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Development of an Empirically Based Preventive Intervention for Depression in Preadolescent African American Girls

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Abstract

We describe the development, feasibility, and acceptability of a novel preventive intervention for depression in African American girls living in urban poverty. Our approach targeted individual and interpersonal vulnerabilities that have been shown to confer risk for depression in samples of African American girls living in low-income, urban settings, including suppression of negative emotion and lack of assertiveness with peers, memory for positive emotion, active coping, and family connection. Focus groups and an open trial were conducted to refine the goals and mechanisms for skill building. A randomized controlled trial (RCT) of the new program (Cities Mother-Daughter Project) was conducted with 3rd–5th grade students from Chicago Public Schools (CPS). Three cycles of screening, randomization, and deployment were conducted to assess feasibility, satisfaction, and usability. Results indicate that feasibility was weak; whereas, satisfaction and usability were high. Future directions for testing efficacy are discussed.

Keywords

Intervention development; Depression prevention in African American girls; Culturally specific intervention

Preadolescent African American girls living in urban poverty are at a heightened risk for a range of negative outcomes, including depression (e.g., Grant et al. 2004a, b, c). Sex differences in the prevalence and development of depression, and ethnic and socio-economic differences in exposure to stressors create significant mental health disparities with African American girls at highest risk. Thus, African American girls are a particularly important focus for developing targeted preventive interventions.

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Compliance with Ethical Standards

Conflict of Interest: The authors declare that they have no competing interests.

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent: Informed consent was obtained from all individual participants included in the study.

Depressive disorders are more common among females than males and are the leading cause of disability in 15–44-year-old women (Murray and Lopez 1996). The sex difference in depression appears to emerge during adolescence and is found within multiple ethnic groups and within community-based and high-risk samples (see Keenan and Hipwell 2005 for a review). Initial episodes of depression are more severe and longer in duration for girls than for boys (McCauley et al. 1993), and girls who experience depression for the first time in childhood or adolescence, compared to females with onsets later in life, are at greater risk for future episodes (Kovacs 1997).

Symptoms of depression are fairly stable among girls even during the preadolescent period (Keenan et al. 2008). For example, the majority of nine-year-old girls who reported one or more symptoms of depression continued to report depressive symptoms at ages 10 and 11 (Keenan et al. 2008). Moreover, symptoms of depression that emerged during this period were predictive of depressive disorders and impairment in the following 2 years: a nearly twofold increase in the risk of a subsequent depressive disorder at ages 10 to 11 years was observed for every increase in number of depressive symptoms at age 9 (Keenan et al. 2008). This is evidence of significant morbidity associated with depressive symptoms in preadolescent girls.

African American girls living in low-income urban communities face contextual risks that may exacerbate existing vulnerabilities. A disproportionate number of African American children live in poverty (38 % relative to 22 % for all U.S. youth; United States Census 2013). African American youth are also more likely to live in persistent poverty in isolated urban neighborhoods (United States Department of Health and Human Services 2008). African American families bring many cultural strengths and, perhaps as a result, appear to demonstrate greater resilience than European Americans living in similar conditions (Grant et al. 2006; McLeod and Nonnemaker 2000). Nonetheless, poverty and inequality bring a range of stressors that lead to significant racial and socio-economic disparities in mental health and also raise financial and logistical barriers to accessing quality mental health services (Cardemil et al. 2002). In addition, African American families report barriers to accessing mental health services including mistrust of mental health care providers (Thompson et al. 2004). As such, low-income urban African American youth are less likely to receive services for depressive symptoms than European American youth and youth from other income environments (Wu et al. 2001). Therefore, they have the highest odds of negative lifetime outcomes associated with depression (Pastor et al. 2004).

Gender-mediated vulnerabilities put African American girls at higher risk than African American boys for the development of depression (Nolen-Hoeksema and Girgus 1994). Emerging evidence indicates that observable individual vulnerabilities are present during the preadolescent period for African American girls, which interfere with the development of competencies needed for successfully meeting the demands of adolescence (Keenan and Hipwell 2005). In particular, skills that are likely to provide a foundation for greater individuation, such as assertiveness and expressiveness, may be more likely to be underdeveloped. For example, elementary school-age African American girls are less active and assertive than African American boys (Lyons et al. 2006). Girls are also more likely to use ruminative coping strategies that may maintain and exacerbate depressive symptoms.

