Family Strengthening in the Context of COVID-19: Adapting a Community-Based Intervention from Kenya to the United States

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Abstract

COVID-19 led to widespread disruption of services that promote family well-being. Families impacted most were those already experiencing disparities due to structural and systemic barriers. Existing support systems faded into the background as families became more isolated. New approaches were needed to deliver evidence-based, low-cost interventions to reach families within communities. We adapted a family strengthening intervention developed in Kenya ("Tuko Pamoja") for the United States. We tested a three-phase participatory adaptation process. In phase 1, we conducted community focus groups including 11 organizations to identify needs and a community partner. In phase 2, the academic-community partner team collaboratively adapted the intervention. We held a development workshop and trained community health workers to deliver the program using an accelerated process combining training, feedback, and iterative revisions. In phase 3, we piloted Coping Together with 18 families, collecting feedback through session-specific surveys and participant focus groups. Community focus groups confirmed that concepts from Tuko Pamoja were relevant, and adaptation resulted in a contextualized intervention—"Coping Together"—an 8-session virtual program for multiple families. As in Tuko Pamoja, communication skills are central and applied for developing family values, visions, and goals. Problem-solving and coping skills then equip families to reach goals, while positive emotion-focused activities promote openness to change. Sessions are interactive, emphasizing skills practice. Participants reported high acceptability and appropriateness, and focus groups suggested that most content was understood and applied in ways consistent with the theory of change. The accelerated reciprocal adaptation process and intervention could apply across resource-constrained settings.

Keywords Family intervention · Reciprocal adaptation · Cultural adaptation · Global mental health

The spread of COVID-19, declared a pandemic in March 2020, resulted in widespread lockdowns and disruption of the social supports and mental health services that promote

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psychosocial well-being of children and families. By March 2022, nearly 80 million COVID-19 cases had been documented in the United States (US), with an estimated 971,805 related deaths (Ritchie et al., 2020). The cascading consequences, including on unemployment and mental health, were widespread and expected to have long-term impact (Ettman et al., 2020; Matthay et al., 2021).

As the pandemic stretched on, with short-term adaptations becoming long-term solutions, needs of communities intensified. Support systems—schools, community organizations, religious groups—faded into the background with families becoming increasingly isolated, suffering deteriorations in child and family well-being (Feinberg et al., 2021). While some communities could quickly adapt—switching to telehealth, online learning, and working from

home—disparities persisted for those already disadvantaged due to systemic barriers (Ruprecht et al., 2021).

Communities in the southeastern US with higher concentrations of racial and ethnic minorities were at increased risk of disproportionate effects of COVID-19 due to preexisting high rates of poverty and unemployment, and lower rates of insurance coverage (Chin et al., 2020). Where this study was conducted, COVID-19 rates highlight how socioeconomic factors, including racism, contribute to disparities; in June 2020, Black people, who make up 37% of the population, accounted for 42% of cases. Meanwhile, white people make up 54% of residents but just 26% of cases at that time (Durham County Public Health, 2020).

Fifteen months into the pandemic (the beginning of this study), families continued attempting to cope with increasing stressors in the absence of support. It became clear that mental health and family system problems were likely to persist and worsen in the absence of intervention. Considering how barriers to service delivery have been exacerbated by the COVID-19 pandemic—and how these challenges will arise again during the next crisis—it is important to identify alternative approaches to delivering evidence-based, community-driven prevention and intervention at low cost in order to reach families within local communities (Moreno et al., 2020).

To develop feasible and more equitable interventions and delivery models, there are lessons to be learned from global mental health (GMH) efforts focused on delivering services in the lowest-resource settings in the world—often settings experiencing chronic societal disruption. While it is most common to adapt approaches from high-income countries (HICs) to low- and middle-income country settings (LMICs), conditions during COVID-19 point to the potential of bi-directional learning, or mutual capacity building (Jack et al., 2020), between these settings. In previous literature, "reverse innovation" has been used to describe the transfer of knowledge or practice from LMICs to HICs, implying a backwards process. In contrast, we take a "reciprocal innovation" viewpoint, referring to a full-circle process through which learning in LMICs informs approaches in HICs, which in turn inform improvements in LMICs. Through this, we can work towards identifying the most effective approaches for sustainable, scalable care in very resource-constrained settings (Abimbola et al., 2021).

As GMH research advances and demonstrates effectiveness of mental health interventions in LMICs, we can distill some of the core strategies used in successful implementation efforts. First, to maximize fit and acceptability of an intervention, systematic approaches to adaptation—cultural and contextual—are needed. Community-based participatory research methods, which facilitate knowledge exchange and shared decision making between researchers and community members, can facilitate matching core, evidence-based intervention components to

community values and cultural relevance (Wallerstein & Duran, 2006). Several adaptation models have been established and applied, with most describing adaptation of interventions evaluated with majority groups adapted for minoritized groups, or in HIC settings adapted for LMICs. The ecological validity model, for instance, includes eight domains to consider when adapting, such as language, metaphors, content, and goals (Bernal et al., 1995). Another, the cultural adaptation framework, includes an iterative process of information gathering, design, adaptation tests, and refinement—a process that integrates members of groups who would participate in the adapted intervention (Barrera & Castro, 2006). Aspects of these have been applied to family programs, with Kumpfer et al. (2012) proposing steps for adapting across countries in which adaptations are implemented and tested gradually. However, there are opportunities for further advancement of the literature. Accelerated approaches are needed, as well as improved documentation; a recent review of parenting programs concluded that adaptation processes are often not well documented and focus more on changes to language and implementation than actual content and methods (Schilling et al., 2021).

