, at baseline, parents were asked to show us their child's vaccination card, UNHCR card, or birth certificate to record the child's date of birth. At endline, the baseline date of birth was reconfirmed with the parent; if it did not match what we had from baseline the parent was again asked to verify by showing the enumerator documentation. Most (though not all) parents participated in the endline survey before their child participated in the Bayley assessment. If necessary, the endline (or Bayley) reported date of birth was updated by the enumerator, with an accompanying reason/explanation as to why it was different from baseline. This endline-reported date of birth was confirmed again through the same procedure during the Bayley assessment (and vice versa if the Bayley assessment came before the endline survey). Despite these measures, there would still inevitably be error that the enumerator would not be able to resolve during data collection; for instance, in some cases no documentation for the child was available; in a few cases, the child was very clearly a different age than what was provided on the ID card. In these cases, the enumerator was instructed to take down a reason or an explanation for the difference in date of birth between the Bayley assessment and the and the mother endline survey.

Two points are relevant here: 1) we prioritize the mother as a source of information about the child over the father; the above protocol was particularly emphasized with the mother; 2) at the analysis stage, we prioritize accuracy between the mother endline survey and the Bayley assessment over accuracy between baseline and endline. In cases where the Bayley and mother endline did not match we used the Bayley assessment, given that this assessment was focused on the child and we assume this to have a low error rate.

[7] The camp sample had 6 mothers over the age of 50. This seems unlikely given that these mothers all ostensibly have children under the age of 2; in some cases enumerators surmised that the caregiver saying she was a mother was actually a grandmother, but this could not be established definitively during data collection; nor could we establish that this was an error during data collection. We are therefore including the age as it was collected.

school or less and 70% reported being unable to read. Mothers reported on their general health on a 5-point scale, with 14% saying they had very good health (33% good, 29% moderate, 22% bad, and 2% very bad). 43% reported that they had had a serious illness in the past year. When asked how they would describe their financial situation, 22% described themselves as middle income and 71% said they managed to get by with some difficulty (8% described themselves as poor). When asked how often in the past month they had worried about having enough money, 9% said always (16% said very often, 35% sometimes, 25% rarely, and 16% never).

Host. Mothers' mean age was 28.06 (SD = 6.63), ranging from 14 to 52[8]. Schooling and literacy were higher in the host community than in the camps: 38% of mothers reported attending primary school or less; 35% attended secondary school, and 84% reported being able to read. 6% of mothers reported having very good health (37% good, 29% moderate, 23% bad, and 5% very bad). 44% reported that they had had a serious illness in the past year. When asked how they would describe their financial situation, 40% reported being middle income and 49% reported being able to get by with some difficulty (8% described themselves as poor and 2% described themselves as well-off). When asked how often in the past month they had worried about having enough money, 10% said always (17% very often, 33% sometimes, 21% rarely, and 19% never).

Child and household characteristics (reported by mothers)

Camp. Focal children ranged from 13 to 40 months (M = 25.34, SD = 4.25) at endline and were approximately evenly split across gender (51.85% male). 79.75% of families had one child under the age of 3, with 20% reporting having two, and 0.25% (two families) reporting having three children. 33% of mothers reported that the focal child, on average, fell sick twice a month; 31% reported their child falling sick once or less and 36% reported their child falling sick three or more times.

Host. Focal children ranged from 8 to 41 months at endline (M = 21.65, SD = 6.23) and were approximately evenly split across gender (50.71% male). 93.17% of families had 1 child under the age of 2 (i.e. the focal child), with the remaining 6.83% having 2. 27% of mothers reported that the focal child, on average, fell sick twice a month; 26% reported their child falling sick once or less and 46.58% reported their child falling sick three or more times.

Differences in camp and host communities

There were significant differences across camp and host across several of the demographics for families participating in the studies. T-tests indicated that fathers were significantly older in the camps, more mothers were pregnant in the camps during baseline data collection, focal children were younger in the host community, and there were less children under the age of 3 in the host community than in the camps. As indicated by chi-square tests, there were also significant differences in father's schooling and literacy: literacy and the extent to which they had gone to school were overall higher in the hosts than in the camps.

[8] The host sample had 2 mothers above the age of 50; see previous footnote.

There were no significant differences between host and camp on mother age, child gender, financial worry, or whether the mother had suffered injuries or illnesses in the past year.

Findings by Research Question

There was a statistically significant impact of the treatment on the social support (i.e. implementation check) items, such that assignment to treatment group led to higher reports on this scale (β = 0.23, p = 0.00, effect size (ES) = 0.31).

Below, we display the results by research question. Impact estimates are reported in Table 3 by conceptual groupings of variables. Below, we first report the results for a pooled sample, combining host and camp communities (the columns on the left of Table 3). Following this, we report the findings for exploratory research questions, emphasizing first the moderating effect of camp/host residence.

Confirmatory Questions

What is the added impact of a parenting intervention, delivered by male volunteers, consisting of home visits (every week) and group sessions (every three weeks) to fathers of children aged 0-3 on fathers' parenting and engagement with family, in comparison to families who only receive a parenting intervention targeting mothers? For the father-reported parenting and engagement outcomes, there was a statistically significant impact of the treatment on the responding to child needs (β = 0.07, *p* = 0.03, ES = 0.12), collaboration about child (β = 0.10, *p* = 0.02, ES = 0.15), physical support for wife (β = 0.08, *p* = 0.02, ES = 0.15), father-child stimulation (β = 0.20, *p* = 0.00, ES = 0.23) and beliefs about fathering (β = 0.11, *p* = 0.00 (non-adjusted), ES = 0.21). For the mother-reported outcomes, there was also a statistically significant impact of the treatment on responding to child needs (β = 0.09, *p* = 0.02, ES = 0.15), physical support for wife (β = 0.07, *p* = 0.02, ES = 0.16), and father-child warmth/play (β =0.06, *p* = 0.05, ES = 0.12) subscales of mother-reported parenting and engagement by the father.

What is the added impact of this program for fathers on father depressive and anxiety symptoms, in comparison to families who only receive a parenting intervention targeting mothers? We found no statistically significant impacts on father depressive or anxiety symptoms, measured through father-reported PHQ-8 and GAD.

What is the added impact of this program for fathers on child development (cognitive, Language, and Social-emotional domains), in comparison to families who only receive a parenting intervention targeting mothers? We found no statistically significant impacts on cognitive or language domains of direct assessment (Bayley-4) or mother-reported child development (CREDI). However, we did find a positive impact on father-reported social-emotional development (sub-scale of CREDI; β = 0.14, p = 0.049, ES = 0.12).

Exploratory Questions

Are effects of the intervention on hypothesized outcomes in Research Questions 1, 2, and 3 moderated by camp/host community residence, parental education, household resources, parental

health, child age/gender, or mother-report of mother-child stimulating behaviors? All moderation effects were also adjusted for multiple hypothesis testing; only the results that remain statistically significant after this adjustment are discussed here. The results of moderation analyses for camp and host community residence are shown in Table 3, along with the impacts on the overall sample described above. This table indicates the main effect on the overall pooled sample, for comparison purposes, on the left, followed by the program impact on the camp and the host communities respectively (i.e. analyses run on restricted camp and host sub-samples). The last column of the table indicates whether the camp and host communities are significantly different from each other.

A summary of the direction and and statistical significance of the moderation effects described below are shown in Table 4; these effects are summarized descriptively in Table 5.

Moderation by camp/host community residence. For the father-reported engagement with family scales (specifically, responding to child needs, collaboration about child, and physical support for wife) the impact of the program is statistically significant in the camp but not the host communities (this is most likely due to being underpowered to test moderation), though the impact on the father-child stimulating behaviors scale is statistically significant in both communities. The program's impact on harsh discipline is also only statistically significant in the camp community (i.e. not in the overall sample).

For the mother-reported father parenting and engagement scales, the impact of the program (specifically, responding to child needs, collaboration about child, and physical support for wife, and father warmth/play) is statistically significant in the host but not the camp communities.

Moderation by father schooling, education, and literacy. We used three different survey items to understand father schooling, education, and literacy. The item on schooling asked which type of school they went to (public school, private school, religious school, NGO, or other). The item on education asked the highest grade to which they had gone to school; for ease of analysis and interpretation we converted this into a continuous variable[9] to run the moderation analysis. The item on literacy was asked with three possible answers (no; yes - moderately; yes - well). These variables had a significant moderating effect across the majority of the father-reported engagement and parenting scales (as well as on beliefs about fathering), such that the program had a stronger impact on these outcomes for fathers who were less literate and less educated (driven by host in both cases). The program also had a stronger impact on those who reported going to private school and a weaker impact on those who reported going to NGO school (driven by the camp community).

Literacy and education also had a moderating effect on father mental health, such that the program had a stronger impact on father-reported PHQ and GAD for fathers who were less literate and less educated (driven by host in both cases).

Father schooling, education, and literacy did not have a moderating effect on any of the mother-reported or child development outcomes.

Moderation by household resources and financial worry. The only outcome for which there was a statistically significant moderating effect of household resources (both subscales of the PREI) was on

[9] In this variable, a '0' referred to no schooling, while 1-9 referred to attending school from 1st to 9th grade.

the expressive language subscale of the Bayley 4, such that the program had a stronger impact on this outcome for children with lower household resources (driven by host).

FInancial worry had a significant moderating effect on the program's impact on father-reported PHQ and GAD, such that the program had a stronger effect on those with higher scores on these scales (i.e. worse mental health; this effect is driven by the host community).

Moderation by mother health. There was a statistically significant moderating effect of mother-reported overall health on the program's impact on father-reported child social-emotional development (subscale of CREDI), such that the program had a stronger effect on families with worse mother health). There were no statistically significant moderation effects of mother health on any other outcome.

Moderation by child age. There were no statistically significant moderating effects of child age on any of the outcomes.

Moderation by child gender. The only outcome for which there was a statistically significant moderating effect of child gender was mother-reported CREDI (all four subscales), such that the program had a stronger impact on this outcome for families with focal children who were girls.

Moderation by mother report of mother-child stimulating behaviors. There was a statistically significant moderating effect of the baseline measure of mother-child stimulating behaviors on the program's impact on father-reported child social emotional development (such that the program has a stronger impact on those reporting *less* mother-child stimulation at baseline, driven by camp). There were no statistically significant moderation effects on any other outcome.

Are implementation factors (attendance, observed quality of visits, and contact with program staff) associated with the hypothesized outcomes in RQs 1 and 2? Associations were run using the same overall model without assessing a treatment effect.

Attendance. There are statistically significant positive associations between attendance and father-reported father engagement (specifically, in the overall sample, responding to child needs, β = .01, p = .04; physical support for wife, β = .01, p = .04; and communication with wife, β = .01, p = .01) and parenting (specifically, warmth/play, β = .01, p = .03). These associations are all driven by the camp community (i.e., associations are statistically significant in the camp sub-sample but not in the host sub-sample).

There are also statistically significant positive associations between the fathers' attendance and the exact same scales of the mother-report of the father's engagement (specifically, in overall sample, responding to child needs, β = .02, p = .01; physical support for wife, β = .01, p = .01; and communication with wife, β = .01, p = .02) and parenting (specifically, warmth/play, β = .01, p = .01). These associations are also driven by the camp community.

Quality observations. Observations of quality of the father volunteers' home visits were largely not associated with outcomes, with one exception: The factor for general positive interactions was positively associated with father-reported CREDI social-emotional scores in the host community (β =0.17, p = .04).

Contact with program staff. Frequency of speaking to the father volunteer is statistically significantly associated with better mental health (lower PHQ scores, β = -.03, p = .02; this is driven by the camp) and with all of the engagement and parenting scales except harsh discipline (responding to child needs, β = 06, p = .00, collaboration with wife, β = .05, p = .00, support for physical needs, β = .05, p = .00; communication with wife, β = .02, p = .00; warmth/play, β = .06, p = .00, and stimulation, β = .07, p = .00).

Frequency of speaking to a paracounselor is associated with higher engagement and parenting for certain outcomes (specifically, responding to child needs, β = .03, p = .03; collaboration with wife, β = .07, p = .00; support for physical needs, β = 05, p = .00, stimulation, β = .12, p = .00, and beliefs about fathering, β = .14, p = .00).

Frequency of speaking to other BRAC staff is associated with *lower* mental health (higher PHQ, (β = .03, p = .04); and GAD (β = .05, p = .01) scores; driven by camp) but, higher engagement and parenting for certain outcomes, specifically, responding to child needs (β = .04, p = .02); collaboration with wife (β = .10, p = .00); support for physical needs (β = 06, p = .00); stimulation (β = .14, p = .00), and beliefs about fathering (β = .10, p = .00). These associations are statistically significant in both camp and host sub-samples.

For mother-reported father parenting/engagement outcomes**,** there are no associations between any outcome and how often father spoke to FV. However, the frequency of the father speaking to PC or other BRAC staff is associated with higher engagement and parenting (specifically, associations with speaking to the paracounselor: support for physical needs (β = .03, p = .04); communication with wife (β = .02, p = .07); and warmth/play (β = .02, p = .02); driven by host. Associations with the speaking to other BRAC staff: responding to child needs (β = .06, p = .00); collaboration with wife (β = .05, p = .01); support for physical needs,(β = 05, p = .01); and warmth/play, β =.04, p = .01; driven by host).

The only association between child development outcomes and contact with staff is with father-reported CREDI-SEM, with frequency of speaking to paracounselor (β = .01, p = .02; driven by host) and frequency of speaking to another member of BRAC staff (β = .00, p = .05; statistically significant in overall sample but not in separate camp or host subsamples).

How do fathers, mothers and father volunteers experience the program, in their own words? We answered this question through a set of qualitative interviews carried out during endline data collection, as well as focus group discussions with fathers in both host and camp communities during our results workshop near the end of November 2023. A brief description of our analytic method, and summary of the findings for fathers, mothers, and father volunteers is provided here.

Analytic Method. While our analytic approach is driven by thematic content analyses (Braun & Clarke, 2006), our methodology for understanding our data most closely matches iterative thematic inquiry (Morgan & Nica, 2020). We (Iqbal & Sunny) first discussed our expectations and beliefs about what we might find in the data. We then examined these expectations in relation to the data through several close readings of the transcripts. Following this, we built out a list of tentative themes, which we then clarified and expanded upon through writing and sharing results back and forth until we arrived at a consensus on results, in relation to our research questions.

All analyses, including development of themes, collection of quotations, and discussions of data were conducted in Bengali. Translation into English took place at the point of writing this manuscript.

For the focus groups, we worked from detailed notes taken during the focus groups themselves, as we did not audio-record those sessions.

Here, we primarily share key themes that emerged specifically about respondents' experiences of the fathers' engagement intervention.

Experiences of the Intervention: Caregivers

In fathers' words: "I have learned that my family is my priority."

Across both the camp and host communities, fathers expressed appreciation that they were part of the intervention. Almost all fathers said that the father volunteer scheduled times with them to meet and were flexible about rescheduling when necessary, which allowed them to participate. Fathers provided detailed descriptions of what they learned from the home visit sessions, with many of them admitting that these lessons were things they had never considered before. They also described some of the changes they perceived in themselves and in their families because of their participation. The thickest descriptions from fathers tended to be about what they learned in terms of engaging their child, followed by descriptions of what they learned about how to manage their emotions, and, to a lesser extent, managing their relationships with their wives. Each of these are described in more detail below.

Engaging with children. All of the fathers in our sample mentioned learning about how to care for and play with their children from the father volunteer, as well as about the importance of these activities.

"He gives me advice about how to improve my children's playing, grooming, and cleanliness and how to make them strong. He also tells me to take care of my children. How to become friends with my children and share our feelings with each other." (Father, 35 years, Camp 15)

"As children grow up then their needs increase. As a father I have to fulfill my child's requirement. How to raise my child happily, how to manage my child's wants, playing with her with toys, feed her good food, try to give her what she wants. Play with the items that we make in the session." (Father, 46 years, Host community: Khurushkhul)

Fathers also described how they now attempt to engage their children to a greater degree than before.

