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Community Collaborative Cultural Adaptation: Creating Culturally Appropriate Behavioral Interventions through University and Community Collaborations

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Abstract
University and community collaborations have great potential to develop culturally adapted evidence- based interventions. However, little guidance is available on effective approaches for creating and implementing such partnerships specifically to culturally adapt interventions. The purpose of this paper is to introduce Community Collaborative Cultural Adaptation (CCCA), an approach for engaging community members as partners in the cultural adaptation of an evidence based intervention. CCCA is illustrated through the cultural adaptation of a behavioral intervention aimed at reducing unsafe sex among teen girls. The approach includes the following three stages: (1) preparatory (i.e., community engagement, recruitment of community members to the research team, orientation); (2) cultural adaptation (recruitment of target group for participation in and evaluation of mock demonstrations of both the generic and later the culturally adapted versions) and (3) final revision, pilot testing, and sustainability. The paper also includes a discussion of lessons learned in forming a university and community collaboration and strategies for addressing some challenges the team encountered in implementing CCCA.

Keywords
cultural adaptation. university and community collaborations, evidence based interventions, sexual health, adolescent girls, African Americans

Cover Page Footnote
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The failure of traditional research methodologies to meaningfully impact health disparities has created an urgent need to consider alternative research approaches. University and community collaborations are being used more frequently to improve health outcomes in communities by forming engaged partnerships with those who know the issues communities first hand. Growing evidence has shown that intervention research grounded in community knowledge and that includes community members as partners benefits all parties and has greater potential to improve community health outcomes compared to interventions conducted without such partnerships (Israel et al., 2010; Minkler & Wallerstein, 2002; Wallerstein & Duran, 2006). Despite the widespread belief that community involvement would improve interventions, little guidance is available on procedures for involving the community. The aim of this paper is to introduce Community Collaborative Cultural Adaptation (CCCA), a community-engaged approach providing concrete strategies for involving the community in culturally adapting behavioral interventions.

The objective of cultural adaptation is to re-shape evidence-based interventions to be more effective for diverse groups other than the original version designed for a different group (Bernal, Jiménez-Chafey, & Domenech Rodríguez, 2009). Community knowledge, participation, and partnership are essential to enhancing the effectiveness of cultural adaptation. This paper illustrates a CCCA approach using Safer Sex Skills Building Intervention (SSSB), an evidence-based HIV prevention intervention originally developed within the NIDA National Drug Abuse Treatment Clinical Trials Network (CTN) for women who abuse substances. Our research team has previously adapted this intervention for Black women who abuse substances, resulting in a culturally adapted adult version of SSSB. However, in this paper we are illustrating CCCA by describing the steps used to culturally adapt SSSB to render it more appropriate for reducing risky sexual behaviors, HIV, and STIs among Black girls between the ages of 13 and 17 years living in public housing.

The next section summarizes background information on cultural adaptation, university and community collaborations, and the rationale for

using the CCCA approach to address sexual health in Black women. The sections that follow describe the steps taken to use CCCA to adapt the intervention followed by a discussion of the lessons learned in implementing the project.

Background

Despite evidence that interventions developed in collaboration with community partners may be more likely to ensure cultural and developmental appropriateness (Bellows, Howard, Boekeloo, & Randolph, 2015), few of the available interventions for Black girls were developed using a community-engaged approach. This section discusses both community collaboration and cultural adaptation as approaches to more effective interventions.

Community Collaboration in Research

Community collaboration within research has been growing in acceptance, with community-engaged research techniques being identified as an appropriate approach to address various areas of concern, including health disparities (Minkler, Blackwell, Thompson, & Tamir, 2003). Community-engaged research often differs greatly from more traditional research practices. Occurring along a continuum, traditional research often includes little to no community involvement and can be conceptualized primarily as investigator-driven. As community involvement increases, research may be placed within the community but without any direct involvement (e.g., conducting projects with community samples). With increasing community involvement, projects may be considered more community-based, encouraging community members to serve in advisory roles or to perform limited roles (e.g., recruitment). With even further community involvement, projects may be conceptualized as following Community-Based Participatory or Community-Driven research strategies, where university and community members share equally in decision making and power over the research process (Pavao, 2012).