In addition to emphasizing adaptation, a common GMH strategy used to address human resource shortages in LMICs is task-sharing—training non-specialists to deliver services traditionally provided by experts (Singla et al., 2017). Beyond increasing access, lay providers are at times able to leverage their social proximity to service users in order to reduce stigma and promote engagement (Gustafson et al., 2018). While task-sharing is emphasized much more in LMICs, it is also present in HICs, with task shifting to community health workers (CHWs) or primary care providers (Barnett et al., 2018). Lastly, a community-embedded approach in which interventions are integrated into existing community-based social settings could increase feasibility and buy-in, while reducing stigma (Puffer & Ayuku, in press).

The lead researcher on this study has used these GMH approaches in Kenya to develop and evaluate family strengthening interventions in collaboration with Kenyan university-based colleagues. The US- and Kenya-based researchers work together to form academic-community partnerships for intervention development and delivery (Puffer et al., 2013, 2016, 2020, 2021). Using a task sharing model, they train community members who are identified by community and religious leaders as individuals who are already sought out for informal counseling. At the social setting level, they have identified religious congregations as trusted groups whose goals and activities, especially related to family relationships, are a good fit with the intervention approaches. While the best types of non-specialist providers and social settings will vary across contexts, the core goal is to fit within existing practices and to fully partner with trusted settings as much as possible (Puffer & Ayuku, in press).

During the pandemic, these approaches emerged as potentially applicable in the US, leading to our efforts to adapt the interventions developed and tested in Kenya for North Carolina. We engaged in a community-based participatory research process of needs assessment, content adaptation, and implementation planning. We built on existing adaptation methods to respond to (a) the unique reciprocal aspect from an LMIC setting to a HIC, pandemic-affected setting and (b) the need for an accelerated, but still rigorous and participatory, process. We first briefly describe the Kenyan interventions and then focus on the adaptation and newly adapted intervention.

Family Strengthening Interventions in Kenya

In Kenya, we have developed two interventions for families with adolescents: a group-based family strengthening program and an individualized family counseling program. Both fall under the name Tuko Pamoja (TP; "We Are together" in Kiswahili), which we have combined into a two-tiered intervention. We refer to the group tier as "Tuko Pamoja Group" and the individualized as "Tuko Pamoja Home." Both are manualized and designed to be delivered by community-based lay providers. See figure (Online Resource 1) for intervention characteristics.

TP Group is an interactive universal prevention program in which many families meet together with a team of facilitators, often within an existing social setting (e.g., church; Puffer et al., 2013). The program includes modules on emotional support, problem-solving, economic empowerment, sexual risk reduction, and inter-family social support, with approximately 18 contact hours. TP Home is a family counseling program for individual families typically conducted in homes with one lay provider (Puffer et al., 2021). TP Home is designed as an early intervention for families experiencing relationship and mental health distress. It draws from solution-based family therapy and is modular to allow families to focus on specific needs (i.e., parent–child relationship, couple relationship). It has structured steps but is flexible, with families varying on the number of modules and time needed to achieve goals.

Core components across both TP tiers include conceptualizing family resilience and building skills for communication, problem-solving, goal setting, positive parenting, positive couples' relationships, sexual risk reduction, and coping. They share some common delivery strategies, including psychoeducation; skills training with demonstrations; in vivo skills use; and homework. However, for TP Group, activities are standardized and brief; group discussion is emphasized; demonstrations include live skits and role plays; and economic well-being is addressed explicitly. For TP Home, skills application is more in-depth as part of the therapeutic process, demonstrations are video-based, and economic-related material is integrated as needed.

The tiers have been evaluated separately. TP Group (previously "READY") was implemented in churches in Muhuru Bay, Kenya, with randomized trial results showing improved communication across domains and reduced sexual risk behavior (Puffer et al., 2016). TP Home was implemented in communities near Eldoret, Kenya, with pilot results showing reductions in family dysfunction and improved mental health (Puffer et al., 2020). Material from both tiers of Tuko Pamoja were considered for adaptation.

Study Objectives

In the current study, we aimed to engage in the reciprocal innovation process of adapting the Tuko Pamoja family intervention for a southeastern US setting. Our objective was to design and implement an efficient community-based participatory approach to identify needs, form a community-academic partnership, and adapt content collaboratively and iteratively in the context of piloting the intervention.

Methods

The intervention for the US context was created in three phases, in some ways mirroring methods used to develop the original interventions in Kenya (Puffer et al., 2016). Community-based participatory research methods provided the foundation for the needs assessment, community-academic partnership, and adaptation. Figure 1 provides an overview. Throughout, we refer to the academic research team (ART) and community partner organization (CPO), with "we" referring to the entire group.