"...Now if I don't have any work then I play with my kids. I make things that I have learnt from the session like paper plain, flower etc. I teach them the names of different animals from the book that I got from BRAC" (Father, 32 years, Camp 15)

"Now I play with my child, give enough time to him, how to keep him safe. Now I make handmade toys for him to keep him busy otherwise he will run to the big road and might get into an accident. I also know how to keep him healthy, manage him with cool head, how to talk to him" (Father, 30 years, Host community: Uttar Para)

When asked for more details about what they learned about how to engage their children, almost all of the fathers also specifically mentioned the father volunteer teaching them how to make toys with recycled/household objects, and several also mentioned learning about children's nutrition and hygiene.

They show us different items to make several toys. He told us to make houses with sticks, toys with bamboo and sandal. (Father, 30 years, Host community: Uttar Para)

Previously I kept my child dirty and take her to the session without cleaning her. But now I clean her properly and then take her to the [HPL] session" (Father, 29 years, Camp 14).

Managing his own feelings and emotions. Fathers described being taught techniques to deal with their emotions, with a particular emphasis on anger management.

"He [father volunteer] said people's anger is like rain. If both the people get angry then there will be storm but if one person keeps calm then there will be no storm." (Father, 33 years, Camp 16)

"I have learnt that I don't need to be angry. Previously I hit my kids when I got angry. But now I control my anger. I help my wife."

"Previously I used to quarrel a lot but now I can control my anger. Now I help my wife and behave nicely with her. Previously I didn't know how to behave nicely with others but now I can behave nicely with them." (Father, 29 years, Camp 14)

"When I feel depressed and sad for my country then I go to Palongkhali and breathe some fresh air and deep in my mind I think it's the air of our country. Then I feel good. (Father, 33 years, Camp 16)

Engaging with wife. To a lesser degree, fathers describe behaving differently with their wives, though this was not elaborated on in much detail (see mothers' reports below for more information).

"Previously I didn't know how to control the kids when they cry and didn't help my wife. My behavior was bad. But now I look after my children, help my wife to do different works, take care of them. And my wife also takes good care of my children. So I can have a peaceful life. (Father, Camp 11, 28 years)"

"Previously I used to get angry a lot and beat my children and wife. But now I don't do these. (Father, Camp 11, 28 years)

Fathers describe their ability to behave differently with their wives and children based on what they learned, and how they feel these changes positively impacted their families.

"I know how to control the anger. I have to drink water, stay calm, and sit at a quiet place. When I fight with my wife then go to a quiet place and control myself."

Concerns and stressors. In the camps, both fathers and mothers shared their financial worries, especially around rations being decreased and increasing concerns about their ability to provide for their children. Caregivers in the camps were acutely aware of uncertain futures for their children.

"We want to return to our country. I want to educate my children to stay happily with everyone. We can't go out of the camp and earn money. So I am worried about my children's future. (Father, 33 years, Camp 16)

They also had concrete concerns about safety for their families, given political violence and unrest in the camps.

"I am scared of getting burnt at night. There is a group who burn the houses in winter. We can't sleep at night because of these groups." (Father, 32 years, Camp 15)

Every single participant, both mother and father, in our sample from the host community listed their concerns at the rising cost of basic necessities after the influx of the Rohingya, saying that many items needed for day-to-day life was now prohibitively expensive.

"We have got damaged in many ways after they [Rohingya] came. The price of all the necessary items has increased. For example, we used to buy rice with 18 taka/kg but now its 50 taka/kg. We cannot earn money because of them." (Father, 26 years, Khurushkhul)

Focus group findings supported much of the above, but the discussion also touched on a few different topics. Fathers in the focus groups notably mentioned the reduction in violence in their households, with three (out of nine) fathers in the camp focus group and four (out of nine) in the host group admitting that they would behave violently (beating their wives and children or being destructive in the household) and that they no longer do this. Fathers also shared that trafficking/smuggling of community and family members to Malaysia was a salient concern in their lives; they requested that future iterations of programming address this topic if possible. Additionally, fathers suggested that the program be offered to a larger number of families in nearby communities - though they see change in themselves, this would be more effective if other families in nearby areas were also able to receive sessions, though they also shared that economic diversity across households in their communities might lead to the program having differential impact, which they also felt had happened on occasion (for instance, on father mentioned that some families purchased a lot of new toys in response to the sessions, while other families could not do so, which lead to some tension between children).

In mothers' words: "There was a time when he used to understand nothing. Now he understands a lot about our children!"

While mothers had a lot to say about their own experiences of being part of the program directed towards mothers, here we focus on findings about mothers' perceptions of her husband's involvement in the father engagement program, and how they thought it affected their family lives. Most mothers spoke positively about their husbands' involvement in the program, reporting that after being part of the program the fathers seemed more knowledgeable about childcare and were doing a better job engaging their children.

"Yes, there have been changes. Earlier, he didn't have a good relationship with the children. He used to come from somewhere, have food, and then go to sleep. There wasn't much interaction with the children. Now, if he comes from somewhere and sees any of the kids looking dirty, he cleans them up. He takes care of their clothing, dries them, and plays with them after having his meal." (Mother, 26 years, Camp 15)

“Regarding children, there has been a change in him. Previously, he didn't want to play with the children. Today, if he stays at home, he will play with the children, and then he feels happy. It seems he understands these things now.” (Mother, 21 years, Host community: Jorjaniyala)

“In earlier times, he didn't show much care for the children, and he didn't pay much attention to their needs. But now he shows affection for the children. After getting the sessions, he lets the children play. He helps them with bathing and feeding, and he makes the little boy walk. He recites poems to him, plays the jhunjhuni (a musical instrument), and engages in activities with them.” (Mother, 26 years, Camp 15)

In addition to the new engagement with the child, mothers also express enthusiasm about their husbands' changed interactions with them, describing less fighting and quarreling and more peace in the household.

“I see a lot of changes. There used to be a lot of quarrels at home before, but not anymore. He used to be unaware of taking care of the children before, but now he takes care of them. Now, when I work, he helps me.” (Mother, 27 years, Host community, Ukhiya)

“Previously, he used to argue and quarrel a lot, but now he doesn't do these things anymore. Things have been much better for a long time. Earlier, I used to cook on a mud stove, but now he brings gas for me. Also, now he takes me out sometimes.” (Mother, 22 years, Host)

Overall, families expressed appreciation for the program, albeit also noting some concerns and worries, mostly around safety and security (political unrest in the camps, fear of smuggling/human trafficking in the host communities), and financial concerns (decreased rations in the camps, increasing cost of living in the host communities). In addition, satisfaction with their relationship with their husbands was not entirely unanimous: two mothers from the camps in our sample expressed dissatisfaction with their husbands. This is of course unsurprising, given that the program focuses on parenting during early childhood and will therefore not be able to take on all the challenges that people living in this volatile humanitarian context might be faced with. However, these points are still worth noting, as they directly impact the participants' wellbeing, and likely also their ability to care for their children. A final note is the close quarters and extensive family networks mean that other family members are often involved in the sessions. Children (including older children who understand the content and may be absorbing some of it) often sit in on the sessions; other family members (specifically the fathers' parents were mentioned) often ask questions about what was taught during the sessions. In focus groups, one father mentioned that his wife listens in and then tries to hold him accountable to what the father volunteer shared. While fathers likely benefit from the one-on-one space provided by the father volunteer, the family dynamics (and the fact that an intervention designed to be delivered to one person is actually being delivered to several) could potentially be leveraged to the program’s advantage.

In Father Volunteers' words: "Early on I had problems... but now I have been talking with 31 fathers along with their families every week!"

The interviews with Father volunteers (FVs) shed light on the recruitment and training process in addition to their experiences with families (here we focus on the latter). FVs joined the program by being referred by someone who knew them. FVs from the camps described being referred by mother volunteers who had already been working with HPLs (though we know that this selection process is also governed by the 'Camp in Charges', i.e. the local governmental authority in each camp). FVs from the

host community mentioned that they heard about the job through word of mouth. All the FVs signed a six-month contract upon joining the program and completed a 5-day training on the curriculum. This was followed up by a monthly refresher training and close supervision by BRAC paracounselors and program staff. Their interpretations of the trainings and supervision for the most part closely matched the curricular and training documents developed by BRAC-IED, and our understanding of the training thus far.

For the most part, FVs spoke positively about their experiences of delivering the sessions, both in terms of enjoying their time with fathers and of the positive impact on their own lives and relationships. Since all the FVs are married and have young children of their own, it seems that the information and network they gained through this work helped them develop healthy relationships inside their own families.

"I have learned many things on how to raise a child healthy and emotionally strong. I have to work for 5 days, but then again, I look for some time to play with my child. Last week, I learned how to make toys for the home-visits, and I made one for my son." (Father Volunteer, 22 years, Host)

FVs described the home-visit sessions they conducted as rewarding, in many cases saying that they learned a lot as well. Several of them spoke about the warm relationships they developed over time with the fathers and their families. Sometimes, families insisted that the FV share a meal with them, or that the FV attend their family events. FVs also mentioned the presence of the children during the sessions and feeling affectionate towards them as well.

"I like all my home-visits. I can't tell when the thirty minutes' session will come to an end. I can see it as a learning environment for both of us." (Father Volunteer, 20 years, Host)

FVs also developed soft skills through the training, such as communication through delivering the sessions and rapport building with the fathers, and time management and problem-solving skills by supporting the fathers to resolve their problems.

"Communication is an important skill for succeeding this job as a FV. Before joining the program, I could not talk with people freely. I used to feel shy and hesitant. But the training helped me to communicate properly. Initially I had problems, but now I have been talking with 31 fathers along with their families every week. I can also participate in social talk and family dialogue with my improved communication skills." (Father Volunteer, 35 years, Camp)

All the FVs from host and camp regions mentioned that they observed positive changes among the fathers, such as fathers spending more time with the children and focusing on building quality relations with their wives.

"Now, when I go on a home visit, I see fathers carrying their children. The father and children are sitting together. The father is showing cartoons from his mobile phones and helping the mother to feed the child. Fathers also help with the children when the mothers cook. These are good changes." (Father Volunteer, 20 years, Host)

Their enjoyment of the work and perceived impact notwithstanding, FVs did experience challenges in implementing the program. Fathers were often busy with work or unavailable to meet. They would often miss their sessions with the FV, even if it had been scheduled in advance. Difficulties finding and scheduling the fathers for the home visits was the primary challenge shared by all the FVs.

"Sometimes, we go for a home visit but the father remains absent. Even though we make appointments with them beforehand, they seem not to follow the time. During the rain or with heavy traffic, we do a lot of hardship to reach the house, but then we would find that the father is not there." (Father Volunteer, 22 years, Host)

"I had 42 fathers in my list and 10 of them did not continue. They bring excuses that they are busy, they have no time for this sessions. Some also mentioned that there is no incentive, so who would spend time for these sessions. We tried a lot to convince them, but it did not work for these fathers." (Father Volunteer, 22 years, Camp)

Father volunteers also expressed grievances regarding compensation and transportation costs, though these may be concerns that are specific to the host community (and were mentioned more from the host sample), given a wider range of options for employment (and longer travel distances for FVs trying to cover their full caseload's visits).

"We only receive the honorarium of 5000 BDT and no other cost for transportation. But we have to spend money traveling to remote areas for the group sessions. I had some disagreements with the BRAC officials to increase the convenience cost, I reported our issues and argued with the officials, but nothing has happened yet." (Father Volunteer, 28 years, Host)

From their experience with fathers, FVs strongly recommended that the program duration be extended, stating that changes in father behavior would be more sustained if they are given sessions for longer periods.

"I would like to extend the program for two more years and it will be helpful for both of us. Fathers especially would benefit more from the program. They can be more engaged in childcare and household activities." *(Father Volunteer, 20 years, Host)*

We view key takeaways from the qualitative data as 1) indicating successful implementation through caregivers and father volunteers both expressing appreciation for the program; this is also evidence that the program had positive effects 2) in some cases, shedding light on some of our findings from the quantitative analyses, specifically those of null findings for effects on mental health and differences between host and camp communities 3) beneficial effects extending beyond just the father through the mother and FV's networks and 4) providing insights into how to reconsider FV workloads and logistical requirements. These aspects are described further in the discussion section below.

What resources are delivered through the 6-month father engagement model in the home visiting HPL program and what are the associated costs? Additionally, what is the incremental cost of the added father engagement model relative to families only receiving parenting intervention for mothers? The ingredients of the father-focused parenting intervention include: personnel, facilities, materials, training subsidies, and father time. We describe the ingredients, including their quantity and associated costs, below to inform future replication.

Key Personnel. There were six key staff roles that were essential for program delivery: volunteers, program organizers, para counselors, managers, psychologists, and curriculum developers. Key staff received initial training and monthly refresher training.

Mother volunteers led monthly group sessions. Mother group sessions existed at the camp site several

years before the start of the Father Engagement model.

Father volunteers enlisted fathers, delivered the curriculum to their entire caseload of caregivers, facilitated weekly sessions, and referred caregivers to para counselors for psychosocial support. Rohingya fathers were recruited as father volunteers and were essentially community members who were already integrated with their assigned camp or host site, must have children, were between the ages of 20 to 40, and ideally have passed the fifth grade.

Program organizers were responsible for training, supporting, and supervising volunteers. Program organizers also supported the manager in selecting father volunteers and creating father groups/pockets. Program organizers were recruited from the local community. They were required to have a college degree, be at least 21 years of age, and pass a writing exam.

Para counselors supported the training and supervision of volunteers, provided psychosocial support to fathers, routinely followed up with enlisted fathers, and offered referrals to the psychologist when needed. Para counselors were members of the local community and were required to be at least 18 years of age, be a high school graduate (or equivalent), and pass an exam prior to beginning work.

Managers were responsible for overall program oversight and coordination, prepared internal documents, maintained routine communication with governmental and non-governmental organizations, and provided technical guidance to program staff as needed.

Psychologists were responsible for facilitating psychosocial training for program organizers and para counselors and conducting home visits as needed. Psychologists held master's degrees and received extensive training on various topics including play-based learning, mental health support, and positive parenting.

Curriculum developers were responsible for developing and reviewing curriculum, training manuals, and handouts. They conducted curriculum training for volunteers, para counselors, and program organizers. Curriculum developers held master's degrees and received extensive training on various topics including play-based learning, mental health support, and positive parenting.

Caregiver Time. We also consider caregiver time as a key component of the program. Mothers and Fathers were required to participate in either group or individual meetings with the respective mother and father volunteers during the 6-month program delivery period.

Mothers engaged in weekly group sessions lasting approximately 45-60 minutes facilitated by a mother volunteer. In total, mothers spent approximately 24 hours of their time to participate in the program. Mothers were expected to bring their child to group sessions.

Fathers engaged in weekly one-on-one sessions lasting 30-minutes each with the father volunteer, occurring three times within a month. Additionally, they attend a monthly group meeting. In total,

fathers spent approximately 15 hours of their time to participate in the program.

Facilities. Various spaces and sites were used for conducting mother and father group sessions and in-person training for key personnel. The weekly group sessions for mothers took place at a local community house, which could accommodate 10-14 individuals. Similarly, the monthly group sessions for fathers were held in individual homes from each pocket, accommodating 10-14 individuals.

Camp volunteer training took place at the BRAC training center within the camp area, covering both the initial and monthly refresher sessions. Initial training for host volunteers was held at an external venue outside the camp area, capable of accommodating 25-30 individuals, with a rental cost of approximately 5,000 BDT (~45 USD) per day. Subsequent monthly refresher training sessions occurred at the BRAC training center.

Initial training for program organizers was conducted at two hotel venues in Cox's Bazar.The initial training for host managers took place at a hotel venue in Cox's Bazar, whereas training for the camp managers occurred at the BRAC office. Monthly refresher training for host managers, camp managers, and for program organizers took place through an online platform using Zoom and Google Meet.

Host para counselors for the father engagement program received their training at the BRAC office. For the mother program, training was arranged at an external venue outside the camp area. Training sessions for camp para counselors were held at a hotel venue at Cox's Bazar.

Training. There were costs associated with training such as food and lodging subsidies that were provided for volunteers, program organizers, para counselors, and managers. These subsidies were provided during initial training and monthly refresher training. Each program organizer received a 2,800 BDT food and lodging subsidy per day. Each manager, para counselor, and volunteer received a 250 BDT food subsidy per day.

Materials. We collected costs for materials that were either used in training or during father home-visits (i.e., curriculum booklets, flipcharts). Materials for initial and monthly training for volunteers, program organizers, and para counselors included curriculum book, notebook, pen, handouts, name tag, poster papers, and etc. Father volunteers used flip charts provided by Sesame Workshop to facilitate father sessions.