For example, in a study that sought to explore gender differences in African American youth living in urban poverty, African American girls reported higher rates of ruminative coping and depressive symptoms (Grant et al. 2004a, b, c). These findings suggest that interventions must target the preadolescent period if they are to prevent the dramatic increase in depressive symptoms and depressive disorders that occurs during adolescence.

There is growing evidence that preventive interventions can effectively reduce the risk of developing depressive symptoms in the majority of youth (Garber et al. 2009; Compas et al. 2009; Horowitz and Garber 2006). To date, however, there are no effective programs to prevent depressive disorders in African American girls. In fact, very few studies have been conducted with samples of African American youth generally, despite their increased risk for depressive disorders (Stice et al. 2009). One exception is an adaptation of the Penn Resiliency Program (PRP) for minority students (Cardemil et al. 2007). The PRP is a cognitive-behavioral approach that is delivered in a group format in the school setting. Cardemil et al. (2007) delivered an adapted version to 5th and 6th grade students in two different inner city school populations: Latino and African American. Results supported the efficacy for the Latino children but not the African American children (Cardemil et al. 2007). To the best of our knowledge, there are no other published studies in which the efficacy of existing depression prevention programs is tested in African American youth, nor are there prevention programs designed specifically for African American girls.

To develop effective depression prevention programs for this population, it is important to build upon an applicable theoretical model, as not all models of depression have empirical support for African American girls (e.g., Flannery-Schroeder 2006; Stange et al. 2013). According to Bronfenbrenner's ecological systems theory, development occurs within multiple ecologies (i.e., microsystem, mesosystem, exosystem, macrosystem) (Bronfenbrenner 1979). The ecological impact of poverty on development suggests that interventions for African American youth living in poverty should be based on theoretical models that consider the presence and interaction of multiple ecologies (Grant et al. 2014). In the context of urban poverty, the macrosystem (e.g., social condition of poverty) interacts with the exosystem (e.g., urban community) which impacts the functioning of the youth's microsystems (e.g., youth, parents) (Bronfenbrenner 1979). At the microsystem level, poverty negatively affects the mental health of youth through its negative influence on the parent-child relationship (see Grant et al. 2003 for a meta-analytic review). There is emerging evidence that with intervention at this microsystem level (parent-child relationship), protective factors can be strengthened to combat the negative impact of urban poverty. A primary factor that appears to influence the extent to which low-income, urban, African American youth are able to benefit from individual coping approaches is whether or not they have a relationship with a caring adult who can support their individual coping efforts (Grant et al. 2005, 2014). Thus, this intervention seeks to intervene at the microsystem level by including parents as recipients of a contextually and culturally relevant intervention to strengthen resiliency skills.

The inclusion of parents in addition to youth as the targets of interventions has shown promise. For example, the inclusion of parents in preventative depression interventions that teach adaptive coping has demonstrated promising results (for example, Beardslee et al.

2003; Compas et al. 2009). The vast majority of participants in these programs, however, have been European American families (94 % in the Beardslee study, 86 % in the Compas study) and have provided separate trainings to groups of parents and children rather than intervening with parent-child dyads. Furthermore, extant research indicates that methods typically used by European American parents to foster mental health in their children (e.g., authoritative parenting) may not be the same as those used by African American families to foster mental health in their children. For example, in contrast to European American children, greater use of authoritarian practices in the context of a warm and caring relationship is associated with positive outcomes in African American children (Dearing 2004). For this reason, it is important to ensure that prevention programs not only target African American families but do so using methods that are culturally relevant and acceptable.

To summarize, there are three primary reasons for the development of a novel approach to the prevention of depression in low-income urban African American girls: (a) this is a population at high risk for depression and especially unlikely to receive mental health services (Grant et al. 2004a, b, c), (b) the few existing depression prevention programs that have been tested with this population have not demonstrated efficacy (Garber 2008), and (c) there are no existing approaches to the prevention of depression that are based on theoretical models that have an empirical basis for African American girls living in urban poverty. As such, this study presents the development of a culturally relevant depression prevention intervention for African American girls living in urban poverty that seeks to impact risk factors relevant to their ecology.