Phase 1: Community Focus Groups to Gather Input on Needs, Content, and Implementation

The ART led three semi-structured focus group discussions (FGDs) with representatives from 11 community organizations that serve families. Initial topics included needs of families, focusing on psychosocial problems during COVID-19; existing resources; and service gaps and barriers. The ART then presented basic information about the Kenya-based interventions and asked for input on how and where an adapted version would fit within the local community. Final questions gathered implementation input (e.g., recruitment and delivery). The ART closed by asking participants to consider partnering on co-adaptation, implementation, and piloting.
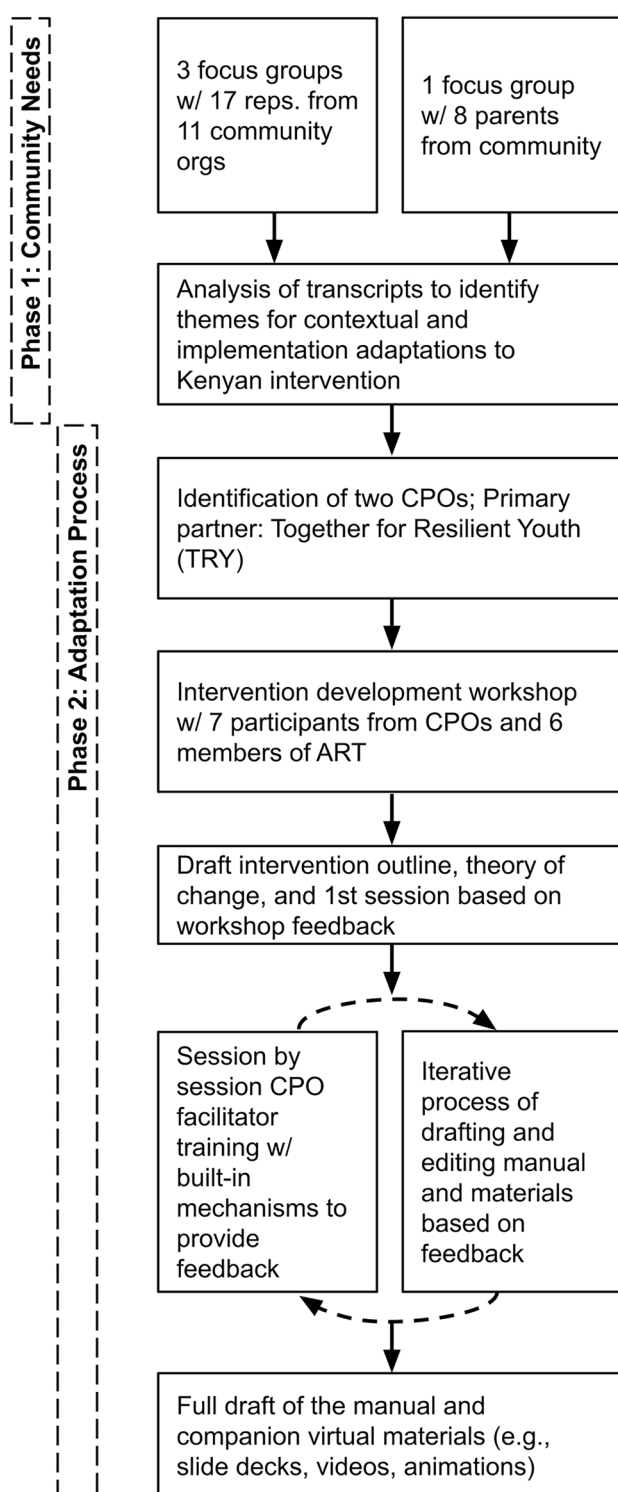
Fig. 1 An overview of phase 1 and phase 2 processes

The ART took notes, recorded, and transcribed the FGDs. Multiple members read the transcripts and notes to develop a codebook of structural codes—Needs, Resources, Barriers, Content, Implementation—and emergent subcodes. Two members independently coded transcripts using NVivo version 12 and discussed discrepancies to reach consensus. An additional FGD was held with parents through a university community-engaged research initiative that facilitates community consultations and then provides detailed notes. Topics corresponded to those in FGDs above, and we coded notes using the same structural codes. The ART then used a rapid analysis reduction table to organize data by codes and subcodes in a matrix and identified themes by examining commonalities across responses. We used thematic content analysis (Kiger & Varpio, 2020) to synthesize themes from all FGDs to inform adaptations and implementation.

Phase 2: Adaptation with Community Partners and Lay Providers

The ART identified two community partner organizations (CPOs) to co-adapt the intervention; one, Together for Resilient Youth (TRY), became the primary partner. TRY is an organization that has worked locally for 30 years to address underlying causes of behavioral health problems at structural, systemic, family, and individual levels. TRY has an established group of CHWs trained to deliver multiple health and psychosocial interventions, and they were interested in adding this intervention to their programs.

TRY and the ART agreed to adapt collaboratively using an iterative, accelerated process shown in Fig. 1. First, we held a virtual Intervention Development Workshop. The ART presented Tuko Pamoja to gather overall feedback. CPO and ART attendees then divided into break out discussions on (a) communication/publicity; (b) adaptation for context, culture, and virtual delivery; and (c) addressing coping, including for pandemic-related stressors. ART members took detailed notes in both the overall session and each breakout discussion.

Based on FGD and workshop results, the ART identified aspects of Tuko Pamoja that clearly needed adaptation and components that needed to be added. Both the group and home-based tiers of Tuko Pamoja were reviewed to identify concepts, strategies, and activities from both to include in the new adapted, single-tier intervention. The ART then identified gaps where new strategies and activities were needed. Drawing on workshop input and empirically supported treatment literature related to new components, the ART drafted a revised theory of change and detailed outline of sessions. This formed the foundation of the initial manual draft. At this point, the ART also developed a draft of the first session and accompanying virtual content.

