A qualitative study of mechanisms underlying effects of a parenting intervention in rural Liberia

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Abstract

Parenting interventions can reduce child maltreatment and improve child outcomes in high-risk settings, but little is known about mechanisms underlying effects. This study presents qualitative findings on mechanisms of change from a randomized trial of a parenting intervention in Liberia. Participants (N=30) completed semi-structured interviews, and thematic content analysis was conducted from transcripts. Results suggest that learning about effects of violence on child development and discussing the value of empathy for children strengthened caregivers' sense of identity as nurturers and protectors. This in turn drove efforts to decrease harsh discipline. As a result, children expressed less fear, increasing opportunities for positive interactions; shared enjoyment maintained reduced harsh treatment. Caregivers also described recognizing that physical punishment was often ineffective and using new non-violent discipline skills alongside emotion regulation skills to facilitate behavior change. Participants also described reduced couples conflict and more peaceful home environments associated with increased self-identification as role models.

Key words: Liberia; young children; harsh discipline; parenting

Background

Around the globe, young children experience high rates of physical, verbal, emotional, and sexual abuse, often perpetrated by their caregivers, that has significant and lasting developmental consequences (Cowell et al., 2015; Walker et al., 2011). Rates of family violence and abuse appear to be particularly elevated in post-conflict settings in which families face a wide range of stressors including displacement, separation, grief, poverty, and limited educational, and employment opportunities (Borba et al., 2016; Mels et al., 2010; Reed et al., 2012). High rates of family violence (Stoltenborgh et al., 2015), in combination with other risk factors such as stunting and extreme poverty, contribute to an estimated 43% of children in low- and middle-income countries (LMICs) not reaching their developmental potential (Lu et al., 2016).

Targeting the family system in which a child lives has the potential to buffer contextual risk factors while directly targeting child maltreatment in the home (Repetti et al., 2002). Harsh inconsistent, neglectful parenting practices have consequences that have been associated with poor child adjustment, increased internalizing and externalizing problems, social difficulties, and lower self esteem (Boudreault-Bouchard et al., 2013; Wiggins et al., 2015; Yap et al., 2013). Conversely, positive and consistent parenting practices are associated with positive mental health outcomes and may buffer the effects of poverty and instability on child development in very difficult contexts (Britto et al., 2017; Knerr et al., 2013).

Empirical studies of parenting programs have shown a range of positive effects, including reduced child abuse and harsh discipline and positive effects on child adjustment, self-esteem, and mental health (Eyberg et al., 2008; Furlong et al., 2012; Thomas et al., 2007). These interventions are primarily based in behavioral theory and focus on skills building for non-

violent discipline and for improving caregiver-child relationships, but vary in content, delivery models, and length based on the context, target problem, and child age (Sanders, 2012). While most research on parenting programs has been conducted in high-income countries, a growing body of literature is showing promising results in LMICs (Knerr er al., 2013; Mejia et al. 2012; Cluver et al., 2016; Singla et al. 2015). Within LMICs, parenting interventions have shown positive results across unique contexts and populations, including post-conflict settings (Puffer et al., 2015), conflicted-affected displaced families (Annan et al., 2016) and caregivers affected by HIV (Betancourt et al., 2014).

Across parenting programs, evidence is scarce regarding potential mechanisms of change and the most active ingredients driving intervention impacts (Schmidt and Schimmelmann, 2015). A contextualized understanding of essential components in parenting interventions is important for understanding what works and for whom both across contexts and within specific settings (Wuermli et al., 2015). This is especially important in LMICs and conflict-affected settings, as limited financial and human resources highlight the need to identify the most efficient and cost-effective strategies, as well as strategies that take into account specific contextual challenges (Knerr et al., 2013; Murphy et al., 2017). Identifying core components and mechanisms underlying change have important implications for dissemination and implementation, as results can inform how to adapt and scale interventions across settings.

A mixed-methods approach to evaluation is one step towards understanding *how* interventions work. Qualitative methods allow in-depth, nuanced, and participant-guided tools for exploring change and pathways leading to change (Hanley et al., 2001). Qualitative data also can capture culturally-situated change that may not be detected by surveys typically normed and developed in American or European settings and can provide an avenue for highlighting the

voices of participants (Glenton et al., 2011). As such, qualitative findings are valuable for describing potential mechanisms of change, contextualizing and complementing quantitative findings, and generating hypotheses for further intervention development and testing (Errázuriz et al., 2016; Mejia et al., 2015).

We followed a mixed methods approach in an evaluation of the Parents Make the Difference (PMD) program in rural Liberia (Puffer et al., 2015). PMD is a 10-session parenting intervention for caregivers of children ages 3 to 7 that was evaluated quantitatively in a randomized control trial using surveys and direct observational measures. The quantitative findings from the trial documented a 55.5% reduction in harsh discipline and improvements in caregiver–child interactions one month following the intervention (Puffer et al., 2015). In this article we use in-depth qualitative interviews with program participants collected post-intervention to explore potential mechanisms of change driving these effects.