We have also accounted for costs of father engagement model creation. This content was co-created by Sesame Workshop and BRAC, with input from an external consultant. We considered staff time from both Sesame Workshop New York and Bangladesh, covering roles in Education and Program Management, writers, translators, designers, and printing expenses. A total of 200,000 USD was allocated for content creation, with approximately 150,000 USD spent.

The total cost of delivering the 6-month home visiting HPL program and the added father engagement model to the families who were in the treatment group (998 households) is about 560,540 USD

(61,659,660 BDT), averaging about 560 USD (61,780 BDT) per household. The difference in average cost between treatment and control families (i.e., incremental cost of the added component of the 6-month father engagement program) is 344,880 USD (37,936,650 BDT), averaging about 350 USD (38,150 BDT) per household.

Discussion

This study is the only randomized controlled trial of a program focusing on fathers of 0-2 children in a LMIC humanitarian context. The role of fathers in children's lives is well established in the literature, including in Bangladesh (Bhattacharyya et al., 2023), but interventions involving them are comparatively lagging behind, and especially so in LMIC humanitarian contexts. Not a single published study has focused on father engagement or parenting among fathers of young children among the Rohingya, and the program presented here is the first to focus on fathers of 0-2 year olds for this population. This study is therefore filling a conspicuous gap and provides valuable information, through both the findings and methods, on the potential of father engagement programs for early childhood development. It also provides valuable insights for practitioners working to design and provide services in the Rohingya camps and surrounding communities; these practitioners are faced with limited resources with which to maximize outcomes for both children and caregivers in a protracted crisis of the largest forcibly displaced population in the world.

The program itself has several features that distinguish it from existing programs intended to involve fathers (specifically, a curriculum designed deliberately for fathers, flexible scheduling, and usage of a group component in addition to one-on-one sessions; see Jeong et al., 2023). The advantages of these features are reflected in corresponding successful implementation of the program: on average, fathers attended almost 80% of sessions across both the camp and host communities. In interviews and the focus group we conducted during the results workshop, fathers and mothers expressed appreciation and enthusiasm for the program and the impact it had on their families. Fathers explicitly spoke about appreciating the flexible scheduling, which allowed them to attend despite busy schedules (this was especially true in the host community).

The program had small positive impacts on fathers' parenting and family engagement (both father and mother-reported), and beliefs about fathering (father-reported). Specifically, the program increased fathers' reports of responding to child needs, collaboration with their wives about the child, and physically supporting the wife (note that during the 0-2 period physical care of the infant is developmentally prominent). In addition, father-reported stimulating activities with the child increased, as well as their levels of beliefs in the importance of play, fathering and father engagement. Among mother-reported outcomes, the program increased fathers' responding to child needs, physical support of the wife / mother, and fathers' warmth and play in their interactions with the child. Although previous parenting intervention evaluations have found effects on fathers' parenting, including in South/Southeast Asia (e.g., Rempel et al., 2017), and some examine couples-related outcomes such as emotional support (e.g., Nguyen et al., 2017)/intimate partner violence (e.g. Ashburn et al., 2017; see Jeong et al., 2023), this is one of the few to examine collaboration with the mother specifically about the child.

Mother and father reported parenting/family engagement by the father are correlated at 0.15 - 0.27 across the six scales (baseline), indicating that they are conceptually distinct (this is supported by the literature, which has consistently shown small correlations between fathers' and mothers' reports

on fathers' involvement, e.g., Mikelson, 2008; Coley & Morris, 2004, though none of this research has taken place in LMIC contexts). In qualitative discussions, fathers reported finding the information on creating toys with household/recycled objects useful as a way of communicating with and spending time with their children; this is consistent with the positive impacts we found on fathers' stimulating activities with their very young children.

The impact of the program on mothers' reports of her husband's behavior is of particular interest, given that one of the reasons the fathers' engagement component was developed as part of the HPL model for 0-2 children was that mothers repeatedly communicated to BRAC staff that an intervention should be provided for their husbands as well as for them (though, BRAC staff were also quick to note that several fathers also mentioned that they saw their wives receiving an intervention and wanted one for themselves). Notably, few studies on father-related interventions use mother-reports of father parenting. The program has small, positive impacts specifically on mother reports of fathers' responding to child needs, physical support for his wife (i.e. the mother), and father-child warmth/play. In addition to these findings, mothers in our qualitative data describe less quarreling and greater peace in the household. Although these outcomes are sufficient in and of themselves as beneficial for the family, they also hold promise for potential longer-term benefits for children: we know from the literature that mother-reported father involvement has been found to be predictive of positive outcomes for children, "even after controlling for the effects of father age, socioeconomic status, and health, and including the effects of mother involvement in the models" (Slaughter & Nagoshi, 2020).

The positive impact on fathers' beliefs about play, fathering and father engagement is also novel. Few studies have examined parent beliefs about play, for example, in an LMIC context (for an exception, see Lin & Li, 2020; one program in the Eastern Cape of South Africa focused on father engagement and gender equality shifted fathers' beliefs about fathering, Van den Berg et al., 2013). To our knowledge this is one of the first evaluations showing a positive impact on fathers' beliefs about play, which have been linked to positive child behavior in studies in rich countries (e.g. Kroll et al., 2016 in the UK longitudinal Millennium Cohort Study).

There was however no main effect on mental health of fathers (depressive and anxiety symptoms as reported through the PHQ-8 and GAD); given the serious mental health concerns for fathers in displaced populations (see, e.g., Giallo et al., 2022), mental health was an important target for intervention for the program. Careful questioning of fathers in the focus groups, as well as through discussion with stakeholders during the results workshop, revealed that the most important effect of the program on fathers' emotions and emotional regulation may not have been on mood, anxiety, or depression but on management of anger. This was also reflected in caregiver interviews. Fathers in both the host and camp communities admitted that before the program, they often expressed anger by being violent towards their wives or children or destructive around the house, but that this happened less after having been part of the program. The one quantitative measure from our surveys that potentially assesses anger responses is the parenting scale of harsh discipline (which showed significant reductions in the treatment group in the camp community). A scale on anger management, or expression of anger, would have been appropriate to include; however, we did not understand the extent to which anger was a key outcome until the results workshop itself, which is when we began to try to interpret the null effect on mental health scales. Anecdotally on this point, BRAC staff shared that parenting programs may have to go on for a longer duration in this context to affect changes in self-reported PHQ scales - the Pashe Acchi program (an iteration of the mother-focused intervention that moved to phone-based modality during the COVID pandemic) took a full year before a reduction in participating mothers' self-reported PHQ was seen. This is consistent with a potential mechanism through which an impact on

mental health may happen through a program such as this: fathers in both the camp and host community mentioned that they used sharing their feelings (with other fathers, their wives, or personnel associated with the intervention) as a method of self care much more than they used to before the program. However, with the program only being six months long, such new mechanisms might take much longer before they actually bring about measurable change in participants' depression or anxiety levels. Despite this, there is still an indication that the program could be benefiting participants' depression/anxiety for less-resourced families (discussed in more detail below).

The program also did not have a main effect on directly assessed (Bayley-4) or mother-reported (CREDI) child development outcomes; this can also perhaps be attributed to the program not being long enough (almost all models delivered through the BRAC HPL programming are a full year). The program did, however, have a main effect on father reported social-emotional development (a subscale of the CREDI). Finding an impact on this particular subscale is also consistent with some of the findings of fathers' descriptions of their experiences with their children changing because of the intervention: specifically, fathers described their children as being much less scared of them and more affectionate than before, and their own behavior as more loving towards their children. In the focus groups, several fathers described that their children would now run over to them for an embrace or insist on staying awake until they came home; this increased interest in interacting with the father would very likely be reflected in the social-emotional scales reported by the father. This finding therefore might be driven by the father's new warm engagement with the child, and the father's perception of the child's behavioral response to this.

Overall, for father-reported outcomes, the impact of the program was stronger in the camp than in the host community (with the exception of stimulating behaviors, for which there was a positive impact on both). Specifically, effects on beliefs about father, responding to child needs, collaboration about child, and physical support for the wife subscales were driven by the camp community, and a reduction in harsh discipline occurred in the camp community only. There are three possible explanations for this. First, the intervention was originally intended for, and therefore co-created with, the camp community; it was implemented in the host community rapidly as the evaluation component was being designed, without the same level of careful consultation with beneficiaries. Essentially, an intervention that was designed for Rohingya fathers was quickly adapted and modified for the host community - it was not designed intentionally for the host community. Related to this, the host community families did not receive a booklet to keep with culturally specific illustrations of positive fathering the way the camp community families did. Although host community fathers were enthusiastic about the program, both in qualitative interviews as well as in the focus group during our results workshop, they did eventually mention some concerns/recommendations that could be a preliminary indication of the curriculum not matching the population's needs as closely as it could (for instance, fathers expressed concerns about a risk that their children might be smuggled to Malaysia and wanting to learn skills about how to communicate with their children about this; they also mentioned that economic diversity in their own neighborhoods meant that some of the advice from the father volunteer on purchasing toys was acted upon differently by different fathers, which could result in tensions between children and parents across households).

Second, our data show that the camp community fathers are more likely to report weekly contact with father volunteers than the host fathers (even though a weekly visit is part of the program,

and would therefore have been equal across communities if implementation was taking place the same way across both communities). Camp fathers are also more likely to report regular contact with paracounselors and BRAC staff than host fathers. This may reflect the fact that the intervention was newer in the host community, without the same penetration of BRAC staff support (the intervention for mothers had already been ongoing in the camps, which meant that there was already a strong existing infrastructure of HPL activity in the camps). This difference may also be a by-product of the fact that the host community is much more spread out geographically than the camp community (see Figure 3). Finally, due to lack of official employment options, camp fathers are much more available generally than host fathers, almost all of whom are occupied with income-generating activities and report being available to spend less time with their families. Camp fathers may simply have more time to engage with the family than host fathers. In combination, these factors might explain the program having a stronger impact on fathers in the camp community, though it is worth noting that we did not observe any appreciable qualitative differences between host and camp fathers' expressed enthusiasm for the program in interviews or focus groups.

Mothers' reports tell a different story: the impact of the program on mothers' reports of fathers. parenting and engagement with family is stronger in the host community than in the camp community. A possible explanation for this is that in the camps, mothers may have already gotten used to their husbands spending time with the family over the course of several years due to restrictions on Rohingya employment; extra time spent or involvement with the children may simply have been less noticeable for these mothers. Additionally, the mothers' home visits had also already been going on for a few months so they might already have had changed expectations about what parents 'should' be doing with children. For host families, any sudden increase in time spent with family on the part of the father may have come as a genuine surprise: as pointed out, for instance, in the focus group for mothers in the host community, "now, he comes home in the evenings instead of playing carrom with his friends!"

The host vs. camp subgroups are not the only important subgroup differences. Father education/literacy/schooling, mother health, mother-child stimulating activities, and household resources (assessed through the PREI and perceived financial worry), all play a moderating role across certain outcomes. It is worth noting that our study is powered only to detect main effects, not moderation effects; we therefore may not have sufficient statistical power to detect all small possible subgroup effects (which would have required prohibitively high sample sizes). While we are not observing statistically significant moderation effects of these characteristics on all outcomes, the effects we are observing (summarized in Table 5) all point to a consistent pattern: families that are more disadvantaged are benefiting more from the program. The subgroup analyses also begin to reveal impacts of the program on outcomes where we did not see main effects: specifically, there is a positive impact of the program on expressive language assessed by the Bayley Scales (i.e., children's vocabulary) for households scoring lower on household resources and housing quality; there is also a positive impact of the program on fathers' reduced depression and anxiety for fathers reporting more financial worry, less education and less literacy. This is a finding common in the evaluation literature: systematic reviews of early childhood evaluations in both parenting and early education find stronger positive effects among more disadvantaged families (Holla et al., 2021; Jeong et al., 2021).

With the exception of the stronger impact of the program on mother-reported CREDI scores for girl children, the moderation effects described above are not the same across the camp and host

communities. Specifically, the findings that the program has a stronger effect on 1) mental health for fathers with more financial worry and less education and literacy and 2) father-reported father engagement for fathers with less education and literacy are both driven by the host community. The finding of the program having a stronger effect on Bayley expressive language for families with less household resources is also driven by the host community. However, the finding that the program has a stronger impact on father-reported child SEL for families with worse mother mental health and less mother-reported stimulating activities is driven by the camp communities.

In addition to the above, there was also a moderating effect of gender on the program's impact on mother-reported CREDI scores, such that the program had a positive effect on all domains of girls' development as reported by mothers. Meta-analyses of early childhood program evaluations do not find a clear pattern of gender moderation of effects on children, in either LMICs or rich countries (Jeong et al., 2021; Magnuson et al., 2016), but our early piloting work suggests that aspirations for, and treatment of, children may differ based on gender in our contexts from early ages (Zahra et al., under review).

We also found a (non-causal) role of implementation factors, with attendance being the most notable: there were significant positive associations between fathers' attendance in the program and (certain subscales of) both father- and mother-report of father parenting and engagement. This is an indication of takeup playing a role and is evidence in support of the request, coming from both fathers and mothers (as well as father volunteers), to have the program delivered for a longer period of time. The items assessing contact with program staff were also associated with outcomes: there was a positive relationship between frequency of speaking to a father volunteer and father-reported mental health, but a negative relationship between frequency of speaking to paracounselors/BRAC staff and mental health (this may reflect the fact that fathers who are struggling more tend to reach out to these staff members more, or simply see them more through other mechanisms such as the wife's speaking to the staff more frequently). On a descriptive level, the contact with staff items across camp and host (camp participants report greater regular contact with personnel associated with the program than host participants) indicate that there was a difference in how the program was functioning between camp and host communities.

The cost analysis of the 6-month home visiting HPL program, including the father engagement model, provides insight into resource allocation and costs for future replication and scaling efforts in humanitarian settings. Using the ingredients method, we examined the resources required for delivering the 6-month HPL program and identified resources such as personnel, caregiver time, facilities, training, and materials essential for program delivery. We also included costs incurred by Sesame Workshop in developing the father engagement model and curricula. For the treatment group, which comprises both the 6-month home visiting HPL program and the added father engagement model, approximately 26% of the average household costs were borne by Sesame Workshop. This includes Sesame Workshop's in-house staff hours and external consultant fees for content advisement along with expenses for curriculum design, printing, translation, and assessment. Subsequently, 71% of the cost was borne by BRAC and 3% attributed to caregiver time. It is anticipated that future implementation would bear lower costs for Sesame Workshop since the content is already developed and would bear marginal costs of refurbishing and printing content.

Limitations

There are several limitations to this research. One of the primary limitations is regarding the sample: at the point of recruitment into our baseline, we were already selecting a biased sample of fathers on a number of characteristics (in both communities, it of course included those we could find in the first place, and then those who agreed to be in the study; in the host community, it included being resident with the family for at least the 8 upcoming months). This biased sample is a threat to the study's external validity; our findings are not generalizable to even other fathers who live in the immediate area.

We consider a great *strength* of this research to be that it consists of families from both the forcibly displaced and the host populations, which gives us considerable insights into how to consider early childhood interventions in humanitarian settings. However, inherent in our ability to conduct this research come certain limitations. We have already mentioned the tight timeline on which the host intervention was deployed, and therefore its correspondingly under-developed curriculum. The same can be said for our survey measures: we conducted in-depth piloting of our measures in the camp community, not in the host community, meaning that the measures may have been better suited (in terms of, for instance, participants' ability to interpret the questions, or the response types matching their experiences) to the camp community families. Baseline psychometrics, which guided how we conceptualized our measures for endline, was conducted on host and camp samples combined, but was conducted after mothers in the camps had received approximately 3 months of time in the program (host mothers had not started receiving the intervention yet). These factors may be balanced out by the fact that the enumerators, all local to the host community, overall reported feeling greater ease in communication with the host community given the overlap in culture and language. Nonetheless, the fact that these differences exist may raise some concerns about viewing the data as entirely equivalent between the two communities.

A related point is that residents of the camps have become more and more used to answering surveys due to NGO and research activity (even BRAC alone has carried out numerous research and surveying activities in relation to running the HPLs, for instance) whereas the host community has remained largely removed from this type of interest. Host community participants are likely much less used to responding to survey and Likert-type items, which could potentially introduce greater measurement error.