The ART and facilitators from the CPO then began a process that doubled as facilitator training *and* the main mechanism to gather facilitator feedback for further adaptation. We followed this iterative process for each session: (1) lead researcher/developer demonstration of draft materials (live or recorded), (2) facilitator practice with an ART member, (3) facilitator feedback and suggestions, (4) material revision, and (5) drafting of the next session. Notably, this process overlapped with the beginning of the pilot, allowing us to consider facilitators' actual delivery experiences while finalizing the rest of the intervention. The final output was the full manual draft and virtual materials (e.g., slide decks, videos, animations).

Phase 3: Pilot Study

We conducted a small pilot of the intervention with families recruited by the CHWs from their communities via fliers and social media posts. Inclusion criteria included being a caregiver of a child aged 7 to 18, and all caregivers and children in this age range were invited to participate in CT sessions and assessments. We used post-session surveys and focus group discussions to assess session-specific acceptability and appropriateness (i.e., perceived fit and relevance; Weiner et al., 2017). First, we administered post-session surveys online immediately after sessions. For the first two sessions, caregivers and youth completed surveys separately; however, due to logistical problems, each family completed one survey all together for the remaining sessions. About the session overall, the survey assessed acceptability with 1 item (how much they enjoyed the session), appropriateness with 4 items (perceived relevance; importance; benefits of using skills; helpfulness for improving family), and self-efficacy with 1 item (confidence they can use the skills from that session). Response options were on a 5-point scale from 1 ("strongly disagree") to 5 ("strongly agree"); higher scores were more positive. The survey then asked about 4–5 major components (e.g., concepts, activities, skills) of the specific session. Three questions were asked per component about how understandable, enjoyable, and useful it was. Responses were on 5-point Likert scales from 1 ("not at all") to 5 ("a great deal"); higher scores were more positive. We calculated descriptive statistics to summarize responses by session and across sessions; we also examined data for each of the 41 individual components.

We then held four FGDs with a subsample of self-selected caregivers and youth. Each FGD covered two sessions (e.g., sessions 1 and 2). ART members conducted the FGDs, asking for feedback about each session separately, both overall and for each of the major components. We analyzed the FGD data using strategies adapted from the rigorous and accelerated data reduction (RADaR) technique (Watkins, 2017; Watkins et al., 2017) in which we organized data from FGDs by session using a spreadsheet including each response; reduced data to relevant responses; took notes per response including on indicators of acceptability and appropriateness (e.g., descriptions and examples of relevance and usefulness); and synthesized data to identify themes within and across FGDs.

Results

Phase 1: Community Focus Groups

Participants in FGDs included 17 individuals representing 11 organizations, including leaders and service providers. The parent FGD included 8 parents, including men (2) and women (6) ages 27–53 who have children ranging from early childhood through adolescence. Children's emotional well-being, parent mental health, and overall pandemic-related stress were the three most prominent needs. Participants described children as experiencing a loss of social connection and struggling emotionally, feeling isolated, anxious, and depressed. Similarly, they observed how parents were suffering from loss of peer connection and social support, with isolation exacerbated by pandemic-related worries and experiencing grief due to COVID-related deaths. They described exhaustion and stress among those experiencing unemployment and those balancing work and childcare. Stress was linked to parents not knowing how to support their children or how to address family system challenges. One parent said, "Sometimes you feel like you're by yourself. In my family, the pandemic has brought to light the problems that already existed as we are together more often." One provider described the combined effects:

> We've seen deterioration in mental health for kids... being in school and socializing with peers and having that time away from their own siblings or their family was very helpful. And now everyone being at home with the chaos...the temperature has risen in the home.

When asked about existing resources, participants described a myriad of social services overall but a lack of mental health services—especially culturally and linguistically appropriate supports. Related access barriers were mistrust of services, long waitlists, lack of insurance, and mixed feelings about virtual delivery. Participants also described that some families lacked time: "Some of our families have said, 'this is too much. I can't, I can't do it right now.'"

When asked about relevance of TP content, participants responded positively to the core components. One parent said, "I like the fact that it is not only asking just the kids but how the family is doing as a whole." There were also important suggestions: increasing the focus on coping skills for caregiver and child mental health; addressing parenting

challenges; and providing social support as "an outlet to be able to talk and share experiences."

Participants offered perspectives on implementation during COVID-19. All agreed that virtual delivery was most feasible and acceptable but emphasized the need for technology support. For facilitator selection, they emphasized that it should be someone trusted. Parents shared that it would be best to have leaders who "looked like" participants, and organization representatives suggested people within communities. However, as some parents preferred someone they did not know, results were mixed in terms of how closely connected facilitators and families should be. Overall, it was clear that stress was widespread such that taking a universal approach—making the intervention accessible for all families—would be most acceptable for the pilot.

Phase 2: Intervention Adaptation

Development Workshop

Representatives from the primary CPO and a community foundation attended. Attendees included organization leaders, four CHWs from the primary CPO, one youth representative, and six ART members. Below are results from the breakout groups.

Communication and Publicity for Recruitment. This group finalized the intervention name, "Coping Together" (CT), and drafted the concept for advertising materials featuring the primary CPO logo and pictures of the CHWs. The group discussed additional ways to build trust, including careful navigation of the community-academic partnership and presentation of the research component. The group determined CPO members would be the primary contact for families and brainstormed language for recruitment materials to minimize stigma.