CCCA might appropriately be placed somewhere along the continuum between community-based and community based participatory research (CBPR). As members of the research team, the community collaborators have more involvement than in community engaged projects. Yet, they do

not have the same participation in the decision-making as in CBPR and the project is not solely community driven.

As community members are transformed from participants to collaborators, research is often more culturally relevant and translatable (Jacquez, Vaughn, & Wagner, 2013). By collaborating with community members, issues important to the target group can be identified and addressed. Unlike traditional research, which considers knowledge as something developed in an objective and neutral manner, research conducted collaboratively with community members allows for both the researcher and those being researched to influence the knowledge being produced (Wallerstein & Duran, 2008), potentially in an effort to address key issues within the community. Along with directly impacting the research results, the elements of cooperation, participation, sharing of knowledge, and co-learning inherent in university/community collaborations create a research environment that fosters long-lasting and sustainable relationships.

Cultural Adaptation

Growing evidence suggests that cultural adaptation has the potential to increase the effectiveness of evidence-based interventions (Griner & Smith, 2006; Hall, Ibaraki, Huang, Marti, & Stice, 2016). A recent review paper summarized various approaches to cultural adaptation (Burlew, Copeland, Ahuama-Jonas, & Calsyn, 2013). That review identified three broad strategies that have been used to culturally adapt evidence-based interventions including the use of existing research, experts or other professionals, and the involvement of community representatives including stakeholders and other members of the target group in the adaptation process (Burlew et al., 2013). Although we relied on previous research and collaboration with experts in other projects when appropriate, we agree with Mouw, Taboada, Steinert, Willis, and Lightfoot (2016) that the involvement of community stakeholders as partners on the research team is essential to adapting an intervention for a new setting or target group.

Theater testing, a step in Wingood's ADAPT-ITT methodology (Wingood & DiClemente, 2008), is a structured framework that can be used to promote community collaboration in cultural adaptation. Theater testing is similar to the pretesting methodology that other disciplines employ to test public service announcements, printed materials, videos, etc. Specifically, theater

testing exposes the target group to the intervention by asking them to participate in a mock demonstration while the research team observes. Afterwards, the research team and the participants engage in a detailed critique of each module.

Our decision to develop CCCA was based on the reality that, despite the growing consensus of the value of incorporating the priority group in intervention development, little concrete guidance is available on strategies for community involvement. This paper addresses that gap along with sharing some lessons learned as we implemented the CCCA approach.

Steps for a CCCA Approach

CCCA consists of three stages that all include university and community collaboration. The first is the preparatory stage. In the second stage, the collaborators conduct the steps necessary to collect information on the necessary revisions. The third stage finalizes the adapted intervention in preparation for pilot testing and, eventually, dissemination and sustainability for community use.

Stage One: Preparatory Stage

Selecting the appropriate social concern for implementation and cultural adaptation is an important first step. We encourage teams to consider several factors. First, the social concern must be important to the local community. In our case, during a prior study in this community examining strategies Black mothers employ to prepare their daughters for womanhood, community residents expressed a desire for programs to address sexuality for girls in their community (Shambley-Ebron, Dole, & Karikari, 2016). Next, in the event that the objective is to develop an intervention that might be useful to other communities, the intervention should be aimed at addressing a public health concern. Recent evidence demonstrates that HIV and STIs remain national concerns especially among racial ethnic minorities (CDC, 2015; CDC, 2017). Finally, the team should review the literature to ensure that no existing interventions are already adequately meeting the needs of the priority group. This preparatory stage includes community engagement, the formation of the research team and the orientation to the project.