We present two studies here. In the first study, we describe the incremental steps taken in the development of the depression preventive intervention designed for African American preadolescent girls. In the second study, we report on the feasibility of implementing a randomized controlled trial with this specific population, and we evaluate the acceptability of the intervention.

Study 1: Intervention Development Steps

A series of five incremental steps were taken to develop the Cities Mother-Daughter Project. First, we used existing research, including our own, to identify targets of the intervention. Second, these identified targets were shared with focus groups of low-income urban African American mothers and daughters to assess the perceived usefulness of each target. Third, we created a semi-structured intervention manual based on the identified targets. Fourth, we presented the manual to two more focus groups of African American mothers and daughters to assess contextual and cultural relevance and acceptability. Fifth, we conducted an open trial and solicited additional feedback on the developing intervention. The methods and results associated with each of these steps are summarized below.

Step 1: Identification of Targeted Domains

Seven domains were identified to serve as targets of the intervention via the developed methods for acquiring the skill set to strengthen each domain (see Table 1). Each targeted domain has demonstrated associations with depressive symptoms in samples of girls that

included substantial representation of African American girls. Targeted domains included (a) health and wellness (Grant et al. 2004a, b, c), (b) emotion expression/regulation (Keenan et al. 2009a, b), (c) confident communication (Keenan et al. 2010), (d) positive emotionality (Feng et al. 2009), (e) negative automatic thoughts/attribution (Cardemil et al. 2014; Carter et al. 2015; Thurm et al. 2014), (f) problem solving/coping (Gaylord-Harden et al. 2009; Grant et al. 2004a, b, c), and (g) dyadic connectedness (Gaylord-Harden et al. 2009; Grant et al. 2005).

Step 2: Focus Groups on Perceived Usefulness of Targeted Domains

An initial set of focus groups was conducted with four mother-daughter dyads to assess the perceived usefulness of each targeted domain. Mothers and daughters were recruited through a local church that served as the community-based partner for the Cities Mother-Daughter Project and provided meeting space to conduct all research activities. Mother-daughter dyads were eligible to join the focus group study if the target preadolescent girl was in the fourth or fifth grade and if both mother and daughter are identified as African Americans. Mothers signed consent forms and permission forms for their daughters; preadolescent girls signed assent forms. After being consented into the study, mothers and daughters completed a brief demographic survey. Trained research staff assisted with the consent and survey process. In addition to a hot meal, each mother and daughter received a \$50 gift card. IRB approval was obtained for all focus group procedures.

Mothers and daughters met separately with two trained facilitators, who utilized a semi-structured focus group guide to elicit participant feedback on the group structure and the usefulness of each targeted domain. Each focus group was audio-recorded. One facilitator led the focus group while a second facilitator took field notes to capture important qualitative impressions. Upon completion of the focus group, the data collection team met to debrief and review field notes. Facilitators' field notes were transcribed, as were the audio recordings of the focus groups. Upon completion and review of the transcripts, all identifying data were redacted, and the audio recordings were destroyed.

Data analysis proceeded in three steps. First, all members of the research team reviewed the transcripts and field notes in order to identify a preliminary set of themes in the data that would inform the development of a draft codebook. After this meeting, trained research assistants conducted line-by-line coding of the redacted transcripts to systematically identify thematic units, e.g., frequently occurring sets of words, phrases, and explanatory statements, in the data (Stewart and Shamdasani 2014). Coders used the codebook for the primary analysis and supplemented this with open coding in order to identify any themes not included in the codebook (Corbin and Strauss 2008). After this process was complete, the coders met to compare codes, with any differences in coding resolved via discussion between the coders and members of the research team.