Another noteworthy limitation is a potential threat to internal validity in that enumerators were likely often aware of the treatment status of the households they were visiting. Although the survey was designed to keep enumerators blind to condition, and both supervisors and enumerators were blind to treatment conditions as they were being assigned households to visit, at the point of locating the household, treatment condition may have been revealed. This is because for treatment families, the father volunteer was often involved in helping enumerators find the household, while a different member of BRAC staff would typically be assisting for control households. Enumerators could therefore tell if the family had been in the treatment condition or not through the process of finding the household. Although this is not an ideal scenario (in that enumerators could be biased in their interaction with the family by knowing if the family had received the program or not), this also was completely unavoidable given the complexity of physically locating households in these circumstances. It

would not have been possible to collect data in the required timeframe without the support of personnel who knew where the households were located.

Finally, we did not have baseline measures of either the CREDI or the Bayley-4, which limited our ability to to be able to control for them at endline.

Conclusion

As we look to the future of the father engagement component of the Humanitarian Play Lab models, there are a few key takeaways and recommendations from our findings.

First, even with such a short program duration - six months as opposed to the usual twelve months typically associated with HPL programming, the intervention has had remarkable effects on families. In the future, a longer program should be given serious consideration. In addition to the causal effects of the program, families' described experiences of the intervention are striking. Fathers describe their new relationships with, and attention to, their children, as well as how they have benefitted from the information the FV brought, both in terms of concrete ideas, such as how to make new toys for children using recycled materials, as well as for their own wellbeing, such as breathing exercises to manage anger and sharing with their wives/other fathers/personnel associated with the program as a method for self-care. Mothers also noted their husbands' increased attention to children, and less fighting in the home between the couple. Father volunteers and mothers both express that they would like the program to go on for longer, to create lasting change in fathers. In the focus groups during the results workshops, fathers also mentioned lengthening the program for these same reasons, even though getting fathers to maintain the time they were supposed to commit to the program was an ongoing challenge for father volunteers. Given caseload difficulties and scheduling constraints with fathers, different iterations could be considered, such as reducing the frequency of visits to increase flexibility for participating fathers.

Notably, even though the program was originally designed for the Rohingya, there is evidence that the host community benefited from the program as well. Of particular note is the program impact on mother reports of father parenting in the host community. This being said, the intervention could likely use a careful alignment of the curriculum to the host community population. This could be done through a similar co-creation process that was conducted when building the intervention for the camp community. If the program will continue to be delivered to the host community in the longer term, implementation of the program may also need changes, which is evidenced by some of the qualitative information from father volunteers. While all father volunteers expressed having enjoyed their work and their visits with fathers, they also had several grievances about their time working in the program. They cited a need for higher compensation and transportation allowances, difficulty traveling long distances while trying to visit all families in one's caseload, and often having trouble scheduling meetings with the fathers or convincing them to attend regularly. Given that host community fathers often have much less time available to participate due to employment, and are also geographically more disparate, these points are practical suggestions that can be taken into account when designing future iterations of the program.

Recommendations for programmatic changes notwithstanding, this evaluation demonstrates the potential of father-focused programs as a powerful component of ECD interventions, an opportunity

that has of yet been underused. In humanitarian contexts such as the one in our study, comprising tightly-knit families and communities living in close proximity to one another, focusing on fathers as a target for intervention has intriguing possibilities for the families and communities at large.

Appendices

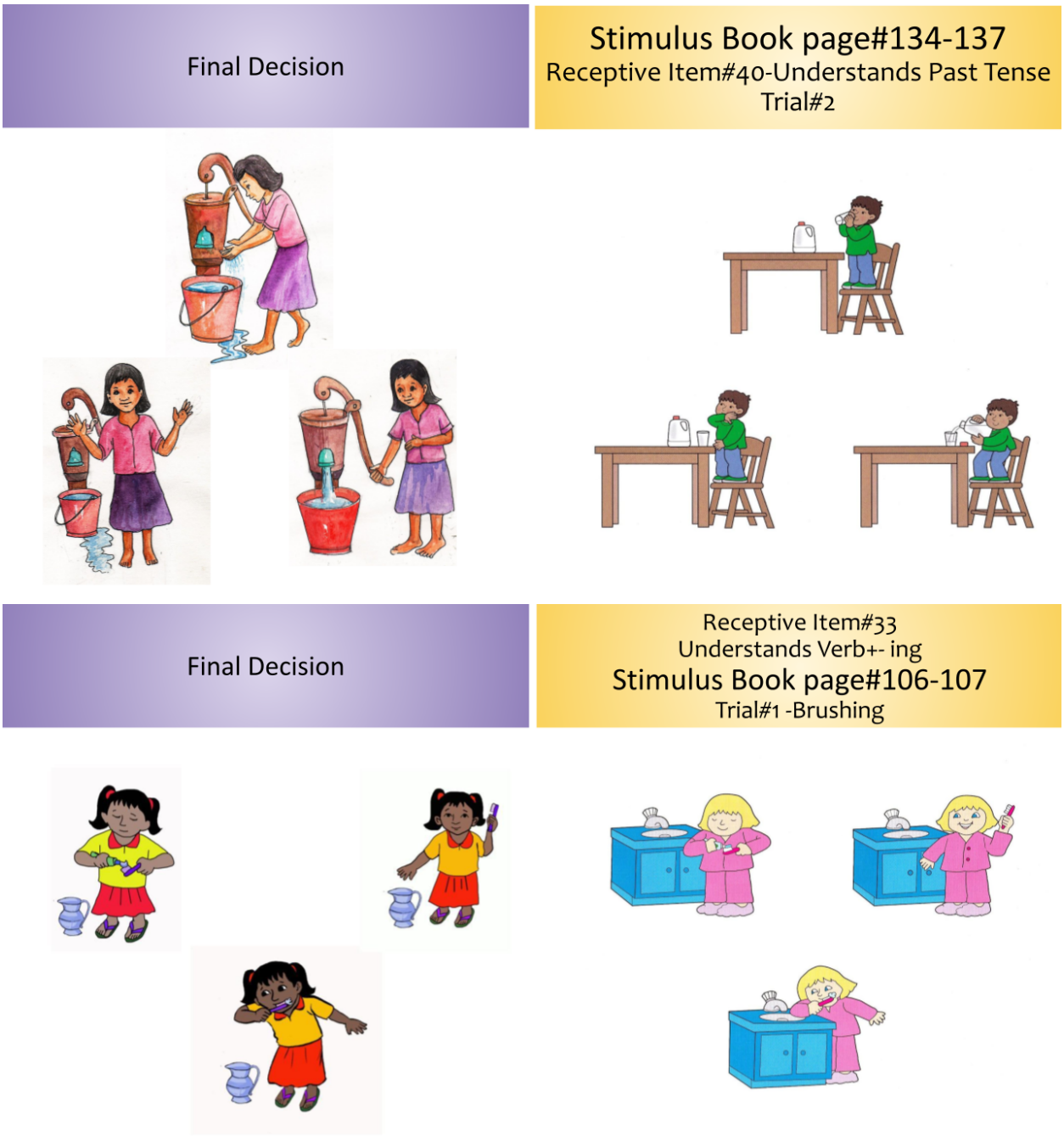
Figure 1. Theory of Change

Objective		
• Promote fathers' wellbeing by improving their emotional literacy so that they develop a better knowledge of emotions, have stronger coping skills, and engage in daily self-care practices • Encourage fathers to develop relationships with their spouses and children that are respectful and supportive and create a nurturing family environment • Encourage responsive caregiving practices among fathers that promote child nurture, stimulation, and positive parenting based upon playful approaches		
Activity/Input	**Output**	**Outcome**
• Quality FE and PSS programs • Skilled facilitators • Curriculum on FE and PSS • Training manual for facilitators • Basic training and refreshers on FE and PSS • Human and Financial resources	• Fathers gain knowledge on emotions, wellbeing, ECD, and positive parenting • Fathers practice self-care and able to manage emotions and create healthy family environment through building a positive relationship with their spouses and children • Fathers practice responsive, positive and playful parenting to promote children development • Fathers receive intervention or programs//sessions • Fathers receive PSS services • Main the fidelity/quality of the sessions or interventions function smoothly • Capacitated Rohingya male facilitators to support the father to promote mental wellbeing and child engagement	• Improve fathers' wellbeing or reduce distress • Change fathers' mindset towards engagement with children through increase their knowledge on emotional literacy, wellbeing, and ECD • Increase fathers' self-care practices manage and cope with their emotions • Build a positive relationship between fathers, their spouses, and children • Create a respectful and nurturing family environment through reducing domestic violence, show respect, value others opinion, or allow/encourage spouse and children in decision making • Increase fathers' playful engagement with their children, responsive and positive parenting practice to promote children's development
Goal	• Improved Children's Development	

Table 1. Alignment of measures to Father Engagement (HPL 0-2) Theory of Change

Outcome	**Measure**
Intervention: Implementation Quality	
Number of sessions attended	BRAC monitoring data
Home visit quality	Tool developed for this study
Intermediate Outcome: Improved caregiving	
Change fathers mindset towards engagement with children through increase their knowledge on emotional literacy, well being, and ECD	Fathers' parenting and engagement with family Caregiver-child stimulation Beliefs about Fathering
Build a positive relationship between fathers, their spouses, and children	
Increase fathers playful engagement with their children, response and positive parenting practice to promote children's development	
Intermediate Outcome: Improved caregiver well-being	
Improve fathers' wellbeing or reduce distress	PHQ-8: Depression General Anxiety Disorder- 7
Increase fathers' self-care practices to manage and cope with their emotions	
Create a respectful and nurturing family environment through reducing domestic violence, show respect, value others opinion, or allow/encourage spouse and children in decision making	Fathers' parenting and engagement with family
Long-term outcome: Improved child development	
Child developmental milestones	CREDI Bayley - 4

Figure 2. Example adaptations to images used in Bayley-4 assessment



Final Decision	Receptive Item#39-Understands Negatives Stimulus Book page#128-133 Trial#3

Final Decision	Recep item#25-Action Series:3 Correct Recep item#28-Action Series:6 Correct Stimulus Book page# 90-93

Figure 3. Baseline GPS Coordinate Maps (Combined Host & Camp Coordinates)

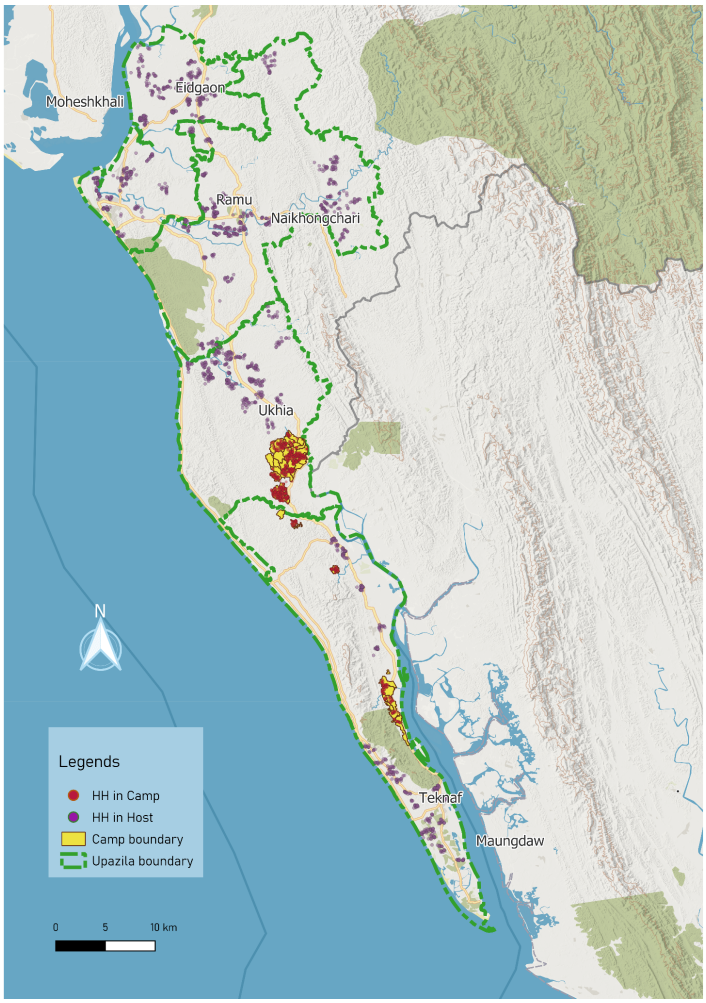


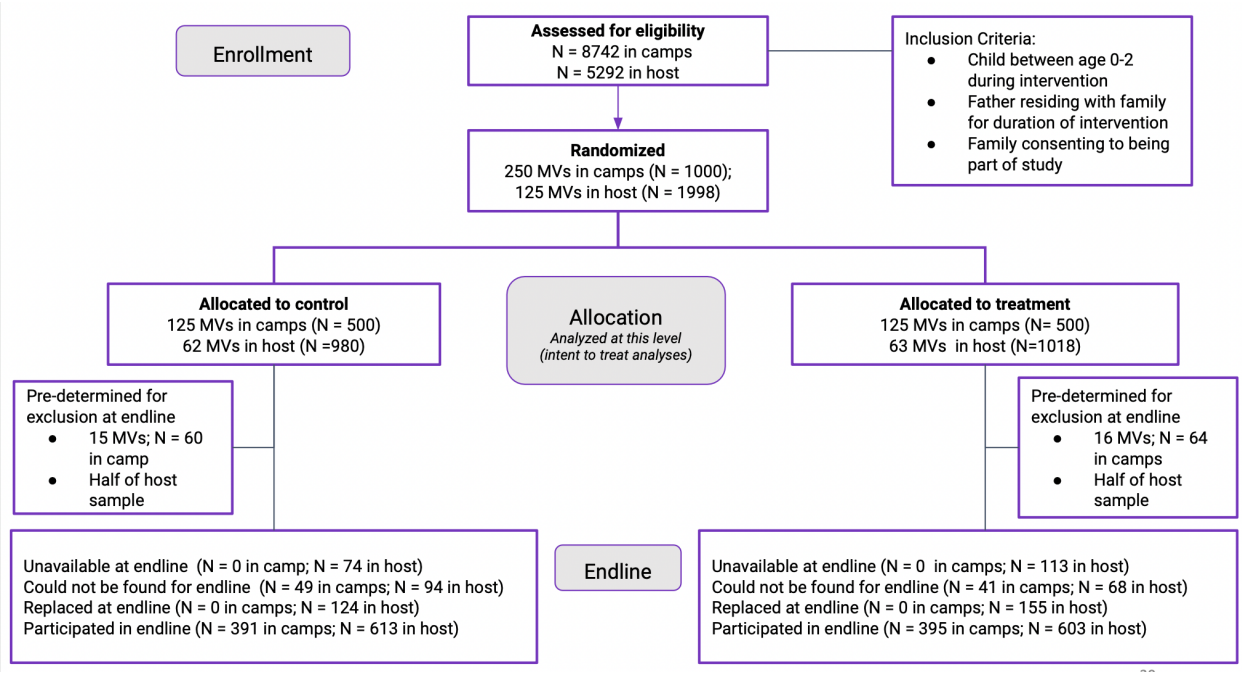
Table 2. Summary of Outcome Measures

Instrument	α	Example Item	Respondent
		Mental Health	
PHQ-8	.77	*Over the last month how often have you been bothered by* Trouble falling asleep, staying asleep, or sleeping too much	Mothers & Fathers, Father Volunteer
GAD	.77	*Over the past 2 weeks, how often have you been bothered by the following* Being so restless it is hard to sit still	Fathers Only, Father Volunteer
		Fathers' Parenting and Engagement with Family	
Responding to Child Needs and Ensuring Safety	.76	*How often in the last week have you:* I feed [CHILD]	Mothers & Fathers (slightly adapted for each population)
Collaboration with Wife about child	.81	*How often in the last week have you:* I discuss concerns about our children with my wife	Mothers & Fathers (slightly adapted for each population)
Physical support for wife	.69	*How often in the last week have you:* I physically helped my wife with something when she was tired	Mothers & Fathers (slightly adapted for each population)
Communication with wife	.60	*How often in the last week have you:* I speak to my wife in a respectful manner	Mothers & Fathers (slightly adapted for each population)
Father-Child Harsh Discipline	.64	*How often in the last week have you:* I hit [CHILD] when disciplining	Mothers & Fathers (slightly adapted for each population)
Father-Child Warmth/Play	.70	*How often in the last week have you:* I hug or cuddle [CHILD]	Mothers & Fathers (slightly adapted for each population)
Beliefs about Fathering	.84	*How important are these things for a father to do:* Disciplining the child when they are naughty	Father Only
Caregiver-child stimulation	.84	*In the last week, how often have you* Count objects with ${childname}	Mothers & Fathers
		Child Development	
CREDI-Long Form	--	When lying on his/her back, does the child move his/her arms and legs?	Mothers, Social-Emotional Subscale only from Fathers