Step 1: community engagement. Engaging the community to gain entry is an important initial step to a successful CCCA project. If the community is unfamiliar with the university team, some initial time should be devoted to engaging in the life of the community by participating in community events, organizations, meetings, etc. In our case, as mentioned earlier, since one university collaborator was already working within the community, the community was welcoming. When the university collaborators decided to pursue a local grant, the established relationship with community stakeholders along with previous discussions with the community about developing an intervention for girls enabled the university collaborators to partner with community representatives from almost the beginning.

Step 2: recruitment and selection of the research team. The selection of appropriate community collaborators is crucial. For this project, the university collaborators identified the following criteria as essential: 1) leadership role in the community, 2) demonstrated interest in serving the community, 3) access to other community members eligible to participate in the next stage (i.e. teen girls), and 4) basic understanding of the requirements/restrictions associated with implementing a research project. We were able to recruit the President of the community council, the program manager of a large social service agency based in the community, and a social worker at the school.

Since the university and community collaborators were adapting an intervention for teen girls, including a teen perspective was essential. Therefore, the collaborators also opted to include older teen girls (18-19) just above the eligible age range for the intervention who would be mature enough to participate as full team members rather than teens in the priority age range (13-17). One university collaborator interviewed and evaluated the older teen candidates for interest, availability, reliability, and potential for participation. Based on the interview results, the university and community collaborators selected two older teen girls to participate on the university and community collaborative team.

Step 3: orientation and training of the university and community collaborators. The university and community collaborators scheduled several meetings in the beginning for orientation, training, and review of roles (see Table 1). Similar to other community-partnered research methods, the CCCA approach assumes a bilateral sharing of knowledge

during this step. Whereas the university collaborators have expertise in research methods, the community collaborators are the experts on their community.

The community collaborators trained the university collaborators on the best strategies for working within their community. They described community norms and values that might influence response to the intervention. In our specific case, the community collaborators described the most effective ways to approach families, shared relevant community sexual attitudes and norms, and teen perceptions (and misperceptions) about contraceptives. The community collaborators also shared some insights on the most appropriate approaches for introducing the project to the community. Sometimes, the community members shared that simply changing the language would increase the appeal of the intervention. For example, the community collaborators mentioned that the families would respond more favorably to the word "program" than "intervention" because the latter may convey the university collaborators had predetermined attitudes about community behaviors that needed to be changed. In addition, the community collaborators shared their insights on the logistics of implementing the project including the potential community sites for holding the sessions, the best days to schedule the sessions, the optimum length for each session, the ideal time between sessions, upcoming events that might conflict with implementation of the program, and upcoming events where recruitment might be possible.

The university collaborators shared the overall research program. In particular, they described the overall goal and funding requirements of the project, the connection to both the generic and culturally adapted adult versions of Safer Sex Skills Building (SSSB), the sessions and modules of the existing versions, and proposed activities for culturally adapting the intervention for Black girls (see Stage Two).

The preliminary stage also included training to meet the requirements of the University Institutional Review Board (IRB). Specifically, the university collaborators shared the design approved by the university IRB and the IRB requirement to preapprove any proposed changes to the procedures. While the IRB required both university and community collaborators to complete training in human subjects' research, the IRB approved a training

presentation developed by the university collaborators for the community collaborators followed by a comprehension quiz.

The university collaborators also conducted training with the community collaborators on the consent process including the correct procedures for completing the IRB consent form. During this training, both university and community collaborators role-played the consent process to ensure mutual understanding.

Together, the university and community collaborators decided on the potential dates for the intervention, dates for an orientation session to consent interested families, and each member's role during the intervention

Stage Two: Cultural Adaptation Stage

Once the preparatory activities were completed, the objective of the second stage was to implement the activities aimed at culturally adapting the intervention. The specific activities for involving community collaborators in the evaluation and modification of the current version are described below.