Content analysis revealed that mothers preferred a group structure that mixed dyad and separate mother and daughter groupings so that both mothers and daughters learn skills separately before mothers support daughter in building skills. For example, mothers agreed that the group facilitator should work with mothers separately from their daughters in order to build mothers' "self-esteem and self-efficacy and provide support." Mothers also

highlighted the importance of creating a “home” and “communal” atmosphere for the group setting, such as a family-style dinner and informal discussions between facilitators and families. These suggestions were incorporated into the group structure and group activities, e.g., family-style dinner with informal conversation, separate mother-only and daughter-only groups to introduce session topic or skill, and special dyad time to practice skills.

Content analysis also revealed that mothers perceived all of the targeted domains to be useful for their daughters. In fact, mothers were able to provide examples of how each targeted domain could be used in day-to-day functioning. Mothers specifically noted that domains focused on communication, assertiveness, and problem solving would be particularly beneficial for their daughters. Daughters also expressed satisfaction and approval of the targeted domains. In line with participants’ satisfaction with target domains, no changes were made to the domains.

Step 3: Manual Development

Following approval and satisfaction with each domain, a program manual was developed. The program manual provided educational content related to each targeted domain and dyadic activities for building skills during (and between) program sessions. See Table 1 for list of targeted domains and sample dyadic activities.

Step 4: Focus Groups on Cultural and Contextual Relevance and Acceptability

A second set of focus groups was conducted with twelve mothers and thirteen daughters to assess the cultural and contextual relevance and acceptability of the preventive intervention. Recruitment, informed consent, and data collection and analysis followed the same methods described above in the first set of focus groups. As with the prior focus groups, mothers and daughters met separately with two trained facilitators, with one facilitator leading participants through a semi-structured guide that elicited feedback on intervention structure, session content, and planned activities, and the second facilitator taking field notes.

Results indicated that mothers and daughters viewed the program as culturally and contextually relevant and acceptable. For example, one mother commented, “...they are all real situations, real stuff they are faced with.” Another mother noted, “Well, sometimes my daughter is just having a bad day, not because she is fighting or something. It would be nice to have something on how to help them motivate themselves to get out of the bad mood.”

In addition to broad support for the program, focus group participants highlighted specific support for group format that included both the dyadic and separate mother-only and daughter-only groups. The general consensus supported previous focus group sentiment that the program should provide time for mothers to meet together and daughters to meet together (separately from one another) prior to the dyadic work. Focus group participants communicated that this would provide a supportive sense of community for mothers, who could confide in and support other mothers (e.g., “Mothers will benefit from sharing with each other. Besides we all talk about stuff”), and for daughters, who could build trusting relationships with their peers (e.g., “So it is good that they can learn to see that they can trust and be open”). Focus group participants suggested one specific recommended change to remove specific scenarios and role-plays (e.g., having to do with physical advances from

boys) that were identified as inappropriate for the youngest girls. The recommended change was made to the program manual.

Step 5: Open Trial

Fourth and fifth grade participants were recruited from an after-school program housed in a church that served predominately African American families in the surrounding low-income community. Four mother-daughter dyads participated in the open trial, which consisted of eight weekly 90-min group sessions. Each of the first seven sessions focused on a target domain, with the final session focused on integrating material learned and a final celebration. At the end of each session, mothers and daughters completed feedback forms evaluating the content and activities of the session. Overall, mothers and daughters reported satisfaction with group activities and session content and reported that the skills practiced in each targeted domain were useful. Mothers indicated that one video used to elicit negative emotional expression was too emotionally complex and included content too mature for the girls. This video was replaced in preparation for the randomized controlled trial. Mothers also advocated for the inclusion of younger preadolescent girls as they described the intervention could be beneficial at even younger ages. To ensure a target sample of preadolescent girls and remain in line with our original sampling intentions, we extended the sampling frame to include 3rd grade girls in the randomized controlled trial.

