Reducing Stress and Preventing Anxiety in African American Adolescents: A Culturally-Grounded Approach

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Abstract

Evidenced-based and culturally adapted stress-reduction interventions for urban African American adolescents who are at risk for anxiety and other problems related to stress are needed. This study presents intervention components and preliminary outcome findings of a culturally adapted stress-reduction intervention for urban African American adolescents. Preliminary findings support the efficacy of the intervention to reduce anxiety and enhance general cognitive competencies, such as coping strategies, self-efficacy, and positive thinking, among participants, in comparison to controls. Clinical implications of the stress-reduction intervention for the prevention of psychopathology, particularly among African American adolescents, are discussed.

The link between stress and anxiety during adolescence is well established in the research literature (McLaughlin & Hatzenbuehler, 2009; Nugent, Tyrka, Carpenter, & Price, 2011). However, along with the stress associated with the general demands of adolescence (Copeland-Linder, Lambert, Chen, & Ialongo, 2011), African American adolescents are particularly vulnerable to stress-related adverse outcomes like anxiety because they reside in low-resourced neighborhoods at disproportionately higher rates than adolescents of other ethnic groups (Murry, Berkel, Gaylord-Harden, Copeland-Linder, & Nation, 2011); consequently, they are challenged by multiple chronic neighborhood stressors, such as poverty and community violence, at rates that surpass those of other adolescents (Murry et al., 2011). Furthermore, African American adolescents must contend with the negative psychological impact of racial discrimination (Gaylord-Harden & Cunningham, 2009). In the wake of the 2015 racially-motivated shooting massacre at the Emanuel African Methodist Episcopal Church in Charleston, South Carolina, that left nine African American church members dead and one wounded, it is understandable that emotional strife, including anxiety (Schmitt, Branscombe, Postmes, & Garcia, 2014) and fear (Jones, Lee, Gaskin, & Neblett Jr., 2014), are realistic negative consequences of discrimination. The distinct and unique context created by discrimination also contributes to the development of problem behaviors like aggression (Jagers, Sydnor, Mouttapa, & Flay, 2007).

Anxiety limits a child's sense of what behaviors he or she can engage in to address an anxiety-provoking situation, making him or her more likely to respond aggressively (Kashani, Deuser, & Reid, 1991). Research supports a link between anxiety and reactive relational aggression in girls and boys (Marsee, Weems, & Taylor, 2008). Further, in addition to the risk for developing aggressive behaviors, adolescents who develop anxiety disorders are at increased risk of developing other clinical disorders and problem behaviors, as young adults, including major depressive disorder (Cummins, Caporino, & Kendall, 2014), substance use disorders (O'Neil, Conner, & Kendall, 2011), suicidal behaviors (Hill, Castellanos, & Pettit, 2011), and educational underachievement (Mojtabai et al., 2015). In précis, African American adolescents growing up in low-resourced urban neighborhoods face extraordinary challenges (Goldner, Peters, Richards, &
Pearce, 2011) that can lead to anxiety and other consequent adverse outcomes; as such, the need for effective and culturally-grounded anxiety preventive interventions for these adolescents is crucial.

Adolescents who reside in low-resourced neighborhoods are likely to feel that they have limited options in terms of how to respond to stressful and anxiety-provoking situations, in part due to limited or ineffective coping skills (Robinson, Brown, Beasley, & Jason, in press). Research supports that coping strategies employed by adolescents to effectively manage stress may positively impact their overall psychological adjustment and symptoms of psychopathology (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Adaptive coping strategies augment personal competencies/resources, by mobilizing thoughts and behaviors that promote resilience against life’s stressors (Compas et al., 2001). Although the need for evidence-based interventions that can effectively bolster adaptive coping skills to manage stress and reduce anxiety for African American adolescents is apparent, the extant research literature, relative to these types of intervention programs, is sparse. Past studies intervening in the deleterious effects of anxiety, among African American adolescents, have had small sample sizes (Ginsburg, Becker, Drazdowski, & Tein, 2012), and they have not employed randomized designs. Further, the reported intervention studies have not focused on coping with stress to prevent anxiety (Cooley-Strickland, Griffin, Darney, Otte, & Ko, 2011), and most studies have not been culturally grounded. Of exception, the anxiety preventive intervention reported by Cooley and colleagues (2011) was a cultural adaptation of a cognitive-behavioral intervention that focused on anxiety reduction; culturally grounded cognitive-behavioral interventions have been found to be exceptionally effective for African American youth (Wilson & Cottone, 2013). The limitations of current intervention studies argue for the urgent need of more culturally-sensitive research, intervening in the deleterious effects of anxiety among African American adolescents.