Step 4: recruitment of participants for theater testing. The community collaborators assumed responsibility for recruiting the participants for the theater testing. The teen and adult community collaborators disseminated information and approached potential youth and their parents to participate. Along with reaching out to their personal contacts, they circulated IRB approved flyers and made announcements at community events. Interested families were invited to attend an information session held in a community meeting space. University and community collaborators were present and introduced the project. Both university and community collaborators consented interested families and shared the dates of the intervention. Parents gave consent for their teen daughters to participate and the teens gave their assent for participation.

Step 5: conduct the theater testing of the adult version. Ultimately, 10 girls were recruited and consented to participate in the theater testing of the adult version. The full intervention was designed to occur in five 90-minute sessions. However, the budget for the project and the extremely short length of the grant funding (9 months) forced us to complete the entire curriculum in two four-hour meetings. The two sessions were one week

apart. The girls completed a short questionnaire at the beginning of the first session and again at the end of the last session. This questionnaire was designed to assess knowledge of HIV/AIDS, STIs, and condom use both before and after the intervention. Although the results of the questionnaire will be published separately, the preliminary results suggest the participants increased their knowledge of HIV/AIDS and STIs along with condom skills.

Consistent with cultural norms, each session began with a meal (e.g., pizza) to increase engagement. After each activity, the teen participants and the university and community collaborators who were observing the activity completed an evaluation form. The form asked the following three questions: 1) Do you believe this activity would be effective for your peer group? Why or why not? 2) Should this module be included or eliminated? Why or why not? 3) What changes might make this activity more effective for the target group? At the end of each 4-hour meeting, a university collaborator led a discussion of the modules. Participants were encouraged to share what they had written earlier and to add additional comments about the activity. The discussion was audio-taped. Participants received $50.00 at the end of each session for their participation.

Step 6: modifications to the intervention. This section includes two topics. The first subsection describes the procedures used to determine the modifications. The second subsection discusses the actual modifications.

Procedures for determining the modifications. When the university and community collaborators met together to adapt the intervention, we reviewed a summary of the written comments of the participants prepared by a graduate assistant, a summary of the discussion from each session, and notes written by research team members on each module. The group also relied on the expertise of the community collaborators to suggest appropriate activities to further address community needs. The community collaborators shared additional suggestions throughout the meeting. Once the adaptation process was completed, one university collaborator (a graduate student) assumed responsibility for incorporating modifications into the manual. The university and community collaborators met a second time to review and approve the changes to the manual.

Content modifications. The cultural adaptations map nicely onto the Cultural Sensitivity Framework (CSF), a model for understanding cultural adaptation (Resnicow, Braithwaite, Soler, Ahluwalia, & Butler, 2000). The CSF framework organizes cultural adaptations into two broad categories: surface and deep structural interventions. Surface adaptations retain the core curriculum of the intervention but alter intervention activities (e.g., use of character names and scenarios familiar to the target group, and use of staff from the target group) to be more acceptable or familiar to the target group. In contrast, deep structural adaptations revise core components and curriculum to incorporate the culture, social experiences, and values of a particular racial ethnic group (Resnicow et al., 2000). Along with modifying the adult modules, we found it necessary to add two new modules to address issues unique to the priority group. These modules were on abstinence and Making Excuses (for unsafe sex). As Table 2 describes, the adapted version included both surface (e.g., word changes) and deep structural (e.g., addition of culturally relevant affirmation) modifications.

Using the CCCA approach led to some important lessons about modifying the content of the intervention. Although a discussion of the details of the revisions to the curriculum is not the objective of this paper, several general points related to the utility of the CCCA model for cultural adaptation are relevant. This project demonstrated that not all modules of an intervention may require revision to maximize efficacy. In our case, a couple were not modified at all, others required minor changes, and several modules required substantial adaptation. For example, in an introductory module of the generic intervention, participants are asked to say their name and identify one reason they want to take care of their health. While this module was positively accepted overall, feedback suggested that increasing interaction would further improve the module. Therefore, the team decided to encourage interaction at the outset by incorporating a fun icebreaker activity.