Bayley-4 (Cognitive, Receptive and Expressive Language Domains)	--	Matches Colors: Place the yellow disks in front of the child. Point to the page and say *Where does this go?*	Child Direct Assessment (Endline)

Notes. Alphas are for father-reported scales only

Figure 4. Recruitment and randomization process and sample sizes



Notes.
Diagram is based on numbers for completed fathers; mothers and child numbers differ slightly.
MV = Mother Volunteer
Pre-determined for exclusion are comprised of families: 1) in particular camps that received the intervention on a delayed schedule and were dropped from the study (camp 8w and 22; a total of 124 families): 2)the half of the host sample that we did not include
'Unavailable' refers to participants whose families were found but could not participate for some reason, e.g., the father had moved away, was ill, or was living away from his family due to seasonal labor.
'Could not be found' refers to families who could not be tracked down again after baseline

Table 3. Treatment effects on overall sample and camp and host sub-sample

		Overall effect (camp & host)			Camp treatment effect			Host treatment effect			Are they significantly different?	
Family of Variable	Outcome	*β*	Adj p	Effect size	*β*	Adj p	Effect size	*β*	Adj p	Effect size	*β*	Adj p
1	Responding to Child Needs	0.07	0.03	0.12	0.09	0.02	0.17	0.05	0.58	0.08	-0.05	1.00
1	Collaboration about child	0.10	0.02	0.15	0.16	0.01	0.24	0.04	0.58	0.06	-0.12	0.79
1	Physical support for wife	0.08	0.02	0.15	0.11	0.01	0.21	0.05	0.58	0.09	-0.06	0.92
1	Communication w/ wife	0.01	0.33	0.03	0.02	0.09	0.09	-0.01	0.90	-0.03	-0.03	0.92
1	Father-child harsh discipline	-0.03	0.22	-0.05	-0.15	0.01	-0.23	0.09	0.46	0.13	0.24	0.01
1	Father-child warmth/play	0.04	0.12	0.07	0.05	0.09	0.09	0.0	0.58	0.06	-0.02	1.00
1	Father-child stimulation	0.20	0.001	0.23	0.23	0.01	0.23	0.18	0.04	0.21	-0.05	1.00
–	Beliefs about Fathering	0.11	0.002	0.21	0.18	0.00	0.36	0.02	0.71	0.04	-0.16	0.02
2	Responding to child needs	0.09	0.02	0.15	0.04	1.00	0.08	0.14	0.01	0.22	0.09	0.78
2	Collaboration about child	0.07	0.06	0.11	0.04	1.00	0.06	0.11	0.04	0.16	0.07	0.78
2	Physical support for wife	0.07	0.02	0.16	0.05	1.00	0.11	0.10	0.01	0.21	0.06	0.78
2	Communication w/ wife	0.05	0.36	0.02	-0.01	1.00	-0.031	0.02	0.19	0.07	0.03	0.78

2	Father-child harsh discipline	0.01	0.36	0.01	-0.004	1.00	-0.01	0.02	0.28	0.03	0.03	0.86
2	Father-child warmth/play	0.07	0.05	0.12	0.01	1.00	0.03	0.10	0.01	0.19	0.08	0.78
3	PHQ	-0.03	0.40	-0.07	-0.06	0.09	-0.13	-0.01	1.00	-0.02	0.05	0.38
3	GAD	-0.03	0.40	-0.06	-0.08	0.09	-0.14	0.001	1.00	0.02	0.09	0.38
4	Bayley cognitive	0.07	1.00	0.03	0.14	0.50	0.06	0.02	1.00	0.01	-0.11	0.37
4	Bayley receptive language	0.002	1.00	0.00	-0.08	0.61	-0.03	0.07	1.00	0.03	0.15	0.37
4	Bayley expressive language	-0.06	1.00	-0.02	-0.32	0.26	-0.13	0.15	1.00	0.06	0.48	0.13
4	Bayley language	-0.05	1.00	-0.01	-0.40	0.39	-0.09	0.22	1.00	0.05	0.63	0.23
5	MR CREDI cognitive	-0.04	1.00	-0.03	-0.04	1.00	-0.04	-0.04	1.00	-0.03	0.00	1.00
5	MR CREDI language	-0.13	0.10	-0.08	-0.19	0.04	-0.13	-0.06	1.00	-0.03	0.14	1.00
5	MR CREDI motor	-0.09	1.00	-0.06	-0.09	1.00	-0.07	-0.09	1.00	-0.06	0.01	1.00
5	MR CREDI SEM	-0.03	1.00	-0.02	0.00	1.00	0.00	-0.05	1.00	-0.03	-0.05	1.00
–	FR CREDI SEM	0.14	0.01	0.12	0.16	0.04	0.18	0.11	0.14	0.09	-0.04	0.79

Notes.

Multiple hypothesis adjustment took place within groupings of variables: 1) Father Reported Parenting & Engagement with Family 2) Mother Reported Father Parenting & Engagement with Family; 3) Father-reported mental health 4) Directly Assessed Child Development (Bayley-4) 5 Mother-reported child development (CREDI).

Beliefs about Fathering and Father-reported CREDI SEM were not included in these groupings; these p-values are unadjusted.

Table 4. Direction and statistical significance of moderation effects.

	Moderator →	School Type (cat.)			Highest Grade			Literacy(cat.)			Housing resources			Housing quality			Financial worry			Mother stim			Mother health			Child gender (base=male)		
Group	Outcome ↓	O	C	H	O	C	H	O	C	H	O	C	H	O	C	H	O	C	H	O	C	H	O	C	H	O	C	H
1	Responding to Child Needs		**				(-)*			**																		
1	Collaboration about child		*							*																		
1	Physical support for wife		**							*																		
1	Communication w/ wife				(-)*		(-)*			*																		
1	Father-child harsh discipline				(+)*		(+)*			*																		
1	Father-child warmth/play		**				(-)*			**																		
1	Father-child stimulation		*				(-)*			**																		
--	Beliefs about Fathering				(-)*		(-)*																					
3	PHQ	*			(+)**		(+)**										(-)**		(-)**									
3	GAD	*		*	(+)**		(+)**	*									(-)**		(-)**									
4	Bayley cognitive																											
4	Bayley receptive language																											
4	Bayley expressive language										(-)**		(-)**			(-)**												

4	Bayley language																						
5	MR CREDI cognitive																						
5	MR CREDI language																						
5	MR CREDI motor																						
5	MR CREDI SEM																						
--	FR CREDI SEM																						

4	Bayley language																						
5	MR CREDI cognitive																**(-)***					**(+)***	
5	MR CREDI language																**(-)***						
5	MR CREDI motor																**(-)****					**(+)***	
5	MR CREDI SEM																**(-)***					**(+)***	**(+)***
--	FR CREDI SEM																**(-)***		**(-)***				

Notes.

O = Overall sample, C = Camp Sample, H = Host Sample

Blank cells indicate that the moderation effect was not statistically significant unadjusted

Multiple hypothesis adjustment took place within groupings of variables: 1) Father Reported Parenting & Engagement with Family 2) Mother Reported Father Parenting & Engagement with Family; 3) Father-reported mental health 4) Directly Assessed Child Development (Bayley-4) 5 Mother-reported child development (CREDI).

Beliefs about Fathering and Father-reported CREDI SEM were not included in these groupings.

The signs between brackets indicate the sign of the coefficient of the moderation interaction. (cat.) indicates that the moderator was run as a categorical variable, hence the sign is not provided.

For PHQ, GAD, and harsh discipline, the treatment effect is expected to be negative, hence positive moderation effects here indicate that the program works better for those with a "lower" value of the moderator.

Group 2 (mother-reported father parenting and engagement with family) is not included as there were no moderating effects for any of the group 2 outcomes

Child age is not included as it does not have a moderating effect on any of the outcomes.

** indicates a statistically significant result at $p < .01$

* indicates a statistically significant result at $p < .05$

Table 5. Summary of statistically significant moderating effects on outcomes

Father Outcome	**Moderator**
Father engagement, reported by father	LESS literate (driven by host)
	LESS educated (driven by host)
	Father went to PRIVATE school (compared to NGO school; driven by camp)
Father well-being, reported by father	MORE financial worry (driven by host)
	LESS literate (driven by host)

	LESS educated (driven by host)
	NOT in private or public school (driven by host)
Child Outcome	
Mother-reported CREDI	FEMALE children (both host and camp)
Bayley Expressive Language	LESS household resources and housing quality (driven by host)
Father reported SEL (CREDI)	WORSE mother health (driven by camp)
	LESS mother reported mother stimulation (driven by camp)

Figure 5. Bayley-4 Cognitive, Expressive and Receptive Language Scores by Age Band in the Rohingya Camps

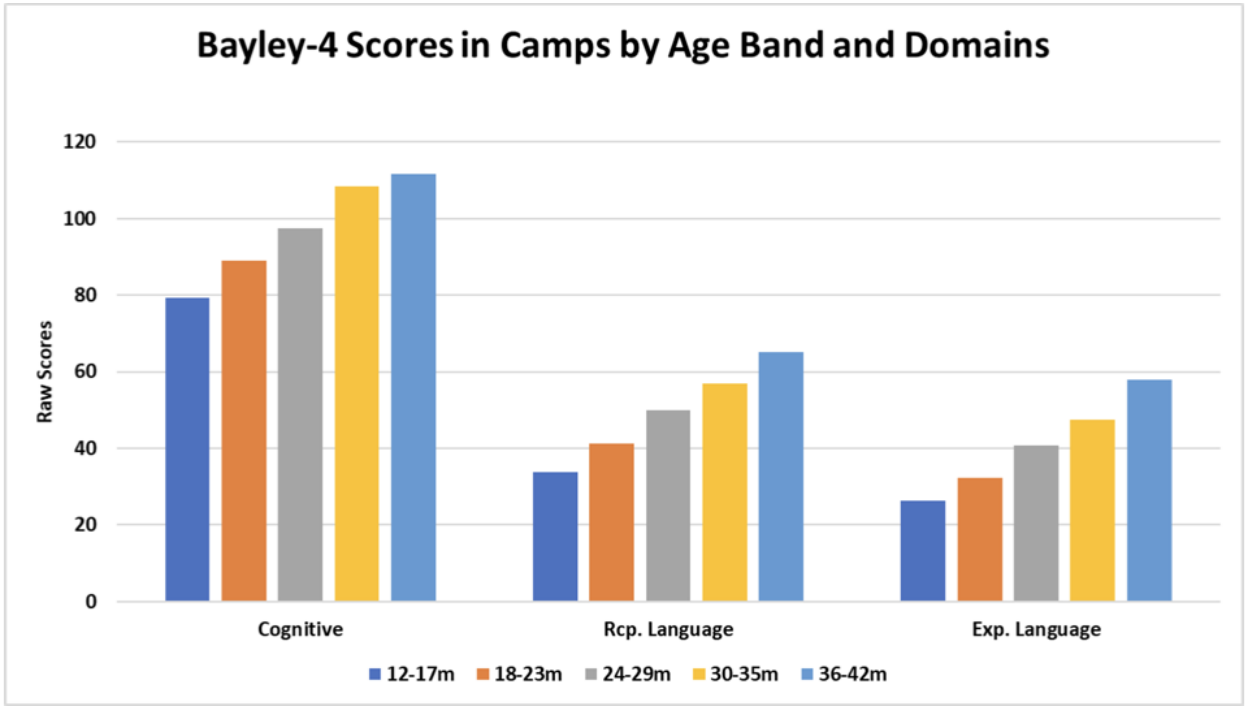


Figure 6. Bayley-4 Cognitive, Expressive and Receptive Language Scores by Age Band in the Host Communities