Adaptation for Context and Virtual Delivery. This group focused on adapting TP content that was very specific to the Kenyan context. They watched videos of skits from TP and brainstormed adaptations. In some cases, including communication skits, content required only minor adaptations. CPO attendees agreed with the importance of helping parents "get at the root" of their children's problems through positive communication skills, and TP skits captured this. In other cases, more significant changes were needed; for example, one problem-solving skit in TP was performed live and centered around fishing practices. For the US context, the group developed a video skit related to car trouble. Time was also spent exploring the appropriate tone for materials, with attendees discussing striking a balance between humor and sincerity.

Addressing Mental Health Coping Needs. This group considered emotional coping strategies to include and identified strategies such as creative outlets, relaxation skills, talking to others, and movement. They emphasized the importance of trusting relationships, parental modeling of discussing emotions, and faith. One CHW described engaging her daughter in reflective coping and goal setting by creating collages, "vision boards," together. The group agreed that hands-on activities to create together would be powerful.

The ART members then described coping skills informed by Acceptance and Commitment Therapy (ACT; Hayes et al., 2011) to gather feedback on whether they may be helpful given recent evidence that these skills are effective for coping with uncontrollable stressors, including COVID (Daks et al., 2020). The idea of not being defined by negative emotions resonated with the group. The director of TRY described already using an exercise of writing negative thoughts on paper and shredding it to symbolize "though negative thoughts are there, it doesn't mean you *are* the thoughts." Representatives from the CPO expressed hesitance, however, about saying "acceptance" and emphasized it should not mean "accepting" unjust experiences, such as racism, but means creating distance from negative emotions so you can take actions against the injustices. The group also discussed the need to make sure the skills were not too complex and retain the positive focus of TP that emphasizes strength and resilience.

From Tuko Pamoja to Coping Together: Adaptations

Changes to content and delivery are detailed in the figure in Online Resource 1. First, CT needed to be shorter due to virtual delivery and demands on families. We decided to aim for an 8-session intervention with 1-h weekly sessions that included one CHW meeting with 3 to 5 families. We then combined concepts, strategies, and activities from both tiers of TP that seemed to be a good fit. This led to a program appropriate for groups but that also addresses serious challenges and allows for deeper application. After combining TP components, the ART drafted new material related to ACT coping skills and added brief activities to elicit positive emotions at the beginning of each session to increase openness to change (Frederickson, 2013). Materials were then created to promote an engaging virtual experience, including slide decks with embedded animations and hands-on activities to facilitate learning and engagement. (See Online Resource 2 for examples of materials.)

Feedback from CHWs during the iterative training-feedback sessions did not lead to changes in foundational content, but they made suggestions for detailed improvements related to (1) relevance of specific demonstrations or examples, (2) sequence and intensity of material to improve family comfort and willingness to engage in more difficult conversations, and (3) clarity of activities, including removing or simplifying material when rushed or confusing.

Coping Together: Theory of Change and Intervention Content

The CT intervention was the result of the processes above. The 8 sessions are summarized in Table 1, with content designed for delivery via teleconferencing software that incorporates audio and video, allowing for the use of the slides and animations mentioned above. The hypothesized mechanisms of change, shown in Fig. 2, include family- and individual-level processes: experience of positive emotions; distilled family values; improved communication, problem-solving, and coping skills; increased hope; and increased individual psychological flexibility. Through these mechanisms, intended intermediate outcomes include increased family resilience, improved communication, improved mental health, and increased value-driven actions. In the longer-term, hypothesized outcomes include improved family and youth functioning, reduced mental health and stress-related problems, and reduced family violence.

The first half of CT begins with families reflecting on strengths, examining challenges, and clarifying values. Session 1 introduces the idea of family resilience. An animation presents the metaphor of a tree, with the trunk, branches, and leaves symbolizing members of the family; roots symbolizing internal and external sources of strength (e.g., values, culture, community); and the sunshine and storms symbolizing positive and negative events families face. Throughout CT, we refer to transforming struggling to strong trees to guide conversations about building resilient families to withstand life's inevitable storms (see image in Online Resource 2).

Session 2 focuses on communication skills using the CLEAR acronym: Conversation, Listening, Encouragement, Appreciation, and Respect. This is foundational, as we work to build CLEAR skills during all sessions. In session 3, families set a vision by imagining broadly what they would like their family to "be like" and then working together to create a family vision board (collage) that includes their value words surrounded by symbols of their hopes and goals. Session 4 then guides families through breaking down their vision into short-term goals, following the 3 S's: goals that are a Step forward, a Specific action, and Small enough. Session 4 also shows the first episode in an animated story starring the "Coping Together Family:" two caregivers and a child on their journey towards their vision. The story is told through a series of short animations and digital illustrations during sessions 4–6, providing a cohesive, engaging way to connect and illustrate concepts (Online Resource 2 shows still frames from the series). Session 5 teaches problem-solving steps—skills families will need as they work towards goals and meet obstacles along the way. Seven steps are taught through video live action skits.