Methods

Setting

This study was conducted in five rural communities in Lofa County, Liberia, located in the north, bordering Guinea and Sierra Leone. This is an area affected by years of intense conflict between 1999 and 2003 during the Second Liberian Civil War. Children and families in post-conflict Liberia face serious risks to safety and healthy development. Approximately one in 10 children dies before the age of five, and 32% of children under five are stunted (LISGIS 2008); in 2008, 86.5% of children ages 6-9 were not yet enrolled in school (LISGIS, 2008). Violence exposure is high, with 2007 surveys documenting that 76% of children reported experiencing harsh physical punishment within the past month and that 44% of women (ages 15-49) reported physical abuse (LISGIS, 2008). At the time of this study, Liberia did not have a

policy on early childhood development, though public schooling was available in the study communities.

Participants and Procedures

A total of 270 caregivers took part in a randomized trial of PMD implemented by the International Rescue Committee (IRC) and evaluated collaboratively by the IRC and Duke University (Puffer et al. 2015). Caregivers were recruited from five study communities through community outreach at schools. They were randomized within each community to immediate treatment or waitlist control groups. To be eligible, participants had to be a caregiver of a child between the ages of 3 and 7 years who was attending or entering publically available schooling; this included preschool classes, referred to as "ABC" in Liberia. Qualitative data were collected from a subsample of 30 caregivers from the larger quantitative study who were assigned to the treatment group. Full demographic information for this subsample is provided in Table 2. These participants were purposively sampled based on demographic information collected during the quantitative study for variation on gender and ages of both caregivers and children. Selection also was designed to match the demographic characteristics of the larger study sample that included 57% female caregivers, a mean caregiver age of 35.5 years, 53% female children, and a mean child age of 5.2 years. Procedures were reviewed and approved by local community advisory boards in Liberia from all communities and the Duke University Institutional Review Board.

Intervention

PMD is a 10-session intervention developed by the International Rescue Committee (IRC) for caregivers of young children. The intervention was delivered to groups of approximately 25 caregivers that met weekly for two hours. This group size, larger than many

parenting programs, allowed for serving more families with fewer resources and had proven feasible in similar IRC-led intervention projects. Sessions were highly interactive and included didactic material, discussion, demonstrations, and participant role play. Sessions emphasized role play and practice in small-groups and pairs with continual in-session coaching to allow for substantive practice and participation of all members in a relatively large group. Each group had two facilitators from Liberia, one male and one female, with no previous specialized training in parenting or psychosocial interventions. Caregivers were provided with an incentive of approximately $1.50 USD per session as is customary of programs offered by nongovernmental organizations in this setting. Facilitators also conducted one home visit with each family during the course of the intervention to review material and answer questions about content and skills.

Table 1 provides synopses of PMD session content. The first sessions generally begin with content related to increasing knowledge related to child development and addressing beliefs and attitudes related to parenting; while these initial sessions are interactive and introduce skills, the subsequent sessions increase the focus on specific parenting skills related to building positive interactions, using non-harsh behavior management strategies. and engaging in activities to stimulate early learning skills. Sessions also briefly address caregiver stress and other violence in the home.

PMD is rooted in behavioral theory, incorporates approaches common to many evidence-based parenting interventions, and emphasizes empathy and nurturing parenting concepts; it was tailored for the Liberian context to be culturally relevant and conducive to implementation by lay facilitators. The theory of change underlying the design of PMD posits that behavior change, in particular related to child maltreatment, would be mediated by multiple factors, including changes in beliefs and attitudes more consistent with nurturing parenting practices; increases in

knowledge on child development and appropriate expectations; and implementation of parenting skills to increase positive attention and warmth alongside non-harsh discipline strategies. In addition, the theory of change recognizes the importance of caregivers' own well-being in determining their willingness and capacity for positive parenting practices, including their ability to regulate and cope with their own challenges and emotions.

Hypothesized outcomes of PMD in the immediate-term included parenting behavior changes, with a focus on decreasing harsh treatment. Resulting from those changes, improvements in children's social-emotional and cognitive well-being were expected to occur over time. The long-term benefits of these positive changes, expected to emerge during the course of a child's development, were the prevention of mental health disorders and sustained positive outcomes across domains of child and family well-being, such as academic functioning and overall family cohesion. Additional description of PMD is provided in Puffer et al. (2015).

Measures

Interviewers used semi-structured interview guides including broad open-ended questions followed by probes to elicit more detailed responses. Questions asked caregivers to describe the positive and negative changes that they experienced during and after the intervention. Depending on responses, interviewers used probes to ask about changes in the caregiver's own behaviors, their child, their family relationships, and relationships with others. Beyond descriptions of the changes, interviewers also asked caregivers about why and how these occurred to understand their perceptions of the sequences of changes and the underlying processes.

The interview guide was developed by study investigators, adapted by the research team in Liberia, and translated into Liberian English. Interviews were conducted by trained IRC staff, audio recorded, and transcribed verbatim. Interviewers completed an interactive training on

general qualitative interview techniques and the specific interview protocol prior to conducting the interviews. All transcripts were de-identified with names replaced with participant numbers.