Study 2: Feasibility and Acceptability of Randomized Controlled Trial

Method

Participants—A small, randomized controlled trial was conducted to assess feasibility of implementation and acceptability of the intervention. Participants in the randomized controlled trial were recruited from the 3rd, 4th, and 5th grades of four public elementary schools in which at least 95 % of the student body was African American and was eligible for free or reduced school lunches. Thirty-two mother-daughter dyads were randomized to receive the intervention or treatment as usual. Of those randomized, the average age for girls was 9.31 years ($SD = 0.90$, age range = 9–11 years). Eighteen girls were in the 3rd grade, eight in the 4th grade, and six in the 5th grade. Sixteen of the mothers were aged 25–34, eleven aged 35–44, four aged 45–54, and one was aged 55–64. All but one mother-daughter dyad identified as African American (the other identified as South African). Three families that identified as African American also identified as being Hispanic. The mother and daughter intervention and treatment as usual groups did not significantly differ on any characteristics, with the exception of age of girls: girls randomized to intervention were significantly younger than those randomized to treatment as usual ($M_{age} = 9.10$, $SD = 0.75$ versus $M_{age} = 9.80$, $SD = 1.03$; $F(1, 30) = 4.842$; $p = 0.036$).

Procedures—Announcements were made, and flyers with consent forms were distributed during non-instructional school hours. Interested students were asked to return consent forms completed by their mothers and received a snack as an incentive for returning signed forms (regardless of parental interest in participation). Recruitment continued until at least a 50 % response rate (interested or declined) was reached at each school. Research assistants contacted mothers who indicated interest to schedule a screening assessment.

At screening, mothers and daughters completed the Behavior Assessment System for Children-2nd Edition (BASC-2; Reynolds and Kamphaus 2004), the Positive and Negative Affect Schedule-Expanded Form (PANAS-X; Watson and Clark 1994), and the positive emotions scale from the Children's Depression Scale (CDS; Lang and Tisher 1978). Girls also completed the Children's Assertiveness Inventory (CAI; Ollendick 1983) and the Children's Sadness/Anger Management Scales (CSMS/CAMS; Zeman et al. 2001). To be eligible for participation, daughters must have endorsed one or more symptoms of low motivation or negative mood on the BASC. Exclusion criteria included current major depressive disorder, as estimated from the BASC or current suicidal ideation. Children with this level of symptomatology were referred for services at DePaul Family and Community Services. After completing screening assessments, eligible mothers and daughters were invited to enroll in the study. Those that agreed were randomly assigned to receive the intervention or treatment as usual.

Three separate cycles of the intervention were deployed across 1 year. During each cycle, mothers and daughters were recruited, screened, and (if eligible and interested) randomly assigned following the procedures summarized above. Sessions for the first cycle took place in the evening at a community church near the first two participating schools, and the remaining two cycles took place after school at the elementary schools from which the dyads were recruited. Across all cycles, group facilitators followed a semi-structured intervention manual that provided guidelines for three stages of each session. First, participants and group facilitators had a family-style dinner that encouraged socialization and group bonding. Second, facilitators led separate mother and daughter groups during which practice of previously learned skills were reviewed, obstacles and barriers were problem solved, and the new target skill was introduced and practiced. Third, mother-daughter dyads met to practice that session's targeted skill with mothers acting as coaches to their daughters. Group facilitators supported each mother as needed during the dyadic time. At the end of the session, dyads identified a free or inexpensive activity they could do together for a minimum of 2 hours over the next week that would allow them to spend time together and practice the session's targeted skill.

To assess acceptability, both mothers and daughters completed investigator-created ratings of satisfaction and usability following each session: mothers completed a 12-item form rating each item on a 3-point scale (1= not really, 2 = somewhat, and 3 = definitely). Daughters completed a 6-item form, also on a 3-point scale using similar anchors (1= no, 2 = somewhat, and 3 = yes). Examples of satisfaction items include the following: "Was your interest held?" and "Did you like the activity during the mother-daughter time?" Usability items included the following: "Were you able to clearly understand the material from today's session?" and "How prepared do you feel to apply what you have learned today?" Higher ratings indicated greater satisfaction and perceived usability, and therefore, higher satisfaction and usability indicated higher endorsement of acceptability.

Results

Feasibility—Across all the four elementary schools, 244 girls were age and grade eligible to be screened for participation in the study. Of the 244 girls targeted for screening, 133

(54.5 %) returned consent forms. Thirty-eight (28.6 %) of the 133 families declined to participate in the screening assessment, 55 (41.4 %) indicated interest in participating but were unable to complete screening assessment within the required time frame, and 40 (30.1 %) completed screening assessments (Fig. 1). Of those screened two were excluded: one girl did not endorse any symptoms of low motivation or negative mood and another girl reported current suicidal ideation. Six mothers declined to participate following screening resulting in a sample of 32 mother-daughter dyads who were randomly assigned to the preventive intervention ($n = 22$) or treatment as usual ($n = 10$).