Session 6 introduces ACT-based coping skills, including mindfulness, psychological flexibility, and values-based actions. This session uniquely addresses *individual-level* stressors. Metaphorical "clouds" symbolize negative emotions, explained through an art activity with a person walking on a path. Participants are asked to bring awareness to negative emotions and to notice them, rather than suppress them. They write the emotion words on pieces of cloud-shaped paper and tape them above the person. Aligned with the concept of psychological flexibility, they practice creating distance between themselves and negative thoughts and feelings; they move the "clouds" farther from the person—giving them "space" to continue toward their goals.

Session 7 encourages families to combine skills they have learned so far to resolve conflicts, become more unified, and clarify roles and responsibilities in their household. Families watch a skit of a family applying communication, problem solving, and coping skills together and are then coached to practice the skills themselves using a challenge their family is experiencing. Finally, in session 8, families reflect on their progress and how their "tree" has changed since the first week. They share with the group and celebrate one another's achievements. They then make specific, action-focused plans for their next steps as a family. This session ends by presenting certificates to recognize their graduation from the program.

Pilot Study: Participant Perspectives on Intervention Content

The pilot trial included 18 families with 24 caregivers ranging in age from 20 to 81 years ($M = 45$; 79% female) and 24 youth ages 7 to 18 ($M = 12$; 46% female). The majority (92%) of caregivers identified as Black. Average attendance was 6.2 out of 8 sessions (78%), with a median attendance of 8 (100%) sessions. Of the 18, 17 families completed at least one post-session survey. The subsample in FGDs included 10 caregivers with a mean age of 41 years (70% female) and 9 youth with a mean age of 12 years (44% female). Together, they represented 7 different families; 63% attended two FGDs. The FGDs ranged from 7 to 13 participants.

A table of detailed results of post-session surveys by session and representative FGD quotations is provided as Online Resource 3. Averaging across all sessions, results supported high acceptability ($M = 4.48$, SD = 0.22), appropriateness ($M = 4.61$, SD = 0.14), and self-efficacy for skills use ($M = 4.55$, SD = 0.14). Averaging across all specific components across all sessions, participants reported they were understandable ($M = 4.62$; SD = 0.69), enjoyable ($M = 4.53$; SD = 0.80), and useful ($M = 4.57$; SD = 0.76). Ratings for each session for the three items, and for each individual component within each session, also averaged 4.00 or higher.

Table 1 Outline of Coping Together sessions

Session	Title	Core task and goals	Selected content and activities
1	Welcome to Coping Together: Becoming a Strong Family	Family values identification *Engage families; build motivation for growth towards resilience; define values; guide families through value setting*	●Introduction to program ●Positive emotion activity: savoring/extending positive emotions ●Tree metaphor for family resilience[IA] ●Discussion: family values ●Activity: values as "roots" on tree diagram
2	Becoming a Family that Talks Together	Communication skills *Introduce importance of communication; teach communication skills*	●Introduction to family communication ●Positive emotion activity: pride ●Family communication activity: feeling loved ●Communication ("CLEAR") skills[LAV] ●Family communication activity: sharing worries and hopes
3	Becoming a Family with a Vision	Creating a family vision *Set an overall family vision*	●Review of communication skills ●Positive emotion activity: Awe[LAV] ●Guided visualization of hopes for family ("Dream Family") ●Demonstration of Family Vision Board[LAV] ●Creating Family Vision Board (collaborative collage)
4	Becoming a Family with a Plan	Setting family goals *Connect family visions to values; develop idea of moving towards your vision; recognize strengths; set first goals*	●Positive emotion activity: hope[LAV] ●Group activity: connecting family vision to values ●Family journey metaphor[AS] ●Family communication activity: family strengths ●Group activity: goal game ●Family communication activity: setting first family goal
5	Becoming a Family that Overcomes Together	Problem-solving skills *Learn problem-solving skills to address challenges on the journey toward the family's vision*	●Positive emotion activity: inspiration[LAV] ●Instruction on types of problems[AS] ●Effects of ignoring problems[LAV] ●Teaching problem-solving skills[LAV] ●Family communication activity: apply problem-solving
6	Becoming a Family that Copes Together	Emotional-coping skills *Introduce and practice coping skills (mindfulness, acceptance, psychological flexibility, valued action)*	●Positive emotions activity: compassion ●Introduction to coping[AS] ●Teaching acceptance-based coping skills (cloud metaphor)[IA] ●Activity: coping (guided art visualization for creating space from negative emotions) ●Family discussion and application of coping skills
7	Becoming a United Family	Conflict resolution and family organization *Apply problem-solving and coping skills to conflicts and setting roles and responsibilities*	●Positive emotion activity: inspiration[LAV] ●Review of CT journey (focused on skills learned) ●Effects of families when not unified[LAV] ●Combining CT skills for conflict resolution and family organization[LAV] ●Family communication activity: skill application
8	Celebrating Your Family for Coping and Growing Together	Reflection and action planning *Celebration of accomplishments within families and group; solution-focused action planning for the future*	●Positive emotions activity: savor positive emotions and pride ●Activity: create CT journey maps (art drawing of journey; "before" and "after" trees) ●Family communication activity: appreciation, future hopes, and planning ●Family CT journey presentations to the group ●Presentation of certificates

IA Instructional Animation, *LAV* Live Action video (role plays, demonstrations), *AS* Animated Story (part of series)

FGD data supported survey findings and highlighted areas for improvement. Overall, responses reflected that they understood and applied the core concepts and skills, especially related to improving communication, setting family values and goals, and working together to solve problems and conflicts more peacefully. Their examples of applying the skills also showed integration of material across sessions, though there was not much evidence that participants memorized acronyms or steps used to organize the information.