The A-CWS: A CBT Culturally-Adapted Intervention

A well-researched stress-reduction program for adolescents, the Adolescent Coping with Stress Course (CWS), was developed and empirically validated by Clarke and Lewinsohn (1995), primarily working with adolescents who were of European descent and suburban. Clarke and Lewinsohn’s prevention intervention was a 15-session model, grounded in the principles of Cognitive Behavioral Therapy (CBT). CBT is based on the theoretical premise that cognitions significantly impact one’s emotional and behavioral reactions to environmental cues (González-Prendes & Resko, 2012). The theoretical framework of the CWS was multifactorial and included: (a) reducing negative cognitions, (b) acknowledging and identifying risk factors and stressors, and (c) developing/enhancing resiliency factors (e.g., coping skills and high self-esteem).

Robinson and Case (2003) developed a culturally-adapted version of the original CWS (Clarke & Lewinsohn, 1995), based on Rosselló and Bernal’s (1996) framework for culturally-adapting evidence-based interventions. Additionally, the CWS was adapted to promote more general stress reduction related to the socioecological stressors faced by African American youth residing in urban, low-resourced areas. The modified, culturally-relevant stress-reduction intervention was called the Adapted-Coping with Stress Course (A-CWS).
Adaptations reflect the cultural context of low-income, urban African-American adolescents. Based on input from focus groups with a representative sample of adolescents, curriculum examples were adapted to represent stressful life events characteristic of the day-to-day experiences of the youth. Further, while many of the parents of the sample of adolescents possibly were currently or previously depressed, their diagnostic status was unknown, as with the Clarke and Lewinsohn (1995) study. Therefore, stress reduction elements of the intervention geared toward preventing genetic and family predispositions for depression were modified to the prevention of stress-related outcomes associated with elevated and chronic environmental stressors, often typical for low-income, urban African American adolescents. For cultural consonance, proper names used throughout Clarke and Lewinsohn’s (1995) original curriculum were replaced with ones more recognizable to urban African American adolescents. Also, multimedia approaches (e.g., music or film clips) were included in parts of the curriculum, to reinforce some of the program concepts in a culturally relevant manner.

**Session Overview**

The A-CWS consists of 15 weekly 45-minute group sessions. It is recommended that groups are comprised of no more than 8-10 students. The general weekly format includes: (a) review of the prior week’s topic and home activity; (b) interactive discussion of the weekly topic; (c) behavioral group activities; and (d) assignment of the home activity.

**Session 1: Getting to know each other.** Group members are introduced to the facilitators and to one another. They engage in an icebreaker activity designed to encourage interaction between group members and to provide the opportunity to learn something about each other. Group members are given a description of the program and the group guidelines are reviewed (e.g., focus on the positive, honor each other’s privacy, respect each other). Students are provided an activity book with in-session and home activities. Students are asked to generate three goals for the group as a home activity, to be discussed at the next session.

**Session 2: Stress: What is it and what can we do about it?** Session 2 aims to improve students’ abilities to identify stress and become aware of its consequences. Sources, examples, and experiences of stress are discussed. Facilitators are provided a list of culturally and contextually consistent causes of stress to supplement the discussion (e.g., neighborhood violence). Students are asked to provide examples of negative outcomes associated with too much stress, and they are introduced to the Mood Diary, which is a seven-point scale designed to help promote awareness and tracking of students’ feelings.