Intervention attendance varied (see Table 2). Nine dyads (41.0 %) attended 0–1 sessions, six (27.2 %) attended 2–4 sessions, and seven (31.8 %) attended five or more sessions.

Acceptability—Across the three cycles of eight group sessions, 51 feedback forms were completed by mothers. The average satisfaction rating for mothers was 2.98 ($SD = 0.07$, range = 2.60 to 3.00). Similarly, the average usability rating as given by mothers was 2.92 ($SD = 0.14$, range = 2.50 to 3.00). Fifty feedback forms from daughters were completed with similar ratings of satisfaction and usability. The average rating of satisfaction across all sessions was 2.75 ($SD = 0.41$) with ratings ranging from 2.00 to 3.00, and the average usability rating was 2.80 ($SD = 0.24$) with ratings ranging from 2.25 to 3.00.

Supplemental analyses were conducted to test for associations among attendance, satisfaction, and perceived usability. Results indicated that session attendance was not significantly related to participant ratings of satisfaction (for daughters, $r = 0.18$; for mothers, $r = 0.10$) or usability (for daughters, $r = 0.16$; for mothers, $r = -0.01$). Furthermore, there were no differences in usability or satisfaction ratings between well- and poorly attended sessions (for daughters ($F(2, 50) = 1.431$, $p = 0.25$; for mothers, $F(2, 51) = 0.332$; $p = 0.72$).

Discussion

This paper describes the development of a new preventive intervention for low-income urban African American girls: Cities Mother-Daughter Project. The methods used to develop this intervention were (a) to build upon prior basic research to identify targets of intervention particularly relevant for this population, (b) to elicit stakeholder feedback through focus groups and an open trial to ensure intervention targets were perceived as useful and culturally and contextually acceptable, and (c) to conduct a small randomized controlled trial to assess feasibility and acceptability.

Results of preliminary analyses testing for feasibility and acceptability suggest that intervention development methods were more effective for ensuring acceptability than feasibility. Ratings of acceptability (i.e., satisfaction and usability) were very high among both mothers and daughters. The strong acceptability ratings despite only moderate session attendance suggest that acceptability goals were met at the individual skill level in addition to the broader intervention level; participants still reported a benefit when they attended a session even if they did not attend the previous session. Moreover, high acceptability ratings suggest that other aspects of group sessions, such as family-style dinners (designed to build a sense of community), were also satisfying and useful to participants.

The high acceptability ratings may reflect the fact that the intervention development process was heavily focused on acceptability. From the selection of targets for intervention to the focus groups and open trial, the intervention development process was aimed at developing a program that is effective and culturally and contextually relevant. Additionally, the prevention intervention was developed following guidelines for prevention in psychology, which included (a) selection and implementation of preventive interventions that are theory- and evidence-based, and (b) use of socially and culturally relevant preventive practices adapted to the specific context in which they are implemented (American Psychological Association 2014).

Feasibility of the intervention was weak as only 32 % of participants attended more than half of the eight group sessions. Only session 1 reached an attendance rate above 50 %, with the remaining sessions' attendance rates ranging from 23 to 41 %. These attendance rates are lower than those found in other internalizing prevention interventions targeting low-income African American youth. For examples, for an anxiety prevention intervention with African American preadolescents, attendance rates were 59 % (Cooley et al. 2004), and for the previously discussed Cardemil et al. (2007) depression prevention intervention, attendance rates were 83 %. However, these interventions did not require parental attendance as the Cities Mother-Daughter Project does. Given the high satisfaction and usability ratings of the Cities Mother-Daughter Project and the lack of association between these ratings and attendance, it appears that barriers to participation lie outside the intervention.