Analysis

Data were analyzed using thematic content analysis (TCA) in which salient data patterns are examined, organized, described and evaluated to capture implicit and explicit phenomena (Braun and Clarke, 2006). Analysis was implemented from an essentialism perspective that approaches the data as an expression of an individual's motivation and meaning (Braun & Clarke, 2006). We followed the six recommended steps of TCA. First, to become familiar with the data, members of the research team read and annotated the transcripts followed by a group discussion about emerging patterns and themes. Second, we generated codes by beginning with a core set intended to identify intervention changes across target domains (e.g., harsh punishment, child-caregiver communication); we then expanded codes to capture unanticipated intervention-related changes and related contributing factors that emerged from the data. We also generated "change pathway codes" to capture descriptions of sequences and processes leading to change. Third, we coded the data; ten percent of the transcripts were double coded and discussed to reach full agreement and to finalize the codebook. Two additional transcripts were then coded by two independent coders to confirm percent agreement above .80 before coding the remainder of the data. Fourth, from the coded excerpts, we compiled and discussed themes with a focus on change processes. In the fifth step, we reviewed themes for co-occurrences of specific changes and change pathways to identify potential mechanisms of change. Lastly, to describe findings, we iteratively developed visual depictions of the relationships and extracted illustrative quotations. Given the relatively small sample size, we did not conduct formal subgroup analysis by gender or age of caregivers or children.

Results

Demographics

Table 2 presents demographic information about the sample. Participants included 14 male and 16 female caregivers (n=30) who participated in the described intervention. Caregivers' ages ranged from 25 to 52 years with a mean age of 35, and their children's ages ranged from 3 to 7 with a mean age of 4.9. They were predominantly Christian (73%), married (73%), and members of the Lorma tribe (73%). Many participants were farmers (50%) or unemployed (30%) with a median household income of $12.23 US dollars per month. Over one-third (37%) had never attended school. Most participants were biological parents (80%). All reported that their children were enrolled in preschool. The demographics of this subsample closely mirrored those of the larger study population (Puffer et al., 2015).

Caregiver-Perceived Changes

Participants described changes in their parenting behaviors, relationships with their children, and their child's behaviors, all domains targeted directly by the intervention and assessed in the quantitative evaluation (Puffer et al., 2015). They also described less anticipated positive changes, including changes in their marital relationships, their own behavior and mental health, and overall improved family functioning.

Parenting Behaviors and Parent-Child Interactions. Caregivers emphasized changes in their parenting behaviors in the domains of discipline, material support, educational involvement, and improvements in their interactions with their children including increased warmth, time together, and communication. These results expanded upon quantitative findings that showed significant reductions in harsh discipline and increased use of non-violent discipline.

The majority of participants described reductions in harsh discipline reporting that they were no longer beating their children; many also mentioned stopping other harsh discipline strategies, such as shouting and denying food. Harsh parenting behaviors were reported as being replaced by alternative, non-violent strategies. Descriptions of alternative strategies included advising children, including warning them not to repeat the behavior, discussing reasons for punishment, and using time out to remove a child from positive attention and activities.

> *"If the children did wrong, I never used to advise them…As soon as I know that it was this one that did wrong, I just beat that child...but now if she does something wrong, I call her and ask her, and if she says yes (I did it), then I advise her and say, 'Don't do it again. If you do it again I will punish you'." - 35 year-old father of a 5 year-old girl*

Caregivers also reported clear improvements in material support for their children by increasing their efforts to provide for material needs, an outcome not directly targeted. Many caregivers noted instances of providing more for their children's basic needs, such as providing adequate food, clothing, school fees and materials. In some cases, they referred to increased effort to obtain new resources while in others they described allocating resources differently to provide more for their young child. Related, they reported improved health and hygiene in the home with some caregivers connecting their increased attention to their children's basic needs with their child's improved health. One grandmother of a 5 year-old girl commented, "*They use to always tell me, 'Ma, this place hurting me,' but now the way I can maintain them with their food and clothes, they are not complaining of any sickness."* Provision of basic needs also appeared to be facilitated by an increased understanding of appropriate developmental child expectations that encouraged parental scaffolding of activities related to preparing meals and maintaining good hygiene that children were otherwise expected to do on their own.

> "*We were told not to leave the children to do things all by themselves, as we may think that they (the children) are big now and be leaving them to look for water and food by themselves. – 35 year-old father of a 5 year-old girl*

Caregivers also described becoming more involved in their child's education. The majority highlighted their increased monitoring of child school attendance, communication about school-related topics (e.g., what their child did at school), and engagement in educational activities at home (e.g., singing the alphabet song). Quantitative measures of educational involvement did not show any impact, suggesting that these effects may not have been as common across the entire sample or that the specific changes varied in ways that were not captured in survey questions.

> *"This time my children don't go out to walk about the whole day but they can stay home and study their lesson and we can talk story together."- 48 year-old mother of a 7 year-old girl*

> *"My child used to wake and say 'Papa I am going to school.' I never used to have time for that; … but since this program, he told me, 'Papa I am going to school...' I follow him… I saw him sitting down in the class; another time I follow him he was running all around the campus... I told him go to class."- 28 year-old father of a 6 year-old boy*

Beyond individual parenting behavior, participants described improvements in child-caregiver interactions including closeness, time together, and communication. These results corroborated quantitative findings in this domain. A powerful theme throughout the data was caregivers experiencing increased feelings of closeness with their children. These descriptions were typically coupled with reports of increased time spent with children; as one mother noted, *"we tell stories, before we go to bed, we pray."* Additionally, communication with children in ways related to advising and monitoring, such as setting aside time for "sitting and talking" or "*asking them what thing [they] will do,"* was a clear change reported by caregivers.