The CCCA approach enabled us to conclude that appropriate adaptations vary even within racial/ethnic groups. In our case, the feedback helped us to identify the need to plan differently for different age groups. For example, younger participants preferred to use cucumbers for the condom demonstration and practice rather than the penis models used with adults. Similarly, in the culturally-adapted adult version of Safer Sex Skills Building

(SSSB), the collaborators added a video to increase interest and comprehension when educating the adult women on the correct strategies for condom use. However, unlike the adult women, the video did not retain the girls' interest as well as a live demonstration. As a result of the CCCA approach, the collaborators learned that the intervention would be more effective if we designed more engaging activities to present the information. For example, in the adult version of an activity aimed at providing HIV information, the facilitator asks a question, solicits an answer from the participants, and then refers the participants to a page in a workbook to read the answer. However, in the adolescent version, a card sort exercise is used to provide the same information.

Step 7: training of community collaborators to deliver culturally adapted modules of Safer Sex Skills Building (SSSB). Community collaborators assumed additional roles for the second round of the theater testing. Specifically, along with recruiting and consenting participants and observing the mock demonstrations, community collaborators co-led some of the modules. All collaborators decided together on the modules that the community collaborators would co-lead. Those who chose to lead a session had an opportunity to review and rehearse the selected modules beforehand.

Step 8: theater testing of the culturally adapted version. The community collaborators recruited a second group of 8 teen girls to participate in a mock demonstration of the modified teen version. Again, the teen participants completed questionnaires at the beginning and end of the intervention, met for two sessions, provided written feedback after each activity, and participated in a discussion of all activities at the end of the intervention. As before, participants received $50 for their time. Similar to the earlier procedures, the collaborators used that feedback and their own observations to develop the final version of the intervention.

Stage Three: Final Revisions of the Intervention, Pilot Testing and Sustainability

After compiling the written feedback, the university and community collaborators met to integrate the feedback into the final version. Later, the university and community collaborators finalized the manual together. The university collaborators wrote a first draft of the current paper but later met

with the community collaborators to finalize the current publication. The co-authors include both university and community collaborators.

The hypothesis that the culturally tailored version is more effective than the original version is a testable hypothesis. Therefore, pilot testing the intervention, our next step, is an essential step during Stage 3. Similarly, we encourage other research teams to conduct pilot tests and then to make any adjustments based on the pilot results. Moreover, although a randomized clinical trial (RCT) is not included in the CCCA approach, the current research team plans to examine the effectiveness of the culturally adapted version of SSSB in a more rigorous research design in the future.

Increasing the likelihood of sustainability is important in community partnered work. This project promoted sustainability by training the community collaborators to deliver the intervention independently.

Discussion

Although collaborating with the community improved the project in meaningful ways, this section describes a critique of the theater testing and a brief review of the extent to which and the ways in which the intervention changed.

Advantages and Challenges of the Theater Testing

The theater testing was an excellent method for observing both the adult and adapted versions of the intervention. In our case, the university collaborators trained advanced graduate students to facilitate the intervention so the university and community collaborators could observe the intervention without the distraction of being facilitators. The community collaborators and especially the girls in the theater testing certainly were able to provide more feedback after participating in or observing the intervention than if they had only read the manual. Nevertheless, a major challenge associated with the theater testing was structuring the feedback to increase its usefulness. As stated earlier, the facilitators asked the girls for written feedback at the end of each module and for oral feedback at the end of each session. The open-ended feedback, especially from the younger participants, was limited and not very useful. The collaborators concluded that clarifying the specific information the team wanted to obtain

from the feedback might enable us to develop some more useful questions in the future. In addition, the community collaborators recommended oral over written feedback as well as soliciting feedback at the end of each module rather than at the end of the session. In addition, they suggested that the facilitators forewarn participants that they will ask each person to share one thought about what they thought was good and not so good after each activity. However, if we ask for written feedback as well, the team should be sensitive to the literacy level of the participants. The fact that some participants frequently arrived late for the sessions was a second challenge. Ideally, participants would arrive on time. However, more typically, some arrived after the intervention was scheduled to begin. The collaborators found that serving a meal at the beginning created space for late arrivals and was useful for increasing motivation to participate.