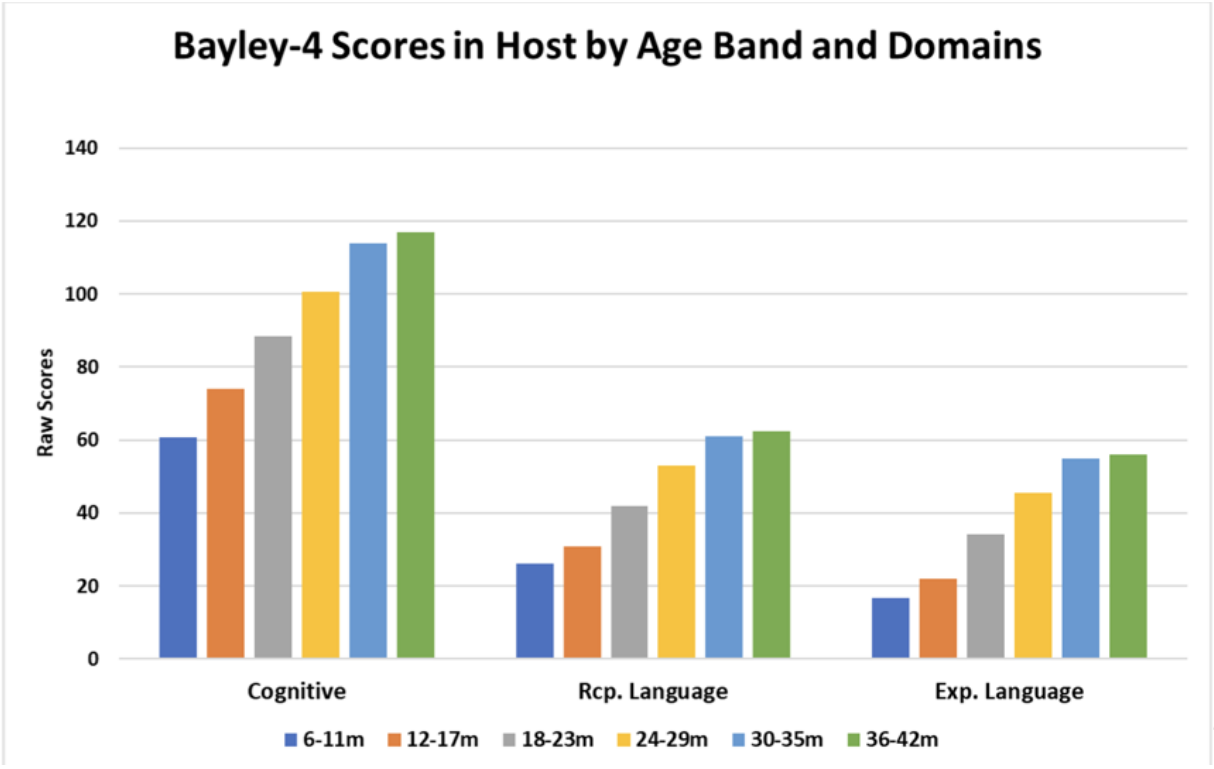


Figure 7. Father-reported CREDI SEM by Age Band in Rohingya Camps

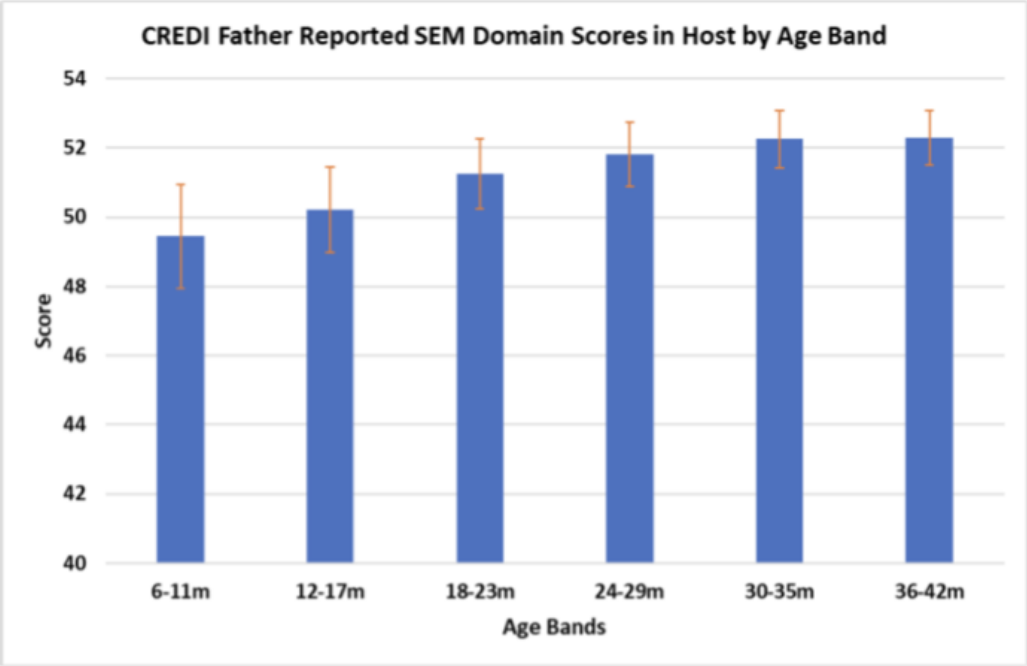


Figure 8. Father-reported CREDI SEM by Age Band in Host Community

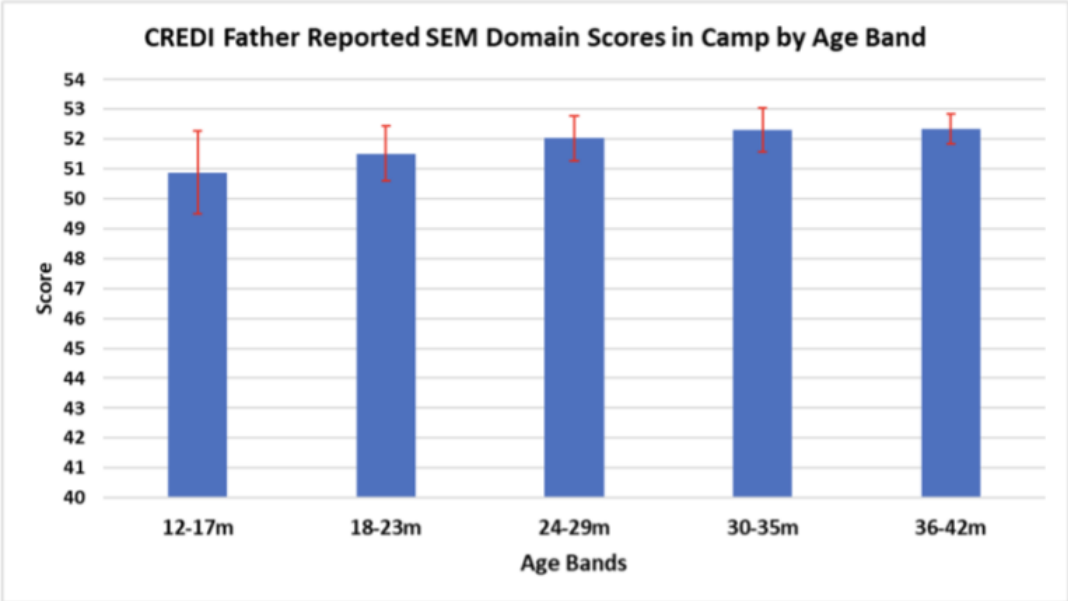


Figure 9. CREDI Mother-reported scores by Age Band in Rohingya Camps

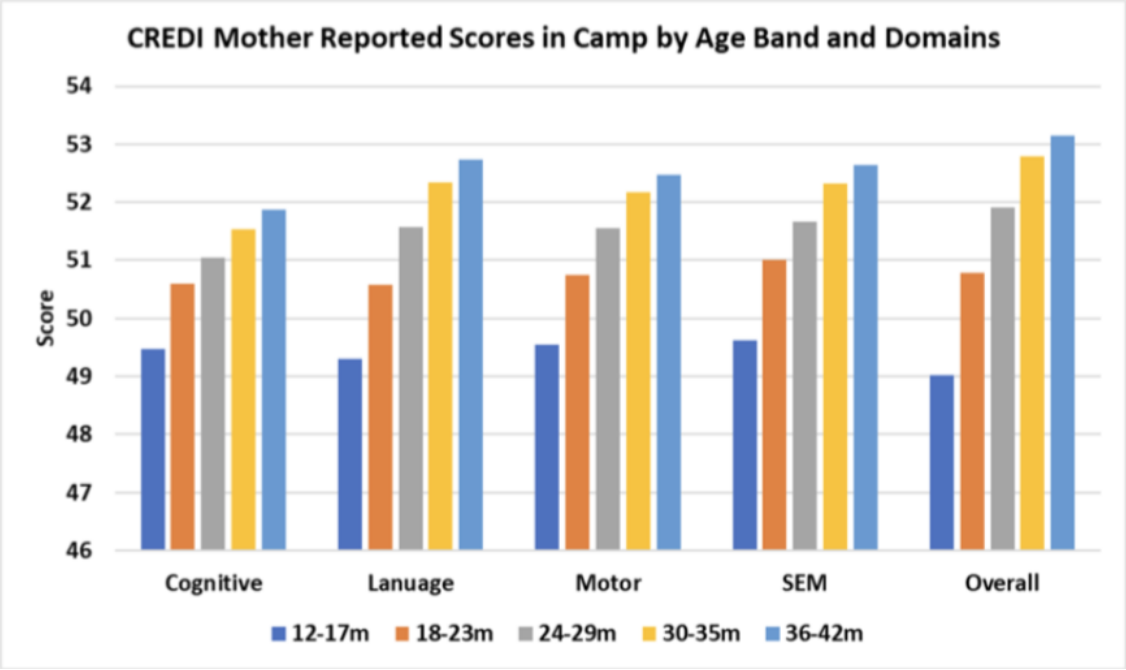
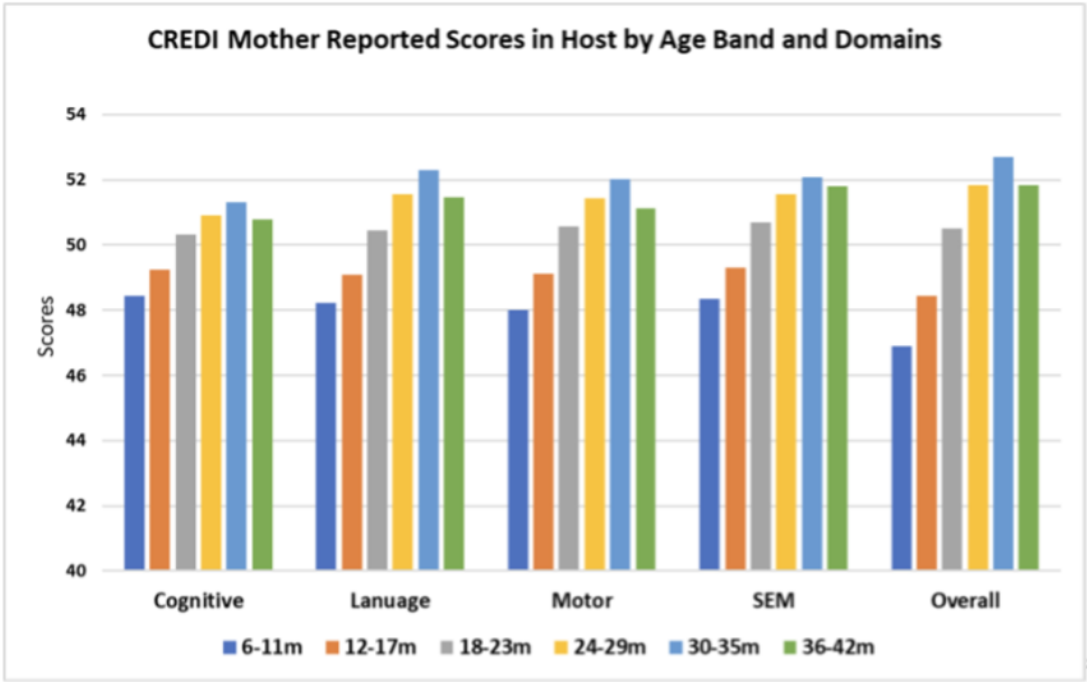


Figure 10. CREDI Mother-reported scores by Age Band in the Host Community



References

Abimpaye, M., Dusabe, C, Pisani, L., Nzabonimpa, J. P., & Ashford, R. (2020). Improving parenting practices and development for young children in Rwanda: Results from a randomized control trial. *International Journal of Behavioral Development*, *44*(3), 205–215. https://doi.org/10.1177/0165025419861173

Alderman, H., Friedman, J., Ganga, P., Kak, M., & Rubio-Codina, M. (2021). Assessing the performance of the Caregiver Reported Early Development Instruments (CREDI) in rural India. *Annals of the New York Academy of Sciences*, *1492*(1), 58–72. https://doi.org/10.1111/nyas.14543

Altafim, E. R. P., McCoy, D. C., Brentani, A., Escobar, A. M. de U., Grisi, S. J. F. E., & Fink, G. (2020). Measuring early childhood development in Brazil: validation of the Caregiver Reported Early Development Instruments (CREDI). *Jornal de Pediatria (Versão em Português)*, *96*(1), 66–75. https://doi.org/10.1016/j.jpedp.2018.11.001

Anderson, K., & Saeed, S. (2022). *Research on Young Children in Emergencies: Current Evidence and New Directions*. Moving Minds Alliance. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://movingmindsalliance.org/wp-content/uploads/2022/12/MMA_ResearchForum_Research-on-Young-Children-in-Emergenices_Dec2022.pdf

Asghar, A. A., Faiq, A., Shafique, S., Siddiqui, F., Asghar, N., Malik, S., Kamal, S. D., Hanif, A., Qasmani, M. F., Ali, S. U., Munim, S., Solangi, A., Zafar, A., Sohail, M. O., & Aimen, A. (2019). Prevalence and Predictors of the Burnout Syndrome in Medical Students of Karachi, Pakistan. *Cureus*. https://doi.org/10.7759/cureus.4879

Ashburn, K., Kerner, B., Ojamuge, D., & Lundgren, R. (2017). Evaluation of the Responsible, Engaged, and Loving (REAL) Fathers Initiative on Physical Child Punishment and Intimate Partner Violence in Northern Uganda. *Prevention Science*, *18*(7), 854–864. https://doi.org/10.1007/s11121-016-0713-9

Aylward, G. P., & Zhu, J. (2019). *The Bayley Scales: Clarification for Clinicians and Researchers*. NCS Pearson, Inc. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.pearsonassessments.com/content/dam/school/global/clinical/us/assets/bayley-4/bayley-4-technical-report.pdf

Balasundaram, P., & Avulakunta, I. D. (2022). Bayley Scales Of Infant and Toddler Development. In *StatPearls*. StatPearls Publishing. http://www.ncbi.nlm.nih.gov/books/NBK567715/

Ball, J., & Wahedi, M. O. K. (2010). Exploring *Fatherhood* in Bangladesh. *Childhood Education*, *86*(6), 366–370. https://doi.org/10.1080/00094056.2010.10523171

Barker, B., Iles, J. E., & Ramchandani, P. G. (2017). Fathers, fathering and child psychopathology. *Current Opinion in Psychology*, *15*, 87–92. https://doi.org/10.1016/j.copsyc.2017.02.015

Bayley Scales of Infant and Toddler Development | Fourth Edition. (n.d.). Retrieved December 10, 2023, from https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Cognition-%26-Neuro/Bayley-Scales-of-Infant-and-Toddler-Development-%7C-Fourth-Edition/p/100001996.html

Benedict, H. (1979). Early lexical development: Comprehension and production. *Journal of Child Language*, *6*(2), 183–200. https://doi.org/10.1017/S0305000900002245

Bergnehr, D. (2022). Adapted fathering for new times: refugee men's narratives on caring for home and children. *Journal of Family Studies*, *28*(3), 934–949. https://doi.org/10.1080/13229400.2020.1769708

Betancourt, T. S., Jensen, S. K. G., Barnhart, D. A., Brennan, R. T., Murray, S. M., Yousafzai, A. K., Farrar, J., Godfroid, K., Bazubagira, S. M., Rawlings, L. B., Wilson, B., Sezibera, V., & Kamurase, A. (2020). Promoting parent-child relationships and preventing violence via home-visiting: a pre-post cluster randomised trial among Rwandan families linked to social protection programmes. *BMC Public Health*, *20*(1), 621. https://doi.org/10.1186/s12889-020-08693-7

Bhandari, N. & Karkara, R. (2006). *Regional capacity building workshop on men, caring and fatherhood: Engaging men as partners in healthier families*. https://resourcecentre.savethechildren.net/pdf/1512.pdf/

Bhattacharyya, D. S., Sarker, T., Akter, N., Shafique, S., Nabi, M. H., Hawlader, M. D. H., & Mitra, D. K. (2023). Factors associated with fathers' involvement in infant and young child feeding and nurturing care in the urban slums of Bangladesh: A cross-sectional study. *Food Science & Nutrition*, *11*(7), 4020–4029. https://doi.org/10.1002/fsn3.3390

Biswas, B., Ahsan, M. N., & Mallick, B. (2021). Analysis of residential satisfaction: An empirical evidence from neighbouring communities of Rohingya camps in Cox's Bazar, Bangladesh. *PLOS ONE*, *16*(4), e0250838. https://doi.org/10.1371/journal.pone.0250838

Bolisetty, S., Castelyn, J., Chisim, K., Hossain, N., Iqbal, Y., Kim, S., Rahim, A., Sunny, S., Yesmin, S., Yoshikawa, H., Zaman, S. S., & Zahra, F. (2022). *Fathers' Perceptions of Play: Evidence from the Rohingya Camps*. NYU Global TIES for Children. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://static1.squarespace.com/static/5fa0560c3a27c834f6a6b5ac/t/62a095dbfb96e748b15990c8/1654691373772/Fathers_Perceptions_of_Play_PtL_Research_Brief_June2022vF.pdf

Bond, S. (2019). The essential role of the father: fostering a father-inclusive practice approach with immigrant and refugee families. *Journal of Family Social Work*, *22*(1), 101–123. https://doi.org/10.1080/10522158.2019.1546965

Mariam, E., Zaman, S. S., Yesmin, S., Haq, S., & Sarwar, S. S. (n.d.). *BRAC Humanitarian Play Lab: when playing becomes healing – Early Childhood Matters*. Retrieved January 3, 2024, from https://earlychildhoodmatters.online/2019/brac-humanitarian-play-lab-when-playing-becomes-healing/

BRAC & Sesame Workshop. (n.d.-a). *Fathers' Engagement Model: Basic Training Guideline: Father Volunteer - Humanitarian Play Lab - 0-3 Years*.

BRAC & Sesame Workshop. (2022). *Humanitarian Play Lab Parenting Curriculum Under Child Protection: Home Based Parenting: Fathers' Engagement Model for 0-3 years old children and their father*.

BRAC & Sesame Workshop. (2019). *Humanitarian Play Lab Parenting Curriculum Under Child Protection: Home based Parenting: For 0-3 years old children and their mother*.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Cano, T., Perales, F., & Baxter, J. (2019). A Matter of Time: Father Involvement and Child Cognitive Outcomes. *Journal of Marriage and Family*, *81*(1), 164–184. https://doi.org/10.1111/jomf.12532

Carey, S. (1978). The child as word learner. Linguistic theory and psychological reality. In *Linguistic theory and psychological reality* (pp. 264–293). MIT Press.