**Session 3: Negative emotions and what cause them.** The definition and causes of negative emotions are discussed. Students are encouraged to share their viewpoints. Co-facilitators present a culturally-relevant vignette to the group about a hypothetical African American student who experiences stressors and negative emotion. As a group activity, students are then asked to identify stressors from the vignette, designed to be relatable to the students’ experiences, label the student’s emotional reaction, and identify whether her reaction seems believable. Strategies are introduced to help students restructure cognitive distortions that can lead to negative emotions (e.g., thought-stopping and increasing positive self-talk). As a home activity, students are asked to identify and document stressful situations that occur over the week, including strategies that helped to relieve that stress.
Session 4: Identifying positive thoughts. Description and identification of positive thoughts, using scenarios, are discussed with students. An ideal ratio of two to one positive to negative thoughts is recommended to the group as an aim. Students engage in a positive thinking exercise, during which students are provided a list of culturally relevant scenarios related to neighborhood violence, playing a sport that they do well, school-based interactions, etc., to help them generate positive thoughts about themselves and/or the situation; they are encouraged to share these with the group. One in-session activity allows students to practice imagining themselves in their favorite place and students are asked to discuss the positive thoughts that they have in response to that activity. Students are asked to then document positive thoughts that they have during the week, as their home activity.

Session 5: Identifying negative thoughts. Students are provided examples of culturally and contextually tailored negative thoughts (e.g., “The world is a dangerous place and there is no way to be safe,” “I’m scared,” “Why do so many bad things happen to me?”) and are engaged in activities to help identify negative thoughts in different scenarios. Additionally, students determine the ratio of positive to negative thoughts. Consequences of negative thoughts are discussed and the thought-stopping technique is practiced in session. For the home activity, students are asked to document their negative thoughts during the week and determine their ratio of positive to negative thoughts.

Session 6: “Two to one” and positive thinking is the winner! The strategy of countering negative thoughts with positive thoughts is presented as a way to control one’s thoughts. The benefits to using positive counter thoughts are discussed. Students are given the chance to identify negative thoughts from culturally relevant illustrations and brainstorm about which positive thoughts might be best to use as counterthoughts. Illustrations include scenarios such as a teenager watching her brother get arrested; another scenario involves the experience of an African American teenager who believes that he is being followed around a store by an employee while he shops. A group activity allows students to apply the positive counterthought technique to a worrisome personal situation. Students are asked to document negative thoughts, followed by positive counterthoughts that occur during the week, for their home activity.

Session 7: Now that you’re an expert in positive thinking. Students complete an in-session activity to practice eliminating their most common negative thoughts. Students also practice replacing negative thoughts with positive counterthoughts. At this near-halfway point, students are encouraged to give feedback about how they are feeling about the program.

Session 8: Sharing the wealth: Helping others with positive thinking. Students engage in an exercise to write down one positive statement about each person in the group. Students read aloud their positive statements about one another, followed by an assessment of their mood in response to giving and receiving positive personal statements.

Session 9: Take a break from stress. Students are taught how to schedule a break from stress, as another strategy to help reduce emotional distress. Healthy activities in which to engage and cues to remember to take a break are discussed. Students practice a relaxation technique in the session and assess how they feel afterward.

Session 10: Recognizing self-defeating thinking: Why would I think that way? Students learn about various forms of self-
defeating thoughts and their consequences. Strategies to challenge negative thinking are discussed. Examples are given to the group to help students identify and challenge self-defeating thoughts.

Session 11: The defeat of self-defeating thoughts. This session serves as a review of the various forms of self-defeating thoughts. A matching activity gives students additional practice identifying different forms of self-defeating thoughts. An illustration is provided to allow the students further practice identifying and challenging self-defeating thoughts, in a student-relevant scenario.