Lessons Learned

This section describes the lessons learned in implementing the CCCA steps and the challenges to fuller community involvement.

Advantages of a CCCA Approach

Perhaps the most obvious benefit of a community collaborative approach is that university team members along with the community members develop a more effective intervention than either would be able to create alone (Ahmed et al., 2016). In addition, as suggested by Hogan, Tynan, Covill, Kilmer, and Cook (2017), university and community partnerships benefit both groups. The community collaborators were already empowered within their community as leaders, social activists, and change agents. However, as Hogan and colleagues (2017) indicated, their participation led to individual and community capacity building. For example, one adult community collaborator shared that participation on the collaborative team empowered her to "tackle issues that we have…consider why we have the issues…and come up with solutions…to address things for our generation and the next generation." Furthermore, community collaborators reported that, although they had assisted in research projects before, joining this team increased not only their understanding of the research process but also their appreciation of the value of research. Moreover, after participating in several rounds of the intervention, they became competent to conduct the intervention themselves. In contrast to

research projects that are simply placed within the community, involving members of the community solely as participants, or community based projects in which community members serve limited roles (e.g., advisory or recruitment), the exposure inherent in a CCCA project to all phases of the project increases community capacity and sustainability (Ahmed et al., 2016) and better equips community members to collaborate on future projects or even apply for their own grants. In fact, our community collaborators have already participated in three other projects with the university that otherwise would not have occurred.

Participating in the CCCA project benefitted the university collaborators as well. They gained better insight into the needs of the community and the potential effectiveness of future interventions because of the collaboration. Moreover, the local funders encouraged the university collaborators to apply for funding to do more community-engaged work. Conducting this community collaborative pilot project has facilitated the creation and development of relationships with community leaders who may be willing to collaborate with the university to pursue larger federal funds in the future to benefit their communities.

Challenges of a CCCA Approach

Despite the inherent advantages of the university and community collaboration, we encountered several challenges in implementing the CCCA approach. One set of challenges is related to the inherent power differential along with differences in the responsibilities of the university collaborators and community collaborators. First, the fact that the university housed the funds and paid community collaborators inadvertently increased the power differential between the university and community collaborators. Moreover, the fact that the university team had the responsibility for approving payroll was inconsistent with the goal of a non-hierarchical structure for the entire collaborative team (Gehlert et al., 2014). Since we were not using a time clock, the number of hours worked was sometimes difficult to calculate. Also, sometimes the time between community collaborators submitting invoices and receiving their checks was as long as three weeks or more. Those who already had plans for using the funds were frequently disappointed and frustrated by the slowness of the university payroll system. The university collaborators shared the frustration of the community collaborators but had little influence on

resolving the situation. During our debrief of the challenges of the payroll system, the community collaborators endorsed setting a payroll schedule ahead that is approved by the university business office and perhaps consistent with the university's ongoing payroll schedule. Second, the different level of responsibility between university and community collaborators in ensuring that the research met university guidelines and deadlines also added to the power differential.