> *"They never use to sit down in one area [together], but after this training, I can call them; we sit down and be lecturing and laughing and they can't go different area to walk around again." – 30 year-old father of a 4 year-old boy*

Child Behavior. Some caregivers also noted improvements in child behavior and well-being. For instance, one grandmother of a 5 year-old girl noted increased compliance describing

that her granddaughter now "*can stand and listen before she take[s] a step.*" Additionally, caregivers noted improved peer relations and increased motivation for learning. One caregiver mentioned that in the past his granddaughter would "sit alone," but that he has now noticed she "*get[s] along with her friends and they play."* Lastly, some caregivers reported gains in children's academic abilities, such as being able to say their ABC's. A portion of these parents attributed these academic improvements, such as letter learning, to increased cognitive stimulation at home (e.g., "storying"; playing educational games). Though these results contrasted null quantitative findings on child cognitive outcomes, they suggest that some caregivers were, at the least, becoming more aware of their children's skills and progress.

> *"It was not easy for my child to speak good English …but through my effort and the training …I come and take time and be showing her how to speak…,at least to teach her how to say the A,B,C and spell her name, and now she's doing well." – 35 year-old father of a 6 year-old girl*

Couple and Family Functioning. Many caregivers reported improvements in their couples relationships, which were not explicitly emphasized in the intervention. Participants commonly reported decreased overall conflict, often termed "palaver" or referred to as "confusion" in Liberian English. Specific improvements included decreased violence, improved communication, more effective problem solving and an overall sense of "understanding" in the relationship; one caregiver said that he and his wife now *"do things in common with one understanding.*" In some cases, improved communication was related specifically to sharing money and financial decision-making. In a few cases, caregivers who attended PMD also reported talking with their spouse about the intervention content.

> *"Another thing is the relationship with my wife. Sometimes there used to be mix[ed] feeling[s] no matter what happened,as husband and wife… there must be confusion. This program is helping to resolve our problems. When I used to go to Voinjama to get my little money, I possess it myself...but this time now I can take it and give it to her*

[wife]…If I want anything, I ask her and she give it to me."- 48 year-old father of a 7 year-old boy

Caregivers also described improvements in family dynamics in the household overall, often referring to having "less confusion" and more "peace" in their homes that made time for more positive routines. Examples focused on increased structure and routine around household activities such as sitting, eating, and praying together with all children and both parents.

"We tell stories before we go to bed; we pray, then we start asking them: [how is] school going? When you finish with book, what thing you will do?" - 28-year-old mother of a 3-year-old girl

"We love one another, but first we never used to do that [love one another]. We [are] happy together, we can laugh, no confusion, we live peaceful." – 25 year-old mother of a 4 year-old girl

Individual-Level Caregiver Change. When asked about their own behavior, caregivers reported spending more time with their child, which was closely connected with the increase in positive interactions with their children; some men noted generally spending more time at home. Some caregivers also described improved emotion regulation with one 48 year-old mother describing that she learned "*how to manage your feelings...sometimes when somebody does something to you… you should not get angry...but to control your anger."* Particularly unexpected was reports of five male caregivers' decreased substance use. In some cases, men and their partners said that this resulted from the father feeling more motivated to invest more time and/or effort in caregiving, which decreased time spent drinking outside of the home. They then described this decreased use as a facilitator of improved caretaking of children and of decreased couples conflict.

"I use to drink and smoke but I thank God I'm dropping all those things now, because the money I'm taking to buy cigarette and liquor I can use that as recess [snack money for school] for my children, and since the people came and started advising us how to take care of our children, I looked into it and I left all of those things" – 39 year-old father of a 5 year-old boy

> *"I use to drink liquor which was not good and so I put stop to liquor and we (my woman and I) can now sit together in our home and plan our job for the next day."- 35 year-old father of 6 year-old girl*

Lastly, several respondents described assuming new community roles, including advocating for positive parenting and being sought out as problem-solvers by neighbors. Most commonly, caregivers mentioned discouraging others from beating their children and making "palaver" with others in the community and encouraging others to send their children to school. They also described intervening when they saw others "beating their child" as well as a gained reputational status in the community resulting in being approached by others for advice about family problems.

> *"I was telling people… the way they [are] supposed to punish their children or [that] shouting is not good because, when someone shout at me, I can be shame[d] or get angry. Some people can call children with animal name, 'you dog.' It is not good to call your child 'dog.' So I always talk to them for them to stop these things." - 22 year-old mother of a 3 year-old boy*

Pathways and Cycles of Change

Pathways of change and cycles of positive behavior maintenance emerged from the data. Figure 1 depicts the three most salient pathways, showing the process and sequence of changes that participants described and the interactions between drivers of change.

Harsh Discipline Reduction Pathway. One of the clearest pathways described the process of change leading to reductions in harsh parenting (Figure 1, solid black pathway). The intervention content box highlights the components and principles emphasized by participants as influencing their motivation to change their behavior. They commonly referenced the knowledge they gained related to child development, particularly the impact of abuse on brain development; the discussions about having empathy and respect for children; and strategies learned for regulating their own emotions. These principles seemed to work together synergistically with

caregivers internalizing these principles in ways that increased their sense of responsibility to be the child's nurturer and protector. This was expressed in caregivers' responses that took a general form of, "*now that I **know** [more], I have…[made these changes]*." Their descriptions also often emphasized changes in their values and perceptions of their responsibilities, stating how a parent *should* approach parenting (e.g., "*we should take good care of our children"*- mother of a 6 year-old boy). In Figure 1, we describe this as an expanded "role as nurturer."