Session 12: The C-A-B Method. The C-A-B (i.e., Consequence-Activating Event-Belief) method is described as an approach to analyze negative feelings. This process helps students understand that the cognitions (beliefs) that occur after certain activating events lead to feelings (consequence). The three components of the C-A-B method are broken down, defined, and discussed to facilitate students’ understanding of the process. The C-A-B method is demonstrated through verbal scenarios and illustrated examples that are culturally grounded.

Session 13: Dealing with activating events. Two types of activating events are discussed (i.e., those that can be changed and those that cannot). Students learn three strategies to cope with activating events (i.e., change negative thoughts about the activating event, be better prepared to cope with activating events, and avoid the activating event). Illustrations and other examples give students the opportunity to strategize about the best way to handle activating events.

Session 14: More C-A-B Practice. This session focuses on relaying how and when to use the C-A-B method in real life situations. Students are given the opportunity, in session, to get feedback from other students about how they handled or could have handled their personal real-life stressful situations. Time is spent discussing students’ reactions to challenges and successes, in applying the C-A-B method to their lives. A student-selected stress-reduction technique is practiced, in session, to help students become accustomed to the strategy, so that they may use it in their everyday lives.

Session 15: First aid for future stress. This last session helps students brainstorm about possible upcoming stressors, large and small, and generate plans for dealing with those stressors. Students are given time to process thoughts and feelings about the group ending. This session has greater flexibility and less structure than previous sessions. Emphasis is placed on continuing to apply what was learned in sessions, outside of the group format. Students and facilitators say their goodbyes. Facilitators comment about student progress and interact with students; students each share something they enjoyed about the group. Each student receives a Certificate of Graduation.

The Present Study

The efficacy of the adapted intervention, the A-CWS, was tested against a standard care control condition, using a randomized controlled design. Standard care for the control participants consisted of one-to-one sessions to help them learn strategies to manage their stress; these sessions were provided by social work staff at the student’s respective on-site school-based health center. The researchers hypothesized that adolescents who participated in the A-CWS would report lower levels of anxiety and show greater improvement in their (a) adaptive coping, (b) positive thinking (c) self-efficacy to cope with depressive cognitions and feelings, and (d) dysfunctional attitudes, relative to those in the standard care control condition, at post assessment.
Methods

Participants
Participants (N = 758) were predominantly female (60%; n = 450) and African American (91%; n = 686) and they were in their 9th, 10th, or 11th grade year, across four public high schools located in a large metropolitan city in the Midwest (see Table 1 for a summary of demographic characteristics). The average rate of participation was 73%. All participants qualified for free or reduced-price lunches, based on their family income. DePaul University Institutional Review Board approved all study procedures. Additionally, written informed consent was obtained from the parent/caregiver and written assent from the student.

<table>
<thead>
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Table 1: Demographics of Sample

Most participants were ninth graders, with participation rates ranging from 79% (i.e., ninth graders) to 61% (i.e., 11th graders); the average rate of participation was 73%. The variation in participation by grade is likely explained by the student dropout rates for the participating schools. The drop-out rates for the schools in which the present study was conducted ranged from 24-31%, well above the average city-wide dropout rate of 16%. At the age of 16, students were no longer legally required to attend school, contributing to substantial increases in dropout rates and poorer school attendance after the age of 16. Thus, participation rates for the older, 11th graders was lower than for the ninth grade participants.

Measures
Demographic status was assessed by a 15-item self-report questionnaire. The questionnaire assessed participants’ age, gender, ethnicity, church attendance, family size and composition, in addition to parental employment and income level.

The State-Trait Anxiety Inventory – Trait Anxiety subscale (STAI-T; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) was used to assess trait anxiety. Items of the 20-item, 4-point Likert scale (1 = Not at all; 4 = All of the time) assess the frequency of feeling calm, tense, upset, etc. The STAI-T has demonstrated good reliability (α = .79; Spielberger et al., 1983).