Third, implementing the IRB procedures can be potentially challenging as well (Anderson, 2015; Cené et al., 2015; Solomon & Piechowski, 2011). In the normal course of events, the university IRB requires all members of the research team to complete a time consuming human subject's research curriculum such as selected modules of the Collaborative Institutional Training Initiative (CITI). In many cases, the procedures for completing the IRB requirements (e.g. online completion and submission) may not match the resources and competencies of grass roots community members. Fortunately, similar to Calzo and colleagues (2016), our IRB approved an abbreviated training presentation for the community collaborators. Nevertheless, at the end of the review of that training presentation, they were required to complete comprehension questions. Although not much of a problem in this particular project, community members in other projects who conceptualized the comprehension questions as a test reported that the experience was anxiety provoking and potentially embarrassing. Consequently, the requirement may discourage some community members from participating. Developing alternative approaches such as the workshop training with vignettes described by Calzo and colleagues (2016) that meet the IRB requirement but are less anxiety provoking may be more comfortable to community participants. Calzo et al. (2016) also proposed that a community liaison office within the IRB may facilitate the development of alternative ways for educating community members on human subject projects. In addition, including the community collaborators in planning the logistics of the training may aid in the acceptability of the training and subsequently reduce power imbalances (Hawley, Weiland, Weis, & Sia, 2014).

Increasing Community Involvement in Future Cultural Adaptations

As mentioned before, community involvement in research often occurs on a continuum, with traditional research lacking community involvement, and community collaborators driving research at the other extreme (Pavao 2012; Wallerstein & Duran, 2006). A CCCA approach shares control between university and community collaborators in many ways. First, community members become an integral part of the cultural adaptation of the intervention, serving as full members of the research team. Second, community members exercise some shared-decision making regarding significant changes that should be made to the intervention to render it more appropriate for their community through strategies such as theater testing. Finally, community collaborators also participate in multiple roles including recruitment, implementation, and revision of the intervention and publication of findings.

In our case, the quick turnaround for the grant submission, the IRB procedures and requirements, and the housing of the funds under university control all contributed to a non-hierarchical structure and became a barrier to increased community involvement. Addressing these barriers may lead to future collaborations with increased community participation in all activities and may facilitate equality in decision-making.

Other Lessons Learned

The use of teens as community collaborators and as research participants had its own challenges. The adult community collaborators, with demonstrated commitment to their community, were motivated and committed to the process from beginning to end. However, the older teen collaborators did not participate as steadily. The university and adult community collaborators concluded that the effective strategies for engaging older teens may differ from the strategies for engaging adults. For example, compensating teen collaborators at the end of each meeting similar to the procedure for compensating research participants rather than weeks later may be a more effective incentive. Also, allowing the older teens to play a more active role in engaging with the younger teen participants might keep them more fully engaged. Nevertheless, even those older teens who are motivated to participate may face some barriers to participation. For example, in our case, the fact that they were young

mothers added challenges and barriers to their participation (e.g., challenges with child care, transportation, etc.). When teens are included as collaborators on the research team, we recommend an additional teen orientation that clarifies responsibilities along with assisting in identifying and addressing potential barriers (e.g., providing babysitters at the event) to participation.

Overall, the young teens recruited as research participants participated actively. However, the possibility that some may only attend for the payment is always worth considering. As in many other research studies, a challenge to the university and community collaborators is to determine an incentive that encourages participation without attracting poorly motivated participants only willing to exert minimal effort. Issues in assuring confidentiality was another lesson learned. When confidentiality is an issue as it was in our project, Mouw and colleagues (2016) argue that a safe space is essential for community engagement. One of our first activities was to discuss the importance of not sharing anything revealed during the session. Understandably, the participants may remain hesitant to share in the presence of other participants and also the community collaborators. The collaborators addressed this concern by sharing that, since the intervention was a mock demonstration, the participants were free to pretend to be someone other than themselves during the sessions. That way, the observers and other participants would not know whether they were describing their own behaviors or their 'pretend self'. To emphasize this point, the collaborators asked them to use assumed hypothetical names. Nevertheless, this strategy proved imperfect. In the future, we might discourage individuals from sharing any personal information that might be embarrassing if disclosed outside of the room. The community collaborators also recommended using a strategy to enable participants to ask sensitive questions anonymously by either creating a box for anonymous questions or a telephone line operated by a person unfamiliar with the group members who might either respond to or discuss questions anonymously. Also, if two or more communities are involved, community members might attend each other's mock demonstrations rather than the demonstrations in their own communities.