> *"They show us the picture of how the child brain will be if we don't take good care of the child, but when you like the person and holding the child good, their brain can be developing. Like if you plant a flower and water it every time, the flower will grow good but if you don't water the flower it will be going down until it dies, and that is the same way the children looks, so they told us it's not good to hold our child bad and so we agree and we like that one"-51 year-old mother of a 6 year-old boy*

This knowledge and subsequent sense of responsibility and concern for their child's development were tied to motivations for reducing harsh and violent punishment, as their current practices were inconsistent with their strengthened identity as the child's nurturer and protector. Reduced beating and other forms of harsh punishment in turn led to children becoming less fearful of their caregivers, creating increased opportunities and receptivity for enjoyable interactions between children and caregivers. Particularly notable in parents' descriptions of their experience was the salience of their ability to recognize and respond to child emotion, especially fear. As one mother of a six year-old boy noted, "*the children use to be afraid to express themselves, they can't come around us, but now when they want something, they will come to me and explain what they want."* This emotional sensitivity targeted through content on empathy in the intervention seemed to be an important driver of change. Improved child-caregiver interactions were described in an accumulative and transactional manner such that warmth and closeness led to spending more time together and more time together led to more pleasant

interactions. This increased warmth and reduced child fear then looped back to maintain caregivers' motivation to resist the use of harsh punishment.

> *"My child speaks to me in a friendly manner…He used to [have] that feeling of being afraid. Now…we converse. I ask him the other day, 'You think when we go on the farm we will finish [our work]?'…While we were talking, we were looking at each other's face; before then he used to bend his head down." - 48 year-old father of a 7 year-old boy*

Caregivers also reported replacing harsh punishment with increased use of alternative non-violent discipline strategies, which facilitated their ability to act on their goal of using less harsh physical punishment. Most commonly they described time out and advising—a subset of skills taught and practiced in the program. Some parents provided specific enough descriptions to suggest that use of the skills was consistent with methods presented in the sessions. Most participants implied that they adopted these strategies because they gave them new ways to correct their children that replaced their previous methods that caused physical or emotional harm; a few also reported the additional motivation of learning that beating is not effective in the long term. Caregivers did not indicate whether the strategies changed child behavior but rather focused primarily on how these alternative strategies replaced their use of harsher practices.

> "*I used to shout at the child and say, 'Show your hand' [to hit it]. Because of the training, I know how to give punish[ment] that he will not feel [physically]... When the child do things that is wrong, I tell him, 'You have to take some time out. I put him behind the door for five minutes. Sometime I stop him from playing with his friends." – 22 year-old mother of a 3 year-old boy*

Linked to both decreased harsh punishment and increased use of alternative positive discipline strategies, improved caregiver and child interactions were further viewed as facilitators of reduced overall family and couples-level conflict. Increased warmth and intentional effort to spend more time with the child seemed to spill over to increase the warmth and time spent together among all members of the household with some parents specifically describing

improved communication and problem-solving. This more "*peaceful*" and collaborative overall family climate then fed back to encourage maintenance of improved child-caregiver interactions.

> *"Before we started this training, confusion use to be among the children or even the parents, but since we took part in this training we are respecting one another because of the things we understood and learned from our teachers." – 51 year-old uncle of a 5 year-old male*

> *"I am a father. I was always busy. I did not have time to sit and discuss with my family…This training have brought me to love my children that we can sit down [and discuss] who is going to the market, what do you people suggest to eat today; and they go buy and come for us to eat. Those are positive changes." -52 year-old grandfather of a 5 year-old girl*

Couple and Family Conflict Reduction Pathway. A somewhat distinct change process emerged related to the connections between intervention content and reductions in couples and family conflict, particularly related to descriptions of reduced verbal and physical violence. We discussed earlier that more positive caregiver-child interactions seemed to "spill over" into increasing positive couple and family interactions. Beyond this, however, were participants' descriptions of a different process leading to decreased *violence* in these other relationships. In this pathway, caregivers' described an increased awareness of their powerful position as role models for their children. They relayed a sense of responsibility to avoid modeling negative behavior, such as fighting with their spouse, because children were absorbing, and were subsequently negatively impacted by, their actions. Participants' expressed concern that children would model this conflict and that conflict could negatively impact their child's future development. This concern seemed to drive couples' motivation to reduce perpetration of violence during disagreements.

> *"One of the main changes is my woman and I are not making confusion again like the way we used to make palaver every time, and the people [facilitators] are even telling us not to be making palaver and abusing our woman because if we have confusion, our children will practice that from us." - 47 year-old father of 6 year-old boy*

> *"They also told us that the children are like photo camera and can take their parent's picture (attitude) and so we the parents should put ourselves in good form before tomorrow [before] the children take one of the parent's bad way and fail in the future…that is what I use to explain to her (my wife)…Sometimes when my wife want to get vex I can remind her about the things I told her about from the training and then we can settle the matter." - 35 year-old father of a 5 year-old girl*

Reduced conflict, commonly termed "palaver" and "confusion," was in turn associated with improved couple communication, characterized by openness and effective problem-solving and planning or, as one father described, *"we can now sit together in our home and plan our job for the next day."* It seemed that caregivers may have applied general principles of the empathy and communication skills taught in the intervention related to caregiver-child interactions to their interactions with their spouse. Not surprisingly, improvements in problem-solving and communication facilitated sustained reductions in violence and vice versa as well as encouraging "peace" across the whole family system.