Seven of the 12 subscales of the Adolescent Coping Orientation for Problem Experiences (A-COPE; Patterson & McCubbin, 1987) were used to assess adolescents’ coping methods in response to feelings of stress (i.e., Ventilating Feelings, Seeking Diversions, Developing Self-Reliance, Developing Social Support, Investing in Close Friends, Engaging in Demanding Activity, and Relaxing). The A-COPE is a 5-point Likert scale (1 = Never; 5 = Most of the time) with alpha reliabilities that range from .60 to .76, with most coefficients above .70 (Patterson & McCubbin, 1987).

The frequency of positive self-statements was assessed by the Positive Automatic Thoughts Questionnaire (ATQ-P; Ingram & Wisnicki, 1988). Higher scores in the 30-item, 5-point Likert-type (1 = Never to 5 = All the time) measure indicate more frequent engagement in positive thinking. The ATQ-P has demonstrated good validity and reliability (α=.95; Burgess & Haaga, 1994).
Perceived self-efficacy to cope with depressive cognitions and feelings was measured by the Depression Coping Self-Efficacy Scale (DCSES; Perraud, 2000), a 24-item 100-point Likert-type scale (0 = Not confident, 100 = Confident). Higher scores reflect greater perceived self-efficacy to cope with depression. The DCSES has demonstrated good validity and reliability (α = .93; Perraud, 2000).

The Dysfunctional Attitudes Scale – Short Form (DAS-SF; Weissman & Beck, 1978) is a 9-item 5-point Likert-type measure (1 = Totally disagree; 5 = Totally agree) that assesses dysfunctional attitudes associated with adolescent depression. Higher scores correspond with greater dysfunctional attitudes. The DAS-SF has demonstrated adequate validity and reliability (α = .74) and is strongly correlated to the 20-item full version of the DAS (r = .93; Andrews, Lewinsohn, Hops, & Roberts, 1993).

**Procedures**

Participants were recruited from four public high schools and were randomized into one of two conditions: (1) the A-CWS prevention intervention condition; or (2) the standard care control condition. Participants were administered a survey that assessed thoughts, feelings, behaviors, and coping skills related to stress at pre- and post-intervention time points.

**Intervention Implementation**

The A-CWS intervention sessions were implemented in groups of eight-to-ten student participants. The sessions occurred during the students’ lunch period in the students’ respective schools. Group facilitators, supervised by a licensed clinical psychologist, consisted of psychology externs with at least one year of experience in group therapy with African American adolescents. Each of the four participating public high schools received a yearly $500 stipend to assist with costs pertaining to participation. Intervention fidelity was assessed by senior research staff. A random selection of 30% of intervention sessions were rated on adherence to the A-CWS Leader’s Manual, based on fidelity rating scales developed by Clarke and Lewinsohn (1995).

**Results**

To ensure that the group sessions were conducted according to the Leader’s Manual, 30% of total sessions were randomly selected and observed by senior research staff; fidelity to protocol was 90%. Analyses were conducted using only the responses of the African American participants (n = 686). Analyses employed individual growth models, with initial status as a covariate; post measures of the outcomes were nested within individuals. Person-level covariates included treatment condition, gender, and initial status of the outcome measure; wave was the only measurement-level covariate. The treatment effect of primary interest for these analyses was pre-post change on outcomes of interest for the intervention versus control conditions. Results indicated several significant intervention effects, indicating adequate treatment adherence. Controlling for baseline level of anxiety, the intervention group showed lower anxiety at posttest than the control group, t(179) = -2.48, p < .05. Controlling for baseline levels, individuals in the intervention condition also evidenced improvements at posttest, relative to the control group, on the following mediators of depression: (a) adaptive coping, t(176) = 2.04, p < .05; (b) positive thinking, t(182) = 3.43, p < .001; (c) self-efficacy to cope with depressive cognitions and feelings, t(179) = 2.44, p < .05; and (d) dysfunctional attitudes (e.g., “If I fail partly, it is as bad as being a complete failure.”), t(183) = -1.77, p < .08. The significant intervention effects on established mediators of depression suggest that the intervention also may have indirect
effects on depressive symptoms; there were significant correlations of symptoms of depression with (a) adaptive coping ($r = -.43, p < .001$), (b) positive thinking ($r = -.49, p < .001$), (c) self-efficacy to cope with depressive cognitions and feelings ($r = -.19, p < .01$), and (d) dysfunctional attitudes ($r = -.18, p < .01$).