Limitations of CCCA

Despite the promise of CCCA, we acknowledge some limitations. Although community members were significantly involved in our CCCA implementation and community members had pointed out the need for programs on sexual health for girls, the project was not community driven. The CCCA approach does not prohibit community initiated research. However, since community driven research is more likely to emerge if the university and community researchers maintain ongoing contact, we encourage future university teams to maintain ongoing contact with community research team members. Second, the generalizability of a culturally adapted version to other communities is an open question especially when the community collaborators are from one specific area. We have two suggestions for addressing that concern. First, we encourage the research team to consider whether community representatives from several communities may increase the potential generalizability of the final version. Second, pilot testing the culturally adapted version, the last step in the CCCA approach, can be designed to test the generalizability of the project by implementing the intervention and collecting data across several communities.

Despite the limitations, we believe the strengths of the CCCA approach outweigh the limitations. First, the CCCA approach offers concrete steps for executing university and community collaborations. Second, the CCCA approach has inherent benefits for both the university and community collaborators. Specifically, for the university collaborators, CCCA has the potential to increase understanding of community strengths and needs. Furthermore, completion of the CCCA project can build collaborations that can increase eligibility for future community projects. CCCA can also aid the community in developing sustainable relationships for addressing community needs through research. In our case, the community and university collaborators have continued to work on community projects (e.g., urban trauma seminar, community health festival), and a second research project. One community collaborator noted that these experiences have encouraged her to become involved in additional research opportunities outside of the current partnership. Moreover, the entire university and community collaborative team recently received an award for university/community collaboration.

Summary

The aim of this paper was to illustrate the CCCA approach for implementing a university and community collaboration. Despite the growing evidence of various approaches to cultural adaptation, this project addressed an important gap. Heretofore, specific guidelines for involving the community in cultural adaptation were limited. The CCCA approach outlines concrete steps for university and community collaborations. Despite inherent challenges in the CCCA approach (e.g., eliminating the hierarchy between the university and community collaborators, managing the IRB requirements), most can be minimized by recognizing and addressing these challenges within the initial planning stages. Overall, CCCA showed promise as an effective approach to cultural adaptation.

Table 1: Description of Roles for each Type of Research Team Member

Task	University Collaborators	Adult Community Collaborators	Teen Community Collaborators
Introduce Intervention	X		
Suggest cultural adaptation framework	X		
Recruit participants		X	X
Observe mock demonstration		X	X
Train team members on cultural norms		X	X
Train team members on IRB procedures	X		
Approve Payroll	X		
Consent participants	X	X	
Suggest modification to intervention	X	X	X
Group facilitation	X	X	X
Assist in finalizing the manual	X	X	X
Co-author publication	X	X	X
Reminder Calls		X	

Table 2: Example of Cultural Adaptations to the Intervention based on the Cultural Sensitivity Framework

Surface Adaptations Changes to the presentation of intervention activities but not the core curriculum
Word changes: - "intervention" to "program" - "facts and myths" to "true and false" - "dating" to "hanging out" Used names familiar to community in scenarios (e.g., Keisha and Darrin) Trained community research team members to co-lead modules scenarios Recruited Black female graduate students as group facilitators and role models
Deep Structural Adaptations Changes to content and methods to be more culturally appropriate
Inclusion of a culturally appropriate affirmation to end each session Inclusion and discussion of culturally specific poems and songs Included discussions of culturally relevant topics (e.g., domestic violence, effect of male-female ratio on sexual relationships in the Black community) Added discussion about cultural values and spirituality (e.g., religious attitudes about condom use) Added an Afrocentric closing ceremony

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