The comment below from a caregiver demonstrates understanding and application of the vision setting skills, as well as how the program facilitated increased parent–child communication and involvement of children in establishing family directions:

> My husband and I spend a lot of time creating the vision for our family…but, we didn't always include [our children] in those decisions and so when we started the vision board…there were things that he was pointing out as well. Like, for instance…we had made a goal of reading every day at 6:30 as a family…he [child] was like, 'this is something we need to put on the vision board,' like to make sure that we keep this goal.

Responses reflected varied opinions on the sequence of setting large goals (i.e., family vision; session 3) before smaller ones (session 4), with one person wishing they had "started small and gotten bigger"; the rationale for setting a long-term vision and then setting smaller goals to get there was not clear. Related to emotional coping content (session 6), caregivers and youth valued the drawing activities for communicating about youths' emotions; one youth said it helped them "get [their] thoughts out…and then talk about my thoughts." A caregiver echoed this, saying, "We were able to talk about things that the kids just wouldn't come out and talk about." They further described the usefulness of the acceptance-related skills related to pausing before acting on negative feelings and accepting stressors you cannot change. However, they suggested simplifying the description of the skills, and responses suggested that more concrete behavioral skills may have been helpful within the content focused on building psychological flexibility.

Discussion

In this study, an academic research team and a community organization partnered to adapt a family strengthening intervention developed in Kenya for the US. We engaged in a participatory, accelerated process of needs assessment, adaptation, and piloting. We aimed to address acute COVID-19 pandemic-related family needs while also considering the mental health needs of communities chronically underprioritized and adversely affected by systemic inequities, especially in the southern US (Chin et al., 2020).

The resulting intervention, Coping Together (CT), is an 8-session virtual program in which small groups of families met with a trained CHW from the partner organization. The content was based on core components of the Kenyan intervention, Tuko Pamoja, with changes based on a community needs assessment and feedback from facilitators. CT is interactive, incorporating multimedia material, family communication practice, and arts-based activities.

Through this work, we contribute to the literature by (1) presenting a process for equitable, but efficient, community-based participatory research when a rapid response is needed; (2) providing an example of reciprocal innovation and shared learning for psychosocial programming in low-resource settings from a LMIC to HIC context; (3) examining intervention components and hypothesized mechanisms of change for family-based interventions during population-level crisis with major effects on family systems and individual mental health; and (4) collecting participant perspectives on specific content during implementation in the new context.

Reciprocal Innovation and Rapid Community-Based Participatory Research

We engaged in a novel reciprocal innovation process to adapt the Kenyan intervention to a US context, taking a community-engaged and participatory approach. This process builds on existing cultural adaptation approaches (Barrera & Castro, 2006; Bernal et al., 1995; Kumpfer et al., 2012), extending similar principles to reciprocal and rapid adaptation. Our experience highlighted five aspects of the adaptation and implementation process that may be applicable to future efforts across settings and interventions. First, we recognized that prioritizing CPO-ART full partnership early in the process allowed for efficiency without sacrificing a focus on cultural and contextual appropriateness. The entire team was engaged before any of the Kenyan content was changed. Second, combining steps of the typical community-based research process, namely facilitator training and feedback, into one cohesive and iterative process proved pragmatic and effective. Third, flexible communication was essential to accomplish this together during a pandemic affecting all ART and CPO members—not only the families we hoped to reach. For example, we switched from real-time virtual training-feedback sessions to asynchronous recorded training combined with pair meetings. Fourth, the importance of adapting implementation for the pandemic context, from

Fig. 2 The Coping Together intervention and hypothesized mechanisms of change
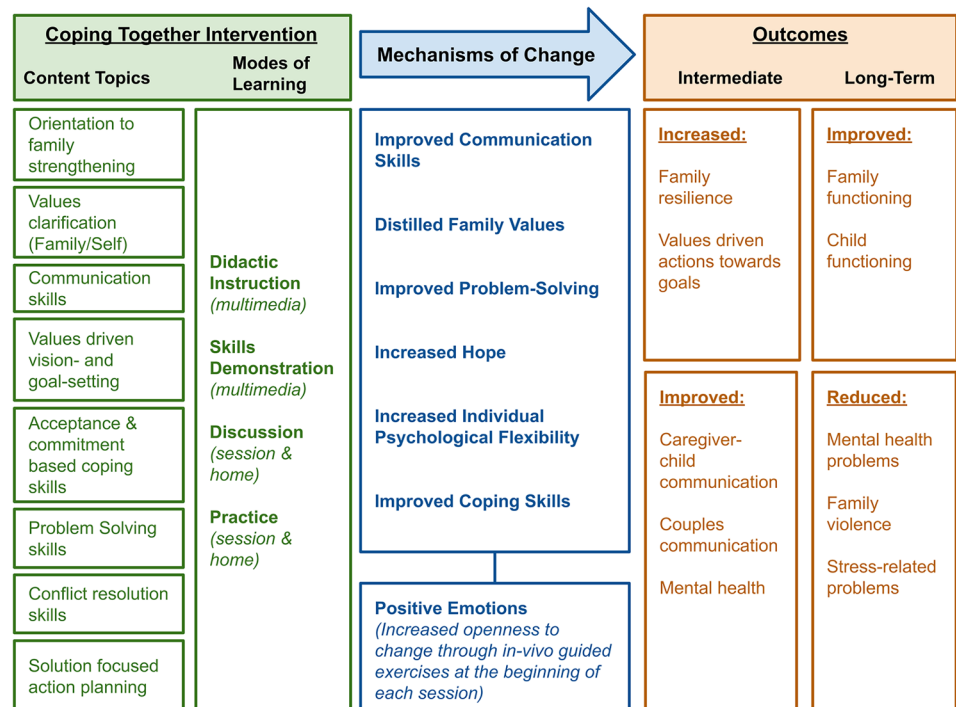
recruitment to session management, was important when typical delivery options were not available and creative solutions were needed.