A barrier raised by several participants was transportation to and from group sessions. Although sessions were held in relatively convenient locations in terms of proximity to homes, most families traveled via public transportation or on foot. Many families reported feeling unsafe walking even several blocks due to reports of violence in the areas around their homes and schools. Additionally, transportation was affected by extreme weather conditions. Although transportation cards were provided to families that requested them, these did not eliminate the inconvenience of traveling via public transportation in extreme weather or the dangers of traveling through neighborhoods with high rates of community violence. To alleviate some burden on families, future work may explore a shorter intervention via exploring the relationship between dosage and impact to determine the minimum dosage needed to produce the highest beneficial impact.

Lower rates of feasibility (relative to acceptability) suggest it would be beneficial to develop new strategies to facilitate group attendance. Because the highest attendance occurred in the first session, it may be beneficial to focus efforts on this session. Such efforts could include (a) increasing activities that encourage group bonding, which may be beneficial in strengthening group cohesion; (b) discussing the importance of session attendance and/or conducting motivational interviewing; and (c) generating barriers to session attendance and strategies for addressing these barriers. Such brainstorming may produce useful information regarding safe routes for travel and/or solutions to other barriers to participation.

Cultural and contextual factors may also explain low attendance rates in this highly stressed population of African American families. As a result of a long history of racism and well-known abuses against people of color, African American communities may hold suspicious

views of mental health treatment and thus, may be less likely to engage in services (Thompson et al. 2004). Moreover, African American youth and their caregivers have been found to be less knowledgeable about treatments specific to treating depression, which is predictive of a decreased willingness to engage in services (Chandra et al. 2009). African American youth and their families are also less likely to conceptualize depressive symptoms as indicative of a mental health disorder (Breland-Noble et al. 2010). Given the cultural and contextual perceptions and misconceptions of depression and mental health programs for depression, best practices indicate that the Cities Mother-Daughter Program would benefit from an increased focus on psycho-education around depression (Breland-Noble et al. 2010). Additionally, psycho-education regarding the necessity of consistent engagement in programming in order for optimal benefits may also be impactful.

In addition to strengthening feasibility of Cities Mother-Daughter Project, next steps include (a) empirically evaluating the impact of the intervention on depressive symptoms and other socio-emotional outcomes for girls, and (b) testing whether targets of the intervention mediate program effects. It also will be important to test whether there are intervention effects on mothers and whether these effects contribute to effects for daughters. If the Cities Mother-Daughter Project is shown to be feasible and effective, its high rates of usability and satisfaction suggest it will be an ideal approach for preventing depression in a population at the highest risk.

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Fig. 1.
Recruitment and retention for RCT

Table 1

Overview of preventive intervention

Targeted domains	Examples of methods for skill acquisition
Health and wellness	<ul style="list-style-type: none"> Each person in dyad wears pedometer for 1 week and sets goals and rewards for meeting goals. Dyad makes plans to help daughter achieve sleep goals (e.g., reducing non-sleep time spent in bed, getting out of bed at the same time every day).
Negative emotion expression/regulation	<ul style="list-style-type: none"> Mothers expose girls to film clips designed to elicit negative emotion. Mothers use mindfulness approaches to help daughter accept negative emotions.
Confident communication	<ul style="list-style-type: none"> Girls complete communication role-plays with mothers as coaches. Mothers help break down components of behavioral assertiveness (e.g., eye contact, tone, posture).
Positive emotionality	<ul style="list-style-type: none"> Mothers coach daughters to recall specific details of positive events, recall and re-experience the feelings associated with the events, consider how savoring positive events could lead to other positive events in the future, and identify their contributions to positive events and to making positive attributions.
Negative automatic thoughts/attributions	<ul style="list-style-type: none"> Mothers help girls differentiate between negative and neutral/positive thoughts. Dyads watch videotaped scenarios, and mothers help girls generate neutral or positive responses.
Problem solving/coping	<ul style="list-style-type: none"> Mothers review structured problem solving steps (STEPS) with daughters. Dyad completes STEPS questionnaire for recent and anticipated situations.
Connectedness and rituals	<ul style="list-style-type: none"> Mothers and daughters each articulate behaviors that make her feel supported. Dyads create weekly mother-daughter rituals.

Table 2

Session attendance

Session number	1	2	3	4	5	6	7	8
Number of dyads in attendance	12	8	9	8	9	7	5	7