Coley, R. L., & Morris, J. E. (2002). Comparing Father and Mother Reports of Father Involvement Among Low-Income Minority Families. *Journal of Marriage and Family*, *64*(4), 982–997. https://doi.org/10.1111/j.1741-3737.2002.00982.x

Daniele, M. A., Ganaba, R., Sarrassat, S., Cousens, S., Rossier, C., Drabo, S., Ouedraogo, D., & Filippi, V. (2018). Involving male partners in maternity care in Burkina Faso: a randomized controlled trial. *Bulletin of the World Health Organization*, *96*(7), 450–461. https://doi.org/10.2471/BLT.17.206466

De Man, J., Absetz, P., Sathish, T., Desloge, A., Haregu, T., Oldenburg, B., Johnson, L. C. M., Thankappan, K. R., & Williams, E. D. (2021). Are the PHQ-9 and GAD-7 Suitable for Use in India? A Psychometric Analysis. *Frontiers in Psychology*, *12*, 676398. https://doi.org/10.3389/fpsyg.2021.676398

Dhira, T. A., Rahman, M. A., Sarker, A. R., & Mehareen, J. (2021). Validity and reliability of the Generalized Anxiety Disorder-7 (GAD-7) among university students of Bangladesh. *PLOS ONE*, *16*(12), e0261590. https://doi.org/10.1371/journal.pone.0261590

Dinga, L. A., Kiage, B. N., & Kyallo, F. M. (2018). Effect of paternal education about complementary feeding of infants in Kisumu county, Kenya. *African Journal of Food, Agriculture, Nutrition and Development*, *18*(3), 13702–13716. https://doi.org/10.4314/ajfand.v18i3

Doyle, K., Levtov, R. G., Barker, G., Bastian, G. G., Bingenheimer, J. B., Kazimbaya, S., Nzabonimpa, A., Pulerwitz, J., Sayinzoga, F., Sharma, V., & Shattuck, D. (2018). Gender-transformative Bandebereho couples' intervention to promote male engagement in reproductive and maternal health and violence prevention in Rwanda: Findings from a randomized controlled trial. *PLOS ONE*, *13*(4), e0192756. https://doi.org/10.1371/journal.pone.0192756

Edin, K., & Nelson, T. J. (2014). *Doing the best I can: fatherhood in the inner city* (first paperback printing 2014). University of California Press.

Este, D. C., & Tachble, A. (2009). Fatherhood in the Canadian Context: Perceptions and Experiences of Sudanese Refugee Men. *Sex Roles*, *60*(7–8), 456–466. https://doi.org/10.1007/s11199-008-9532-1

Forget, G., Correa-Velez, I., & Dee, M. (2019). Being a Father in My New Society: A Qualitative Study of the Fathering Experiences of Men from Refugee Backgrounds Resettled in Australia. *Journal of Refugee Studies*, *32*(2), 322–339. https://doi.org/10.1093/jrs/fey029

Foulds, K. (2023). Playful perceptions: the role of and barriers to play for parents of young children in diverse global contexts. *International Journal of Play*, *12*(2), 206–223. https://doi.org/10.1080/21594937.2022.2156040

Frongillo, E. A., Kulkarni, S., Basnet, S., & De Castro, F. (2017). Family Care Behaviors and Early Childhood Development in Low- and Middle-Income Countries. *Journal of Child and Family Studies*, *26*(11), 3036–3044. https://doi.org/10.1007/s10826-017-0816-3

Galvin, L., Verissimo, C. K., Ambikapathi, R., Gunaratna, N. S., Rudnicka, P., Sunseri, A., Jeong, J., O'Malley, S. F., Yousafzai, A. K., Sando, M. M., Mosha, D., Kumalija, E., Connolly, H., PrayGod, G., Endyke-Doran, C., & Kieffer, M. P. (2023a). Effects of engaging fathers and bundling nutrition and parenting interventions on household gender equality and women's empowerment in rural Tanzania: Results from EFFECTS, a five-arm cluster-randomized controlled trial. *Social Science & Medicine*, *324*, 115869. https://doi.org/10.1016/j.socscimed.2023.115869

Galvin, L., Verissimo, C. K., Ambikapathi, R., Gunaratna, N. S., Rudnicka, P., Sunseri, A., Jeong, J., O'Malley, S. F., Yousafzai, A. K., Sando, M. M., Mosha, D., Kumalija, E., Connolly, H., PrayGod, G., Endyke-Doran, C., & Kieffer, M. P. (2023b). Effects of engaging fathers and bundling nutrition and parenting interventions on household gender equality and women's empowerment in rural Tanzania: Results from EFFECTS, a five-arm cluster-randomized controlled trial. *Social Science & Medicine*, *324*, 115869. https://doi.org/10.1016/j.socscimed.2023.115869

Garcia, I. L., Fernald, L. C. H., Aboud, F. E., Otieno, R., Alu, E., & Luoto, J. E. (2022). Father involvement and early child development in a low-resource setting. *Social Science & Medicine*, *302*, 114933. https://doi.org/10.1016/j.socscimed.2022.114933

Gillespie, S., Banegas, J., Maxwell, J., Chan, A. C. Y., Darawshy, N. A.-S., Wasil, A. R., Marsalis, S., & Gewirtz, A. (2022). Parenting Interventions for Refugees and Forcibly Displaced Families: A Systematic Review. *Clinical Child and Family Psychology Review*, *25*(2), 395–412. https://doi.org/10.1007/s10567-021-00375-z

Goldfield, B. A., & Reznick, J. S. (1990). Early lexical acquisition: rate, content, and the vocabulary spurt. *Journal of Child Language*, *17*(1), 171–183. https://doi.org/10.1017/S0305000900013167

Goodfriend, L., Wuermli, A., Hiott, C., Trang, K., Iqbal, Y., & Castelyn, J. (2022a). *Delivering Quality Research in Culturally Dynamic, Conflict-Affected Contexts: Lessons from Large-Scale Pilot Research in Cox's Bazar*. Global TIES for Children. https://globaltiesforchildren.nyu.edu/playtolearn

Goodfriend, L., Wuermli, A., Hiott, C., Trang, K., Iqbal, Y., & Castelyn, J. (2022b, July 25). *Delivering Quality Research in Culturally Dynamic, Conflict-Affected Contexts: Lessons from Large-Scale Pilot Research in Cox's Bazar*. NYU Global TIES for Children. chrome-

extension://efaidnbmnnnibpcajpcglclefindmkaj/https://static1.squarespace.com/static/5fa0560c3a27c834f6a6b5ac/t/62da86b95359a965b88f922a/1658488511491/Delivering+Quality+Research_Final+July+2022-compressed+%281%29.pdf

Grossmann, K., Grossmann, K. E., Fremmer-Bombik, E., Kindler, H., Scheuerer-Englisch, H., & Zimmermann, A. P. (2002). The Uniqueness of the Child-Father Attachment Relationship: Fathers' Sensitive and Challenging Play as a Pivotal Variable in a 16-year Longitudinal Study. *Social Development*, *11*(3), 301–337. https://doi.org/10.1111/1467-9507.00202

Guglielmi, S., Mitu, K., & Seager, J. (2021). 'I Just Keep Quiet': Addressing the Challenges of Married Rohingya Girls and Creating Opportunities for Change. *The European Journal of Development Research*, *33*(5), 1232–1251. https://doi.org/10.1057/s41287-021-00437-6

Hein, S., Bick, J., Issa, G., Aoude, L., Maalouf, C., Awar, A., Nourallah, S., Zonderman, A. L., Householder, S., Katsovich, L., Khoshnood, K., Moore, C., Salah, R., Britto, P. R., Leckman, J. F., & Ponguta, L. A. (2020). Maternal perceptions of father involvement among refugee and disadvantaged families in Beirut, Lebanon. *PLOS ONE*, *15*(3), e0229670. https://doi.org/10.1371/journal.pone.0229670

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*(2–3), 61–83. https://doi.org/10.1017/S0140525X0999152X

Holla, A., Bendini, M., Dinarte, L., & Trako, I. (2021). *Is Investment in Preprimary Education Too Low? Lessons from (Quasi) Experimental Evidence across Countries*. https://doi.org/10.1596/1813-9450-9723

Honour in Transition: Changing gender norms among the Rohingya. (n.d.). UN Women – Asia-Pacific. Retrieved July 10, 2023, from https://asiapacific.unwomen.org/en/digital-library/publications/2020/06/voices-of-our-hearts

Hossain, Z. (2013). Fathers in Muslim Families in Bangladesh and Malaysia. In *Fathers in Cultural Context* (pp. 95–122). Routledge.

Hossain, Z., & Atencio, D. J. (2017). Mothers' and Fathers' Perceived Engagement in Children's Care and Schooling in Bangladesh: A Rural-Urban Comparison. *Journal of Comparative Family Studies*, *48*(4), 289–311. https://doi.org/10.3138/jcfs.48.4.289

Humanitarian Play Labs: Helping Rohingya children heal and learn through play. (n.d.). Retrieved July 10, 2023, from https://www.brac.net/latest-news/item/1213-humanitarian-play-labs-helping-rohingya-children-heal-and-learn-through-play

Iqbal, Y., Bolisetty, S., Alif, A., Tiwari, P., Hilgendorf, D., & Yoshikawa, H. (2022, October 14). *Testing Measures of Refugee Camp Environment, Caregiver Mental Health, and Child Social-Emotional Development Among the Rohingya in Cox's Bazar*. NYU Global TIES for Children. https://figshare.com/articles/preprint/Testing_measures_of_refugee_camp_environment_caregiver_mental_health_and_child_social-emotional_development_among_the_Rohingya_in_Cox_s_Bazaar/20292117

Jeong, J. (2021). Redesigning and delivering inclusive parenting interventions for fathers. *The Lancet Global Health*, *9*(5), e596. https://doi.org/10.1016/S2214-109X(21)00037-1

Jeong, J., Ahun, M. N., Bliznashka, L., Velthausz, D., Donco, R., & Yousafzai, A. K. (2021). Barriers and facilitators to father involvement in early child health services: A qualitative study in rural Mozambique. *Social Science & Medicine*, *287*, 114363. https://doi.org/10.1016/j.socscimed.2021.114363

Jeong, J., Franchett, E. E., Ramos De Oliveira, C. V., Rehmani, K., & Yousafzai, A. K. (2021). Parenting interventions to promote early child development in the first three years of life: A global systematic review and meta-analysis. *PLOS Medicine*, *18*(5), e1003602. https://doi.org/10.1371/journal.pmed.1003602

Jeong, J., McCoy, D. C., Yousafzai, A. K., Salhi, C., & Fink, G. (2016). Paternal Stimulation and Early Child Development in Low- and Middle-Income Countries. *Pediatrics*, *138*(4), e20161357. https://doi.org/10.1542/peds.2016-1357

Jeong, J., Siyal, S., Fink, G., McCoy, D. C., & Yousafzai, A. K. (2018). "His mind will work better with both of us": a qualitative study on fathers' roles and coparenting of young children in rural Pakistan. *BMC Public Health*, *18*(1), 1274. https://doi.org/10.1186/s12889-018-6143-9

Jeong, J., Sullivan, E. F., & McCann, J. K. (2023). Effectiveness of father-inclusive interventions on maternal, paternal, couples, and early child outcomes in low- and middle-income countries: A systematic review. *Social Science & Medicine (1982)*, *328*, 115971. https://doi.org/10.1016/j.socscimed.2023.115971

Jeong, J., Sullivan, E. F., McCann, J. K., McCoy, D. C., & Yousafzai, A. K. (2022). Implementation characteristics of father-inclusive interventions in low- and middle-income countries: A systematic review. *Annals of the New York Academy of Sciences*, *1520*(1), 34–52. https://doi.org/10.1111/nyas.14941

Jeong, J., Sullivan, E. F., McCann, J. K., McCoy, D. C., & Yousafzai, A. K. (2023a). Implementation characteristics of father-inclusive interventions in low- and middle-income countries: A systematic review. *Annals of the New York Academy of Sciences*, *1520*(1), 34–52. https://doi.org/10.1111/nyas.14941

Jeong, J., Sullivan, E. F., McCann, J. K., McCoy, D. C., & Yousafzai, A. K. (2023b). Implementation characteristics of father-inclusive interventions in low- and middle-income countries: A systematic review. *Annals of the New York Academy of Sciences*, *1520*(1), 34–52. https://doi.org/10.1111/nyas.14941

Jesmin, S. S., & Seward, R. R. (2011). Parental Leave and Fathers' Involvement with Children in Bangladesh: A Comparison with United States. *Journal of Comparative Family Studies*, *42*(1), 95–112. https://doi.org/10.3138/jcfs.42.1.95

Joint Government of Bangladesh - UNHCR Population factsheet as of 30 April 2022. (n.d.). UNHCR Operational Data Portal (ODP). Retrieved July 10, 2023, from https://data.unhcr.org/en/documents/details/92631

Joint Government of Bangladesh - UNHCR Population Factsheet as of September 2023. (n.d.). UNHCR Operational Data Portal (ODP). Retrieved October 15, 2023, from https://data.unhcr.org/en/documents/details/103840

Kesarwani, V., Husaain, Z. G., & George, J. (2020). Prevalence and Factors Associated with Burnout among Healthcare Professionals in India: A Systematic Review and Meta-Analysis. *Indian Journal of Psychological Medicine*, *42*(2), 108–115. https://doi.org/10.4103/IJPSYM.IJPSYM_387_19

Khaled, N., & Afsana, K. (2020). *Socio-Cultural Understanding of ECD: Perspectives of the Rohingya Community in Cox's Bazar, Bangladesh*. BRAC James P Grant School of Public Health, BRAC University, BRAC IED.

Khan, N. Z., Shilpi, A. B., Sultana, R., Sarker, S., Razia, S., Roy, B., Arif, A., Ahmed, M. U., Saha, S. C., & McConachie, H. (2019). Displaced Rohingya children at high risk for mental health problems: Findings from refugee camps within Bangladesh. *Child: Care, Health and Development*, *45*(1), 28–35. https://doi.org/10.1111/cch.12623

Kim, K., Han, Y., Kwak, Y., & Kim, J. (2015). Professional Quality of Life and Clinical Competencies among Korean Nurses. *Asian Nursing Research*, *9*(3), 200–206. https://doi.org/10.1016/j.anr.2015.03.002

Kiragu, E., Li Rosi, A., & Morris, T. (2011). *States of denial: A review of UNHCR's response to the protracted situation of stateless Rohingya refugees in Bangladesh*. United Nations High Commissioner for Refugees Policy Development and Evaluation Service (PDES). https://www.unhcr.org/media/states-denial-review-unhcrs-response-protracted-situation-stateless-rohingya-refugees

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kroenke, K., Strine, T. W., Spitzer, R. L., Williams, J. B. W., Berry, J. T., & Mokdad, A. H. (2009). The PHQ-8 as a measure of current depression in the general population. *Journal of Affective Disorders*, *114*(1–3), 163–173. https://doi.org/10.1016/j.jad.2008.06.026

Kroll, M. E., Carson, C., Redshaw, M., & Quigley, M. A. (2016). Early Father Involvement and Subsequent Child Behaviour at Ages 3, 5 and 7 Years: Prospective Analysis of the UK Millennium Cohort Study. *PLOS ONE*, *11*(9), e0162339. https://doi.org/10.1371/journal.pone.0162339

Lachman, J., Wamoyi, J., Spreckelsen, T., Wight, D., Maganga, J., & Gardner, F. (2020). Combining parenting and economic strengthening programmes to reduce violence against children: a cluster randomised controlled trial with predominantly male caregivers in rural Tanzania. *BMJ Global Health*, *5*(7), e002349. https://doi.org/10.1136/bmjgh-2020-002349

Languages in the Rohingya response. (2019). Translators without Borders. https://translatorswithoutborders.org/wp-content/uploads/2019/09/Languages-in-the-Rohingya-response_Cross-Border.pdf

The LEGO Foundation Awards $100 million to Sesame Workshop to Bring the Power of Learning through Play to Children Affected by the Rohingya and Syrian Refugee Crises. (2018, December 5). *Sesame Workshop*. https://sesameworkshop.org/about-us/press-room/lego-foundation-awards-100-million-sesame-workshop-bring-power-learning/

Leidy, M. S., Schofield, T. J., & Parke, R. D. (2012). Fathers' Contributions to Children's Social Development. In *Handbook of Father Involvement: Multidisciplinary Perspectives* (Second). Routeledge.

Levin, H. M., McEwan, P. J., Belfield, C., Bowden, A. B., & Shand, R. (2018). *Economic evaluation in education: Cost-effectiveness and benefit-cost analysis* (Third Edition). SAGE.

Li, Y., Tang, L., Bai, Y., Zhao, S., & Shi, Y. (2020). Reliability and validity of the Caregiver Reported Early Development Instruments (CREDI) in impoverished regions of China. *BMC Pediatrics*, *20*(1), 475. https://doi.org/10.1186/s12887-020-02367-4

Lin, X., & Li, H. (2019). Parents' play beliefs and engagement in young children's play at home. In *Working with Parents and Families in Early Childhood Education* (pp. 5–20). Routledge.