> *"'The way we used to make confusion in front of the children, we can't do it again. When he [my son] does something, I can call [my husband], tell him, and we just laugh [about] it. So now is hard to beat on the children." – 22 year-old mother of a 3 year-old boy*

> *"I use to just abandon my family where when I use to come from the bush. I hardly used to sit around with my family until later I come home to bed, but since the program I'm spending more time with my family because when you spend time with your family you will know their problems and you people will know how to live together in a peaceful manner" - 31 year-old father of a 4 year-old boy*

Discussion

With encouraging findings on the efficacy of behavioral parenting interventions globally, a next step is to examine the mechanisms underlying intervention effects, especially in LMICs and post-conflict settings (Mejia et al., 2016). The current study contributes to this effort by examining processes of change following a group-based parenting intervention implemented in rural Liberia. Using qualitative methods, we examined caregivers' perceptions of change, their motivations for change, and the interactions between the changes they experienced. Results

suggest ways in which intervention content may have led to psychological processes, both cognitive and emotional, that drove reductions in harsh discipline and improvements in parent-child interactions. Positive feedback loops then emerged that seemed to underlie maintenance of change over time. Findings serve to generate hypotheses about mechanisms of change for the PMD intervention and for other parenting interventions that have similar approaches and treatment outcomes (Britto et al., 2017; Knerr et al., 2013; Mejia et al., 2012).

Results point to interactions between caregivers gaining knowledge and empathy, experiencing cognitive shifts in their identities as parents, implementing new parenting skills, and experiencing positive emotional responses to improved interactions with their children. On the content level, certain didactic and skills-related content emerged as salient drivers of behavior change. Information on harmful effects of harsh punishment on child development and discussions related to the value of empathy for children emerged as particularly important. Caregivers described internalizing messages related to child development in ways that increased empathy—their awareness of their children as thinking, feeling beings who are shaped, negatively and positively, by their parents and the world around them. This was a central concept in the Nurturing Parenting Program that served as one of the model programs during the development of PMD (Bavolek, 2000). Increased empathy seemed to drive a cognitive identity shift in which parents' expanded perceptions of themselves as nurturers and protectors created motivation, and even a sense of urgency, to reduce use of harsh punishment; they recognized harsh punishment as incompatible with their shifting values. This pathway fits within the framework of value-expectancy theory which highlights how valued aspects of identity can subsequently drive beliefs and behaviors (Eccles, 2009). Findings are also consistent with studies

suggesting that a sense of parental responsibility can drive parent behavior change (Mejia et al., 2016).

Another way in which we saw the importance of empathy was in the shift in emotional experiences within parent-child relationships. Findings demonstrated a positive feedback loop in which caregivers' changes in discipline behavior first decreased children's expression of fear. Parents' empathic recognition of this emotional response in their children elicited a positive emotional response in themselves that motivated them to continue to avoid harsh discipline. This reciprocity facilitated more positive interactions and increased closeness, which reinforced caregivers for maintaining the changes in their behavior. These findings add to the literature documenting the role of affect-related constructs in other parenting interventions, such as emotional responsivity and sensitivity emphasized in infant and early childhood parenting programs in high-risk contexts (Valentino, 2017) and emotion recognition emphasized in parental emotion-focused coaching (Loop et al., 2017). The major role of parent-child interactions is also consistent with studies on the mental health effects of parenting programs that document the importance of these interaction patterns (Kaminski et al., 2008). Taken together, results and related literature point to the value of exploring the benefits of explicitly encouraging parents to recognize their children's emotional cues in future interventions.

The skills training and use of alternative discipline strategies did not emerge as a stand-alone or primary driver of change but clearly played an important role as a facilitator of reducing harsh discipline and as a key element for maintenance of change. Caregivers implemented their newly acquired parenting skills in order to match their behaviors to their newly salient cognitive expectancies related to nurturance. The use of these skills then facilitated continued improvements in the parent-child relationship that reinforced the reduction in harsh punishment.

This finding that behavioral skills were a more secondary driver of change, behind knowledge, cognitive, and emotion-related factors, differs somewhat from evidence suggesting that acquisition of new skills would be the clearest starting point for improving parenting behavior and child outcomes (Kaminski et al., 2008). This is no way diminishes the essential nature of skills building but highlights the importance of non-behavioral components and the ways in which they may be needed to lay the foundation for behavior change. This could be particularly true for interventions in contexts where corporal punishment is normative. In these settings, changing cognitive and emotional processes first may be necessary in order to develop motivation for behavior change.

In addition to direct changes at the parent-child relationship level, qualitative findings demonstrated that the intervention positively impacted the larger family system. This is consistent with family systems models highlighting the dynamic interactions across family subsystems (Conger et al., 2002; Kerr, 1981), but is notable in that there was very little time spent on encouraging relationship change beyond the parent-child dyad. In particular, improvements in the couple relationship, including improved communication and problem solving, represented critical family-level benefits not emphasized in program sessions. It is possible that positive parenting skills generalize to positive interaction skills for couples relationships even with very little material specific to partner interactions, as is the case with this program. This is an important area for further study given the importance of caregivers' couples relationships as a determinant of child well-being (Goeke-Morey and Cummings, 2007). It also may be worth exploring the added value of including more intervention material on couples relationships, or, at a minimum, attempting to include both caregivers in parenting treatment (Panter-Brick et al., 2014). Targeting the caregiver-caregiver subsystem in conjunction with the

child-caregiver subsystem may be especially important for families who are experiencing broader family dysfunction or intimate partner conflict that place young children at elevated risk for maltreatment (Bacchus et al., 2017; Feinberg et al., 2016).

