

Stressful Life Events and Behavior Change: A Qualitative Examination of African American Women's Participation in a Weight Loss Program

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We qualitatively assessed how life stressors affected African American women's participation in a weight reduction program. A sample of 9 women, who completed a behavioral lifestyle intervention, participated in individual, structured, in-depth interviews. Life stressors, ranging from personal illness to changes in employment status, had varied effects on participation. Some women coped with life stressors by using them as a motivational tool to improve their own health, while others reported limited ability to devote time to attend meetings or engage in the prescribed lifestyle changes due to life stressors. A critical key to improving weight loss outcomes for African American women may be using intervention strategies that teach positive coping skills to alter maladaptive responses to life stressors. Key Words: African American Women, Life Stressor, Weight Loss, Coping, and Qualitative Research

Stressful events occur in routine life and demand a certain amount of attention, time, and effort. How one copes with stressful events may vary based on a variety of factors including age, gender, socioeconomic status, and race (Tanyi & Werner, 2007). Coping skills may also vary based on the perceived severity of the stress, the resources available to deal with the stressful event, and the perceived relative importance of other commitments (Ark, Hull, Husaini, & Craun, 2006; Cuellar, 2002; Culver, Arena, Antoni, & Carver, 2002; Haley et al., 1996). During a stressful event, coping skills to manage perceived demands may dictate to some degree how an individual prioritizes other commitments.

The apparent impact of stress on weight-related behaviors, such as dietary intake and physical activity habits can be magnified in the context of trying to change these behaviors. Changing weight-related behaviors in an attempt to lose weight or improve health requires considerable effort to alter established habits. This effort can be affected by stressful events, either by affecting mental focus devoted to behavior change or by serving as a stimulus for resuming old habits (e.g., eating when stressed). During stressful life events, maladaptive coping skills may result in behaviors that lead to decreased well-being. For example, Freeman and Gil (2004) found a significant relationship between both depressed affect and psychological stress and increased incidence of same-day binge eating behaviors among a population of females who had a history of binge eating behaviors. Henderson and Huon (2002) found a comparable relationship among a sample of overweight women. Similarly, women report that stress affects their eating patterns by causing erratic eating schedules or practices that lead to mindless eating such as multitasking while eating (Devine et al., 2006). Stress has also

been linked to lower physical activity levels. Perceived barriers such as a lack of time and a lack of social support have been shown to have a direct effect on exercise by preventing adoption of new exercise behavior or decreasing existing behavior patterns (Ainsworth, Wilcox, Thompson, Richter, & Henderson, 2003; Nies, Vollman, & Cook, 1999).

African American women have been shown to have unique responses to stressors and a unique complement of coping strategies (Cuellar, 2002; Haley et al., 1996). The unique coping strategies may be a result of a variety of social circumstances (e.g., single mother head of household, caring for multiple generations, discrimination) that promote change and variability in daily routines, thereby dictating the need to be adaptable. Given that African American women have the highest prevalence of overweight and obesity among any major ethnic/gender subgroup in the U.S., one might propose that overeating is a coping strategy employed by African American women to deal with daily stressors. Though there are certainly other documented explanations that attempt to address the obesity disparity seen in African American women, this abnormal coping strategy of emotional and stress-related eating may also account for some degree of this disparity.

The stress resulting from social circumstances faced by many African American women is often compounded by occupational stress. The total number of work hours has increased in recent years among single parents, racial minorities, and low-income positions, all of which characterize African American women to some extent (Jacobs & Gerson, 2001). According to annual averages of employment status reported by the U.S. Department of Labor (2004), a larger proportion of African American women aged 16 and older are employed compared with White, Asian, or Hispanic women. This increase in workload and work-related stress can often spill over to family roles and increase the stress already associated with fulfilling familial responsibilities (Devine et al., 2006).

Our research team has delivered weight reduction interventions to diverse populations in several settings including clinics, classrooms and worksites. Given the researchers' past experiences of delivering weight loss interventions in various populations, we recognized a unique set of challenges in achieving weight reduction in African American women. While delivering a behavioral lifestyle intervention in a worksite to predominantly African American women, our research team observed a number of life stressors among participants that seemed greater than expected, prompting further examination of how these stressors may have affected participation in the program. For African American women who have decided to change unhealthy lifestyle habits such as diet and exercise patterns, successful change of these behaviors often includes learning to manage stressful situations in new ways. Taking into account both the social and occupational stressors facing this population, this study qualitatively examines how African American women participating in a worksite-based weight management program handled stressful events and if the stressful events hindered their efforts to change their lifestyle behaviors.