Luoto, J. E., Lopez Garcia, I., Aboud, F. E., Singla, D. R., Fernald, L. C. H., Pitchik, H. O., Saya, U. Y., Otieno, R., & Alu, E. (2021). Group-based parenting interventions to promote child development in rural Kenya: a multi-arm, cluster-randomised community effectiveness trial. *The Lancet Global Health*, *9*(3), e309–e319. https://doi.org/10.1016/S2214-109X(20)30469-1

Magnuson, K. A., Kelchen, R., Duncan, G. J., Schindler, H. S., Shager, H., & Yoshikawa, H. (2016). Do the effects of early childhood education programs differ by gender? A meta-analysis. *Early Childhood Research Quarterly*, *36*, 521–536. https://doi.org/10.1016/j.ecresq.2015.12.021

Mariam, E., Ahmad, J., & Sarwar, S. S. (2021). BRAC Humanitarian Play Lab Model: Promoting Healing, Learning, and Development for Rohingya Children. *Journal on Education in Emergencies*, *7*(1), 96. https://doi.org/10.33682/u72g-v5me

Maslach, C., Jackson, S. E., & Leiter, M. P. (2018). *Maslach Burnout Inventory Manual- Fourth Edition*. Mind Garden.

McCoy, D. C., Sudfeld, C. R., Bellinger, D. C., Muhihi, A., Ashery, G., Weary, T. E., Fawzi, W., & Fink, G. (2017). Development and validation of an early childhood development scale for use in low-resourced settings. *Population Health Metrics*, *15*(1), 3. https://doi.org/10.1186/s12963-017-0122-8

McCoy, D. C., Waldman, M., & Fink, G. (2018). Measuring early childhood development at a global scale: Evidence from the Caregiver-Reported Early Development Instruments. *Early Childhood Research Quarterly*, *45*, 58–68. https://doi.org/10.1016/j.ecresq.2018.05.002

McWayne, C., Downer, J. T., Campos, R., & Harris, R. D. (2013). Father Involvement During Early Childhood and Its Association with Children's Early Learning: A Meta-Analysis. *Early Education & Development*, *24*(6), 898–922. https://doi.org/10.1080/10409289.2013.746932

Mikelson, K. S. (2008). He Said, She Said: Comparing Mother and Father Reports of Father Involvement. *Journal of Marriage and Family*, *70*(3), 613–624. https://doi.org/10.1111/j.1741-3737.2008.00509.x

Miller, K. E., Chen, A., Koppenol-Gonzalez, G. V., Bakolis, I., Arnous, M., Tossyeh, F., El Hassan, A., Saleh, A., Saade, J., Nahas, N., Abboud, M., Jawad, L., & Jordans, M. J. D. (2023). Supporting parenting among Syrian refugees in Lebanon: a randomized controlled trial of the caregiver support intervention. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *64*(1), 71–82. https://doi.org/10.1111/jcpp.13668

Morgan, D. L., & Nica, A. (2020). Iterative Thematic Inquiry: A New Method for Analyzing Qualitative Data. *International Journal of Qualitative Methods*, *19*, 160940692095511. https://doi.org/10.1177/1609406920955118

Mullany, B. C., Becker, S., & Hindin, M. J. (2007). The impact of including husbands in antenatal health education services on maternal health practices in urban Nepal: results from a randomized controlled trial. *Health Education Research*, *22*(2), 166–176. https://doi.org/10.1093/her/cyl060

Ndijuye, L. G. (2023). Early learning attainments of children of naturalized citizens of refugee backgrounds in the sub-Saharan region: Evidence from Tanzania. *Child Development Perspectives*, *17*(1), 67–73. https://doi.org/10.1111/cdep.12479

Ndijuye, L. G., & Basil Tandika, P. (2022). Fathers' involvement on children's school performance among camped-refugees and local majorities' communities in Tanzania. *International Journal of Early Years Education*, *30*(2), 199–215. https://doi.org/10.1080/09669760.2022.2041405

Nguyen, P. H., Kim, S. S., Sanghvi, T., Mahmud, Z., Tran, L. M., Shabnam, S., Aktar, B., Haque, R., Afsana, K., Frongillo, E. A., Ruel, M. T., & Menon, P. (2017). Integrating Nutrition Interventions into an Existing Maternal, Neonatal, and Child Health Program Increased Maternal Dietary Diversity, Micronutrient Intake, and Exclusive Breastfeeding Practices in Bangladesh: Results of a Cluster-Randomized Program Evaluation. *The Journal of Nutrition*, *147*(12), 2326–2337. https://doi.org/10.3945/jn.117.257303

Office of the Refugee Relief and Repatriation Commission. (n.d.). https://rrrc.gov.bd/

Panter-Brick, C., Burgess, A., Eggerman, M., McAllister, F., Pruett, K., & Leckman, J. F. (2014). Practitioner Review: Engaging fathers – recommendations for a game change in parenting interventions based on a systematic review of the global evidence. *Journal of Child Psychology and Psychiatry*, *55*(11), 1187–1212. https://doi.org/10.1111/jcpp.12280

Pendergast, L. L., Schaefer, B. A., Murray-Kolb, L. E., Svensen, E., Shrestha, R., Rasheed, M. A., Scharf, R. J., Kosek, M., Vasquez, A. O., Maphula, A., Costa, H., Rasmussen, Z. A., Yousafzai, A., Tofail, F., Seidman, J. C., & The MAL-ED Network Investigators. (2018). Assessing development across cultures: Invariance of the Bayley-III Scales Across Seven International MAL-ED sites. *School Psychology Quarterly*, *33*(4), 604–614. https://doi.org/10.1037/spq0000264

Pheh, K.-S., Tan, C.-S., Lee, K. W., Tay, K.-W., Ong, H. T., & Yap, S. F. (2023). Factorial structure, reliability, and construct validity of the Generalized Anxiety Disorder 7-item (GAD-7): Evidence from Malaysia. *PLOS ONE*, *18*(5), e0285435. https://doi.org/10.1371/journal.pone.0285435

Rafla, J., Schwartz, K., Yoshikawa, H., Hilgendorf, D., Ramachandran, A., Khanji, M., Abu Seriah, R., Al Aabed, M., Figyan, R., Sloane, P., Al Aqra, A., Sharawi, T., Molano, A., Foulds, K., Behrman, J., & Wuermli, A. (Forthcoming). *Randomized Controlled Trial of a Phone-Based Caregiver Support and Parenting Program for Syrian and Jordanian Families with Young Children*. NYU Global TIES for Children.

Rahman, A., Khaled, N., Akter, M., Yesmin, S., Zaman, S. S., Marium, E., & Afsana, K. (2023). The well-being of Rohingya children in Rohingya camps of Bangladesh during the Covid 19 pandemic: a qualitative exploration. *Early Child Development and Care*, *193*(4), 463–476. https://doi.org/10.1080/03004430.2022.2106979

Rajaa, S., Govindhan, D., & Thulasingam, M. (2023). Professional quality of life among physicians posted in COVID-19 clinics at a tertiary care hospital in South India: a cross-sectional analytical study. *International Journal Of Community Medicine And Public Health*, *10*(3), 1207–1213. https://doi.org/10.18203/2394-6040.ijcmph20230641

Rakotomanana, H., Walters, C. N., Komakech, J. J., Hildebrand, D., Gates, G. E., Thomas, D. G., Fawbush, F., & Stoecker, B. J. (2021). Fathers' involvement in child care activities: Qualitative findings from the highlands of Madagascar. *PLOS ONE*, *16*(3), e0247112. https://doi.org/10.1371/journal.pone.0247112

Ranjitkar, S., Kvestad, I., Strand, T. A., Ulak, M., Shrestha, M., Chandyo, R. K., Shrestha, L., & Hysing, M. (2018). Acceptability and Reliability of the Bayley Scales of Infant and Toddler Development-III Among Children in Bhaktapur, Nepal. *Frontiers in Psychology*, *9*, 1265. https://doi.org/10.3389/fpsyg.2018.01265

Rashid, F., Erfan Uddin, R. A. Md., Mehedi, H. M. H., Dhar, S., Bhuiyan, N. H., Sattar, Md. A., & Chowdhury, S. (2022). Burnout syndrome among frontline doctors of secondary and tertiary care hospitals of Bangladesh during COVID-19 pandemic. *PLOS ONE*, *17*(11), e0277875. https://doi.org/10.1371/journal.pone.0277875

Rempel, L. A., Rempel, J. K., Khuc, T. N., & Vui, L. T. (2017). Influence of father–infant relationship on infant development: A father-involvement intervention in Vietnam. Developmental Psychology, 53(10), 1844–1858. https://doi.org/10.1037/dev0000390

The Rohingya Crisis: Explained. (n.d.). Save the Children. Retrieved October 15, 2023, from https://www.savethechildren.org/us/what-we-do/emergency-response/rohingya-crisis

Roggman, L. A., Cook, G. A., Innocenti, M. S., Jump Norman, V. K., Boyce, L. K., Olson, T. L., Christiansen, K., & Peterson, C. A. (2019a). The Home Visit Rating Scales: Revised, restructured, and revalidated. *Infant Mental Health Journal*, *40*(3), 315–330. https://doi.org/10.1002/imhj.21781

Roggman, L. A., Cook, G. A., Innocenti, M. S., Jump Norman, V. K., Boyce, L. K., Olson, T. L., Christiansen, K., & Peterson, C. A. (2019b). The Home Visit Rating Scales: Revised, restructured, and revalidated. *Infant Mental Health Journal*, *40*(3), 315–330. https://doi.org/10.1002/imhj.21781

Roopnarine, J. L., & Dede Yildirim, E. (2019). Fathers' Cognitive Engagement and Preschoolers' Literacy Skills in Three Ethnic Groups in Trinidad and Tobago. *Journal of Black Psychology*, *45*(6–7), 494–517. https://doi.org/10.1177/0095798419887067

Saleem, T., & Hawamdeh, E. S. (2023). Counselor self-efficacy, spiritual well-being and compassion satisfaction/fatigue among mental health professionals in Pakistan. *Current Psychology*, *42*(16), 13785–13797. https://doi.org/10.1007/s12144-021-02499-5

Sethna, V., Perry, E., Domoney, J., Iles, J., Psychogiou, L., Rowbotham, N. E. L., Stein, A., Murray, L., & Ramchandani, P. G. (2017). FATHER-CHILD INTERACTIONS AT 3 MONTHS AND 24 MONTHS: CONTRIBUTIONS TO CHILDREN'S COGNITIVE DEVELOPMENT AT 24 MONTHS: Fathers' and Children's Cognitive Development. *Infant Mental Health Journal*, *38*(3), 378–390. https://doi.org/10.1002/imhj.21642

Shyny, T. Y. (2017). Construction and Validation of PS-FFQ (Parenting Style Four Factor Questionnaire). *International Journal of Engineering Development and Reserach*, *5*(3). chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ijedr.org/papers/IJEDR1703064.pdf

Skar, A.-M. S., Sherr, L., Macedo, A., Tetzchner, S. V., & Fostervold, K. I. (2017). Evaluation of Parenting Interventions to Prevent Violence Against Children in Colombia: A Randomized Controlled Trial. *Journal of Interpersonal Violence*, *36*(1–2), NP1098–NP1126. https://doi.org/10.1177/0886260517736881

Smeeth, D., McEwen, F. S., Popham, C. M., Karam, E. G., Fayyad, J., Saab, D., Rieder, M. J., Elzagallaai, A. A., van Uum, S., & Pluess, M. (2023). War exposure, post-traumatic stress symptoms and hair cortisol concentrations in Syrian refugee children. *Molecular Psychiatry*, *28*(2), 647–656. https://doi.org/10.1038/s41380-022-01859-2

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7. *Archives of Internal Medicine*, *166*(10), 1092. https://doi.org/10.1001/archinte.166.10.1092

Stamm, B. H. (2010). *The Concise ProQOL Manual*. https://proqol.org/proqol-manual

Su, M., & Ouyang, Y.-Q. (2016). Father's Role in Breastfeeding Promotion: Lessons from a Quasi-Experimental Trial in China. *Breastfeeding Medicine*, *11*(3), 144–149. https://doi.org/10.1089/bfm.2015.0144

Sultana, R., Parray, A. A., Hossain, M. R., Aktar, B., & Rashid, S. F. (2023). "We are invisible to them"—Identifying the most vulnerable groups in humanitarian crises during the COVID-19 pandemic: The case of Rohingyas and the Host communities of Cox's Bazar. *PLOS Global Public Health*, *3*(6), e0000451. https://doi.org/10.1371/journal.pgph.0000451

Sun, J., Liu, Y., Chen, E. E., Rao, N., & Liu, H. (2016). Factors related to parents' engagement in cognitive and socio-emotional caregiving in developing countries: Results from Multiple Indicator Cluster Survey 3. *Early Childhood Research Quarterly*, *36*, 21–31. https://doi.org/10.1016/j.ecresq.2015.12.003

Susin, L. R. O., & Giugliani, E. R. J. (2008). Inclusion of fathers in an intervention to promote breastfeeding: impact on breastfeeding rates. *Journal of Human Lactation: Official Journal of International Lactation Consultant Association*, *24*(4), 386–392; quiz 451–453. https://doi.org/10.1177/0890334408323545

Tamis-LeMonda, C. S., Baumwell, L., & Cabrera, N. J. (2012). Fathers' Role in the Children's Language Development. In *Handbook of Father Involvement: Multidisciplinary Perspectives* (Second Edition, pp. 135–150). Routledge.

Tamis-LeMonda, C. S., Kahana-Kalman, R., & Yoshikawa, H. (2009). Father Involvement in Immigrant and Ethnically Diverse Families from the Prenatal Period to the Second Year: Prediction and Mediating Mechanisms. *Sex Roles*, *60*(7–8), 496–509. https://doi.org/10.1007/s11199-009-9593-9

UNHCR. (n.d.). *Country - Bangladesh*. Retrieved September 20, 2023, from https://data.unhcr.org/en/country/bgd

UNHCR. (2023, June 14). *Refugee Data FInder*. Unhcr.Org. https://www.unhcr.org/refugee-statistics/#:~:text=Low%2D%20and%20middle%2Dincome%20countries%20host%2076%20per%20cent%20of,per%20cent%20of%20the%20total.&text=Data%20on%20some%204.4%20million,was%20reported%20at%20end%2D2022.

van den Berg, W., Hendricks, L., Hatcher, A., Peacock, D., Godana, P., & Dworkin, S. (2013). 'One Man Can': shifts in fatherhood beliefs and parenting practices following a gender-transformative programme in Eastern Cape, South Africa. *Gender and Development*, *21*(1), 111–125. https://doi.org/10.1080/13552074.2013.769775

Waldman, M., McCoy, D. C., Seiden, J., Cuartas, J., CREDI Field Team, & Fink, G. (2021). Validation of motor, cognitive, language, and socio-emotional subscales using the Caregiver Reported Early Development Instruments: An application of multidimensional item factor analysis. *International Journal of Behavioral Development*, *45*(4), 368–377. https://doi.org/10.1177/01650254211005560

Wongtim, S., & Siritarungsri, B. (2021). Impact of Covid-19 Pandemic on Professional Quality of Life and Coping Strategy among Nurses in Thailand. *ASEAN Journal of Open and Distance Learning*.

Yoshikawa, H., Wuermli, A. J., & Aber, J. L. (2018). Mitigating the Impact of Forced Displacement and Refugee and Unauthorized Status on Youth: Integrating Developmental Processes with Intervention Research. In H. Yoshikawa, A. J. Wuermli, & J. L. Aber, *Humanitarianism and Mass Migration* (pp. 186–206). University of California Press. https://doi.org/10.1525/california/9780520297128.003.0009

Zahra, F., Sunny, S., Bolisetty, S., & Rahim, A. K. (under review). Perceptions of Children's Development among Rohingya Fathers in Forced Displacement: Does Gender of the Child Matter? *Under Review*.

Zahra, F. T., Sunny, S., Bolisetty, S., Yoshikawa, H., Iqbal, Y., & Kim, S. (under review). Fathers' Engagement with and Perceptions of Child Play: Evidence from the Rohingya Camps of Cox's Bazar, Bangladesh.