The qualitative findings also identified changes salient to caregivers as individuals though the intervention included only very brief material on caregiver emotion regulation and self-care. Most surprising was the finding that some caregivers, primarily men, reported changing negative behaviors such as reducing alcohol intake and, related, spending more time at home. This is important to explore given the negative consequences of substance use for children and families (Leonard and Eiden, 2007) and the importance of better engaging men in parenting and family interventions (Panter-Brick et al., 2014). These indicators that PMD was acceptable and meaningful among male caregivers is particularly promising for future intervention efforts.

Lastly some participants reported spontaneously becoming educators and leaders in their communities due to their own enthusiasm for the program and positive changes they experienced in their homes. While only described by a small number of participants, this finding is worth considering in discussions of scalability and sustainability, as participants who naturally assume these leadership positions could assume more formal roles in expanding the reach of interventions. Given shortages in the workforce, this approach would be consistent with current approaches to task shifting, or training paraprofessionals and lay personnel to carry out specific health and mental health services (Collins et al., 2015; Kohrt and Mendenhall, 2016; Patel et al., 2011).

As noted throughout the text, most qualitative results were consistent with quantitative findings of reductions in harsh discipline practices and improved child-caregiver interactions (see Puffer et al., 2015). Some differences emerged between the data sets, with qualitative data

highlighting some caregivers' experiences of change not captured by the quantitative data. Educational involvement was one domain where differences may be informative. Many caregivers in the qualitative subsample described engaging in more activities related to their children's schoolwork and noted some changes in their children's academic skills. Caregivers' responses suggested increases in self-efficacy for promoting their child's learning that were not detected in the quantitative component of the study. This may reflect that these school-related changes occurred for only a small proportion of caregivers but also raises questions about whether survey measures in this domain may need to be expanded or refined to adequately capture potential outcomes.

Limitations

Two primary limitations of this study are the small sample size and potential social desirability bias of caregiver self-report. The sample also included only participants who had participated in the intervention, limiting our ability to compare experiences over time with the control group, as maturation of children in the sample could certainly play a role in the changing experiences of caregivers. Though this was a mixed-methods study, it should be noted that we were unable to compare qualitative results and quantitative results across all findings, as the quantitative survey did not include all of the constructs that emerged as salient to caregivers in this component of the study. Lastly, we did not have adequate data to explore potential subgroup differences, such as variation by age of the child or caregiver.

Conclusions and Future Directions

The hypotheses generated by this study first serve to refine the theory of change underlying effects of a parenting program in Liberia that is designed to be adaptable to other contexts. This informs future implementation of this specific intervention by suggesting

components that may be particularly important in the process of change. Beyond this specific intervention, understanding these mechanisms contributes to the body of literature to identify essential elements of parenting programs in LMICs. These elements likely vary to some extent across contexts and populations based on factors such as presenting problems of the target population and culturally-driven parenting practices. Studies such as this one, in combination with others in different settings, therefore set the stage for developing components-based approaches in which components can be chosen based on specific context and population needs. This is then closely related to the next steps in implementation science for parenting program research to identify the best methods for large-scale dissemination and scale up.

Findings also serve to point to a broader range of outcome and mediator variables that may be valuable to include in evaluations of this intervention and other parenting interventions across contexts, including measures of couples functioning, caregiver mental health, and empathy in parent-child interactions (Forehand et al., 2014). Including survey and observational measures of these constructs in fully-powered trials could provide a rigorous test of these mechanisms of change and determine whether parenting interventions may have treatment effects beyond the parent-child dyadic relationship. Further, expanding methodological variety in parenting intervention trials can contribute to efforts to identify the key parenting intervention components for best reaching treatment outcomes. Results of this study suggest that core parenting components in this context may extend beyond only behavioral skills training, which fits with calls to expand approaches for promoting early childhood development to include concepts of nurturance and care (Britto et al., 2017). Future intervention research should incorporate designs, such as factorial experiments, that allow for comparison of the effectiveness of specific components to complement and refine randomized trials that test effectiveness of

multi-component parenting interventions (Collins, 2014; Sandler et al., 2011; Schmidt and Schimmelmann, 2015).

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Table 1. Intervention Topics

Session Topics
1. *Introduction: Nurturing and positive parenting* Welcome and deliver program overview. Examine caregivers' parental experience. Discuss goals for their children.
2. *Childhood development and appropriate expectations* Deliver psychoeducation on how children develop and appropriate expectations for their developmental level. Discuss how the environment impacts children's social, cognitive, behavioral, and structural brain development. Introduce benefits of praise.
3. *Communication with children and empathy for children* Discuss use of play and effective communication strategies to facilitate teaching. Introduce concepts of empathy and mutual parent-child respect and emphasize their importance.
4. *Discipline with dignity* Discuss positive, non-violent discipline. Present and practice positive behavior management skills (e.g., time out, praise, ignoring).
5. *Activities to promote academic readiness* Model and practice activities to promote cognitive and academic development, such as telling stories and word-games. Discuss importance of parental educational involvement.
6. *Malaria Prevention* Present causes and risks of malaria for children. Discuss prevention and early response.
7. *Academic games: making learning fun!* Review and practice more academic games focused on math and fine motor skills.
8. *Establishing routine and house rules* Discuss benefits of predictable routines and rules for young children.
9. *Parent self-care and stress management* Discuss recognizing and managing negative emotions. Introduce relaxation and positive thinking skills.
10. *Wrap up: Review lessons learned and celebrate successes!* Summarize lessons learned and praise caregivers' successes.