Methods

Study Design and Recruitment

The researchers utilized a structured interview design to gather qualitative data from a subset of participants (n=9) who participated in a larger study (n=39) to promote weight loss in African American women at a local worksite (Ard et al., 2010). During the larger worksite weight loss study, the number of life stressors reported by participants seemed greater than the number the researchers expected in this time frame and sample size. Thus, the researchers identified a subset of participants from the larger study to probe for further details regarding how life stressors may have affected their participation in the lifestyle modification program.

The researchers invited participants via mail and telephone to participate in a 30-minute follow-up interview examining how life stressors may have impacted their participation in the *EatRight for Life* program. Briefly, the *EatRight for Life* program was a 24-week behavioral lifestyle modification intervention designed to promote weight loss in a group of predominantly African American women. The intervention was delivered in a group setting and led by a registered dietitian. Intervention sessions were typically 60-90 minutes in duration and covered the material from the culturally-modified *EatRight* intervention materials.

Life stressor was defined as an event (generally unexpected) that causes unbalance or a challenge in a person's life adjustment (Cronkite & Moos, 1984). The researchers informed participants that they would be interviewed in person by personnel from the main study at the location of the participant's choosing. All participants provided informed consent and this study was reviewed and approved by the University of Alabama at Birmingham Institutional Review Board to ensure the protection of human subjects.

Participants

Potential participants were selected by the researchers based on whether they were above or below the median for selected variables in the main study. These variables were age, job category, and systolic blood pressure (SBP). These variables were selected because preliminary analyses indicated a difference in weight change (primary intervention outcome) when stratified by above/below the median of these variables.

Once stratified, individuals were selected in a systematic manner used to obtain a heterogeneous sample based on the aforementioned variables that may have had a relationship with the primary intervention outcome as well as life stressors. Of the 14 individuals selected to participate, nine completed the interview (64% completion rate). The remaining five declined: three reported lack of time and two reported that they had no life stressors to discuss.

Interview Process

Those who agreed to participate were interviewed by research personnel in a confidential environment of their choosing. The research personnel, who also helped to

develop and deliver the original intervention, included three graduate-level trained public health scientists specializing in obesity, physical activity, nutrition, and weight-related behaviors. The research personnel have conducted numerous weight loss interventions in various populations. Through these experiences, the researchers observed that African American women were consistently less successful achieving weight reduction. Thus, the researchers began to conjecture whether life stressors unique to African American women may contribute to the efficacy of weight loss programs in which they participate.

To examine this hypothesis, research personnel interviewed participants following a semi-structured script intended to provide guidance for the interview and remained neutral (i.e., avoided biasing comments). For example, each interviewer used the same open-ended questions and refrained from providing positive or negative feedback to participants during the interview process. The interviewer asked questions in the following topic areas: number and type of life stressors, motivation, affect on participation, response to stressors, perspective of success with program, and barriers/facilitators of success. These topics were selected upon post-study debriefing of the research staff, including the principal investigator, registered dietitian, and aforementioned research personnel. These topics emerged as the areas where the researchers still had many questions regarding the overwhelming number of life stressors in the study sample and their true effects on participation and outcomes.

The interviewer encouraged participants to give honest, accurate answers. The interviewer manually wrote notes based on the participant's response and recorded the interview using a digital voice recorder. The interviews were later downloaded and used as a reference in data review and analysis.

Qualitative Approach

Qualitative research is characterized by identifying a wide range of understandings, meanings, and values among individuals and their everyday experiences. It allows the researcher to discover how meanings are formulated through culture and promotes interplay between the researcher and the data while remaining aware of subjectivity that influences interpretations (Corbin & Strauss, 2008). This systematic process included several techniques, including purposeful sampling, theoretical saturation, and establishing credibility.

Based upon purposeful sampling (i.e., intentionally selected participants), the researchers collected and analyzed data on the initial nine participants. Interview data were compiled and reviewed by the research team. The research team discussed the responses and identified thematic similarities and differences. Specifically, the research team individually listed the responses of each participant to each question. If there was a common underlying message across several respondents, it was identified as a theme. Generally, underlying messages from respondents were very clear. Thus, the research team rarely faced any challenges reaching a consensus. Occasionally, additional dialogue or examples were expressed to illustrate an opinion of a team member. This additional discussion may have led to agreement of all team members to proceed with the proposed theme or to develop an additional theme which may have been more appropriate. In the rare case that a unanimous agreement was not reached after additional dialogue, the theme(s) selected by the majority was included. Some themes included "motivational

tools”, “barriers”, “time management challenges”, and “financial challenges.” Analysis of the data showed that no new themes emerged after conducting nine interviews, which suggested saturation.