**Discussion**

Adolescents, because of ongoing developmental challenges and underdeveloped coping strategies, are especially vulnerable to the negative outcomes associated with stress (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). African American adolescents who live in resource-poor neighborhoods, in particular, are challenged by multiple demands and, as such, cultural and contextual relevancy should be considered and integrated, when developing preventive interventions for these youth (Robinson et al., in press). The present study provides preliminary support for the efficacy of a culturally adapted stress-reduction intervention, to improve emotional state and coping skills, within a sample of urban and low-resourced African American adolescents. The findings of this study indicate that elevated anxiety is preventable among low-resourced, urban African American adolescents. This is an important finding given that these adolescents confront many socio-ecological stressors, including discrimination, that place them at high risk for developing anxiety and anxiety-related problems (Cooley-Quille, Boyd, Frantz, & Walsh, 2001). Anxiety, a serious emotional problem independently, also is associated with impaired cognitive (e.g., difficulty concentrating, intrusive thoughts) and behavioral (e.g., impulsivity and aggression) functioning (Cooley-Quille et al., 2001; Kashani, et. al., 1991; Šalihović, Kerr, & Stattin, 2014).

Research supports that African American adolescents prefer using culturally-relevant coping strategies to manage their high levels of contextual stress and, thereby, attenuate internalizing symptoms, (Gaylord-Harden & Cunningham, 2009). Furthermore, research indicates that school-based interventions may be especially beneficial for African American adolescents (Gaylord-Harden, Cunningham, & Zelencik, 2011). School-based interventions are an effective and far-reaching tool to assist youth in refining their coping skills to manage stress; additionally, school-based interventions have been found to promote intervention attendance and reduce stigma associated with intervention involvement (Stallard, Simpson, Anderson, Hibbert, & Osborn, 2007). Further, culturally-adapted, school-based interventions, modified to be relevant and sensitive to specific ethnic/cultural groups, have been found to be more beneficial to ethnic minority groups than non-culturally adapted interventions (Bernal, Jimenez-Chafey, & Rodriguez, 2009; Griner & Smith, 2006). The A-CWS is a culturally-adapted stress-reduction intervention that can be implemented within school settings and preliminary findings support that this preventive intervention provides African American adolescents with the necessary coping skills and competencies to manage stress and reduce anxiety.

Once an intervention has demonstrated efficacy, its effectiveness and ability to be sustainable become the next evaluative stages. The sustainability of the A-CWS in community- or school-based settings, as administered by community members or school staff, should be assessed in future studies. Future studies also should evaluate the effectiveness of the A-CWS for reducing additional negative outcomes associated with stress, such as aggression and depression. Additionally, larger sample sizes in future studies evaluating the A-CWS would allow for more complex statistical modeling and
examination of potential moderating/mediating variables that impact outcomes. One key question is whether or not the A-CWS or other preventive interventions can actually attenuate the link between anxiety and aggression; to the best of the authors’ knowledge, no studies of such intervention effects have been conducted. Such studies would be most informative to developing programs with far reaching potential for high risk African American adolescents. Although many questions remain, the current study is an important first step in discovering innovative and far reaching approaches to anxiety prevention and related problems for high risk and underserved African American adolescents.

**References**