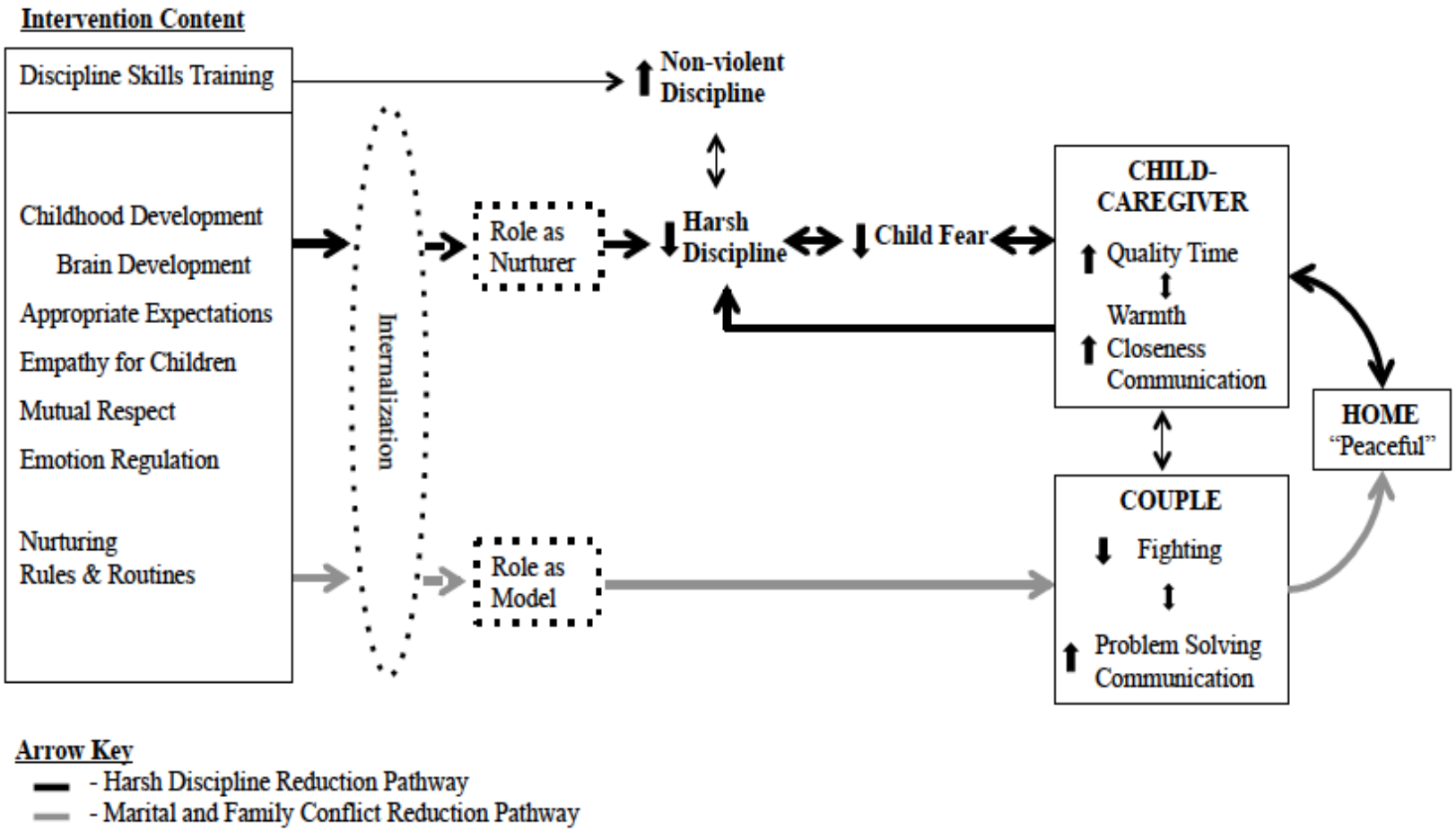
Note. Table content reflects intervention content published previously in Puffer et al., 2015.

Table 2. Participant Characteristics

Characteristics	n (%)
Male	14 (47%)
Christian	22 (73%)
Muslim	7 (23%)
Traditional Religion	1 (3%)
Married/In a Relationship	22 (73%)
Cohabitating	5 (16%)
Separated/Divorced	2 (7%)
Widowed	1 (3%)
Never Attended School	11 (37%)
Primary School	7 (23%)
Post-Primary Education	12 (40%)
Biological Mother	12 (40%)
Biological Father	12 (40%)
Aunt/Uncle	2 (6.7%)
Grandparent	4 (13%)
Farmers (Occupation)	15 (50%)
Unemployed	9 (30%)
Miscellaneous Occupations*	6 (20%)

*=*Miscellaneous occupations include:* Digging sand for sale; selling tea and bread; teacher; coal processing

Figure 1. Pathways and Cycles of Change Across Family Individuals and Relationship



Note. Dotted oval content=hypothesized psychological mechanisms; dotted boxes=internalized motivations for change .