A specific example of the development of a theme is described. First, a member of the research team would state the question to ensure that the entire team was reviewing the same item. For example, “How did your life stressor(s) affect your motivation to continue in the program?” Then, each interviewer would list responses provided by the respondents until all nine responses were recorded. Below, a sample of actual responses is provided.

From participant who identified several life stressors:

Some days didn’t want to come [to class], wanted to stay home...
When I got to class, I was kinda glad I came

From participant who experienced the death of a loved one:

My loved one that passed shared some of my same medical problems. I knew then that I had to eat right. Her not paying attention to diabetes and blood pressure medicine encouraged me to eat right. My stressors did motivate me more than ever to give it a chance.

From participant who experienced professional challenges:

Encouraged me to keep going, motivated me, or else the depression would have made me stop watching what I eat, because I knew that had to do with acid reflux [program] motivated me, gave me something positive to look forward to

From participant identifying several life stressors:

My stressors actually gave me extra motivation to take advantage of this program. Without *EatRight*, the stressors would have worked in the opposite direction, but being in the program helped me deal with other things going on in my life. I wanted to exercise it off and walk it off. That was my time to relax. Me time!

After listing all responses, the research team agreed that several participants reported that the stressor motivated them to participate in the program. Thus, “motivational tool” was identified as a theme. Though we may have expected a stressor to decrease an individual’s motivation to participate in the program in order to deal with other stressors, we discovered that our participants used the stressor as a tool to motivate continued participation.

In qualitative research, the data transformation process may be considered trustworthy or credible by taking steps to validate data. Credibility is the qualitative version of internal validity; it measures how likely the study has accurately produced

plausible findings from the data. The validation process for the current study included verification through peer debriefing (i.e., the interviewers presented findings to the research team to explore meanings and interpretations). They met to discuss findings, clarify interpretations, and reach a consensus. In addition, the interviewers met several times during data collection to confer with each other (e.g., discuss feedback from the participants, clarify meanings, and resolve any protocol issues). This was done to help control prospective bias that may have been associated with the interviewers themselves.

Measures

Anthropometric measures were obtained from data collected during the main study. While participating in the main study, participants completed a clinic visit at three time points to measure waist circumference (cm) 1 cm above the umbilicus using a Gullick II (spring tension) tape measure; height (cm) using a wall-mounted stadiometer; and weight (lbs) in light clothing without shoes, using a Tanita digital scale (Model #BWB500A). Blood pressure was measured on the right arm using an Omron automated sphygmomanometer following an initial 5 minute rest period. Each measure was obtained twice and averaged to determine the study value. Using the height and weight measurement, BMI was calculated as kg/m^2 .

Results

One condition of using the worksite agency for this study was allowing any interested employees to participate. These flexible criteria produced a wide variety of sociodemographic characteristics among participants. Overall, the nine participants were middle-aged African American women with at least high school educations and middle-class incomes (see Table 1). Most rated their health as good or fair, several were taking medications for chronic diseases (e.g., hypertension, diabetes, hyperlipidemia), and three of the nine participants lost at least 5% of their starting body weight during participation in the program; the remaining six maintained their weight during the intervention.

Participants were employed with the agency for an average of 11 years (range from 3.5 to 29 years). Their current positions included clerical support, nutritional and school staff, and other service specialists.

Life Stressors

Participants reported a number of life stressors, including personal illness and injuries (e.g., car accident with back injury, breast cancer diagnosis, depression), death of a loved one, loneliness, legal issues, caregiver responsibilities (e.g., childcare, disabled spouse), school challenges (e.g., physician advised participant to take a break from school to deal with stressful circumstances), and transportation challenges. In addition, several participants reported a number of situations involving unexpected changes that had the potential to create stress. Examples of such situations included a change in finances for two women, a change in health of a family member (e.g., spouse, mother) for two women, and changes in job responsibilities for two women (e.g., additional job responsibilities, demotion to a previous position).

Table 1. *Baseline Sociodemographic Characteristics of Study Sample*

Characteristic	Baseline N= 9
Age (years)	53.6 ± 7.9
Household income (%)	
< \$30k	33.3
\$30-\$39k	22.2
\$40-\$49k	33.3
\$60-\$69k	11.1
Highest grade completed (%)	
High school	77.8
College	11.1
Graduate	11.1
Self-reported health status (%)	
Excellent	11.1
Very Good	22.2
Good	33.3
Fair	33.3

Motivation

Six out of nine participants used the stressors as motivation to make positive changes themselves. One participant reported that her personal illness prompted her to want to continue in the program to improve her health. Another participant reported that her stressors gave her extra motivation to take advantage of the program since it helped her deal with other things going on in her life. She continued by explaining that her exercise time was her time to relax. This participant responded with the following:

My stressors actually gave me extra motivation to take advantage of this program. Without *EatRight*, the stressors would have worked in the opposite direction, but being in the program helped me deal with other things going on in my life. I wanted to exercise it off and walk it off. That was my time to relax. Me time!