Lastly, having the CHWs—trusted messengers within the community—as facilitators had two clear benefits, consistent with literature on task shifting (Barnett et al., 2018). First, quick revisions to the intervention before the pilot study were feasible because facilitators were already trained in the foundational content and active in making the revisions. Second, there could be an explicit, planned element of flexibility for delivery of CT addressing context and culture. We all agreed that facilitators could put the material into their own words and integrate their own examples. This increased chances that, wherever the rapid adaptation process had fallen short, facilitators would be able to contextualize in the moment, informing future revisions.

Pilot study results suggest that CT was acceptable and appropriate for participants in this new US-based context. Families had high attendance and reported enjoying the sessions and finding them relevant to their lives. They described applying the skills, with an emphasis on improving the target family processes. Positive findings extended to the material that was newer for CT, including the more in-depth coping strategies needed in the pandemic context.

Our adaptation process is consistent with the other cultural adaptation frameworks that emphasize community participation, multiple domains of content and implementation, and iterative adaptations (Barrera & Castro, 2006; Bernal et al., 1995; Kumpfer et al., 2012). In this study, we aimed to preserve the rigor of these methods while engaging in a pragmatic, rapid adaptation process; we did so within deep community partnership and by combining training, feedback, and piloting within a task shifted delivery model. There were certainly trade-offs, as other frameworks allow more time to gather information and test adaptations separately; this could lead to more precisely chosen changes with more attention to retaining elements of the original intervention. We allowed for accelerated, substantive, and simultaneous adaptations to meet the needs in the pandemic context, though it limited our ability to explore which were essential.

Family Interventions During Population-Level Crises: Increasing Focus on Mental Health

A main finding of phase 1—gathering community-level input on family needs—was that addressing individual-level coping was particularly important in response to pandemic-related stressors. Family strengthening interventions often focus more narrowly on family processes and, while Tuko Pamoja does have brief modules on behavioral coping for individual mental health, they are provided only to individuals experiencing distress that impacts participation in the family therapy. In contrast, CT needed to provide individual coping skills to everyone and to focus on stressors that are largely out of an individual's control. This led to including ACT coping skills (Hayes et al., 2011). We hypothesize that these skills will increase psychological flexibility to reduce acute emotional consequences of the pandemic while also

offering skills for responding to ongoing stressors related to structural inequalities (Ruprecht et al., 2021).

Inclusion of ACT skills then motivated the focus on identifying values, which is consistent with TP and building resilient family systems. A central thread of CT became connecting values, vision, goals, and plans. While all were included in TP, the progression was less explicit. For CT, we expect that the idea of a journey towards a vision will be helpful during times of disruption because of its emphasis on moving forward despite difficulties. In our theory of change, we include hope as an explicit mechanism—an increase in individuals' and families' belief they can take the next steps towards their goals (Snyder & Lopez, 2001). Based on our results, these components seemed to fit the adaptation context and received favorable participant evaluations.

Future Directions

From a research perspective, next steps are to evaluate preliminary indicators of clinical outcomes at the family and individual levels. Depending on results, we can complete revisions to CT before pursuing efficacy trials. For future adaptations, we identified needs that we were unable to address in this first study, including lack of culturally appropriate and translated services for immigrant and refugee populations, as well as lack of services for those on waiting lists for mental health services. To pursue these, the accelerated participatory process used in this study could be repeated to further tailor for these populations. Lastly, a goal of reciprocal innovation is to facilitate a full-circle process to apply findings bi-directionally. We will use new content from CT to expand TP in Kenya, focusing on adapting the virtual, multimedia content in ways feasible to deliver in a LMIC context.

Conclusions and Implications

An accelerated participatory process of adapting a family intervention from Kenya to the US was feasible during the pandemic. Adaptation led to Coping Together, a virtual program delivered by community-based lay providers that aims to improve family processes and individual mental health. Pilot results suggested high acceptability and relevance. Both methods and results can inform future reciprocal innovation efforts and implementation planning. As researchers and service providers identify needs, the process outlined here could guide efforts to efficiently adapt interventions that are developed for very different contexts but have characteristics that make them a potentially good fit for filling a gap. This could certainly include others developed in LMICs given that many are designed to be delivered in settings where resources and infrastructure are limited. The results of the Coping Together adaptation specifically may also help inform reciprocal innovation efforts that involve family intervention approaches or adaptation for virtual delivery.

Declarations

Ethics Approval The study was approved by the Duke University Campus Institutional Review Board. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

Consent to Participate All participants provided informed consent.

Conflict of Interest The authors declare no competing interests.

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