They acknowledged that the health of others influenced how they viewed their own health. For example, a participant reported that some days she felt like staying home, but was glad when she made it to class because of the encouragement she received from others in the group. Encouragement and social support provided motivation to continue with the program despite ongoing sources of stress in daily life.

Ability to Continue

Overall, the stressors did not pose physical limitations for most participants to take part in the program. However, one participant did report feeling too weak to attend classes due to her personal illness.

One participant reported that working two jobs deterred her from preparing her meals due to time constraints. Another participant reported that she needed to miss class due to childcare issues (i.e., babysitter unavailable):

I went to a couple of classes at the Y, I wanted to go to more, but then [stressors] limited my ability to get there...something would come up or someone couldn't keep my daughter so I couldn't go – my mom couldn't keep her sometimes and her dad works.

Negative Effects of Stressors

Many of the life stressors generated financial pressure. For example, death of a loved one brought along funeral costs, and the change in health of a family member caused increased medical bills, which took away money for household finances (i.e., grocery money). One woman reported feeling “stressed out” when she experienced a job demotion:

I had a supervisor that did not feel I fit the responsibilities of the job, I disagreed, but her mind was already made up, it stressed me out because I was working at six in the morning 'til six in the evening or later, she didn't think I was qualified enough to do [my job].

Another negative effect of stress was disturbed sleep patterns. One participant reported that she could not sleep well for several days because of her stressor. A participant that reported loneliness as her stressor justified eating high carbohydrate foods to deal with her stressor.

When I am stressed food is a comfort to me.... When I am stressed, food is there. When there is no one to talk to... Majority of the time, I am getting food to deal with what I am going through.

Alternatively, another woman reported a different outcome: she stopped eating at work to deal with her stressor. A different woman reported eating more food at her desk and having a cocktail when she got home to help relieve her stress.

Dealing with Stressors

Many participants reported implementing healthier responses to stressors during the program, such as walking and choosing healthier snacks. For example, one participant reported that she would previously either sleep or eat when she was stressed,

but now she has a better attitude and reported going to the gym at least three days a week for 30 minutes or more for cardiovascular training (e.g., elliptical machine, treadmill).

How Successful

Regardless of how much weight they lost, all participants reported that they were successful during the program. One participant reported that “the program was a positive influence in my life.” Another participant remarked, “Everything is positive, and I am saving my life.”

Many explained that they felt successful by changing a few areas, such as improved nutrition knowledge, increased physical activity, keeping food journals, and making small changes (e.g., eating more fruits and vegetables, taking the stairs instead of the elevator). For example, one participant reported that she became more conscious of her carbohydrate intake and explained how other programs she tried in the past only provided limited information on how to handle this problem area.

Other participants reported weight loss and better overall health, including decreased blood pressure, better control of blood sugar, and discussed decreasing their medication dosage with their physician. One participant pointed out that after losing weight she was able to reduce her medication and save money by spending less on drug co-payments. There were even suggestions that quality of life improved significantly, leading to new opportunities. One participant close to retirement age stated “I did not retire this year because I have so much extra energy.”

Discussion

Throughout the interviews, participants reported that during their participation in the behavioral weight reduction program they used a variety of coping skills to deal with stressors. These coping mechanisms had both positive and negative effects on program participation. For instance, some women reported engaging in an increased amount of physical activity (e.g., taking a walking break) to cope with stress while others reported that stressors contributed to unhealthy, emotional eating (e.g., eating a box of cookies to deal with having a bad day). Social support from group members encouraged women to remain in the program. In addition, program participation was positively affected among women who used life stressors as a motivational tool to improve their own health through ways such as increased exercise and physical activity. Although most stressors did not pose physical limitations on participation, they did negatively influence the ability of members to devote time to attend meetings. Time constraints due to increased workloads or childcare issues impacted the amount of time participants could devote to attending the program.

Results from this study suggest that African American women participating in a worksite behavioral weight reduction program may acquire helpful tools and learn valuable skills to deal with life stressors. During the course of the program, participants were taught specific skills for dealing with stress that may have improved their ability to manage stressful events and continue focusing on the goals associated with the program. Inclusion of skills and tools for stress management was a direct result of the formative assessment work done prior to implementation of the intervention (Zunker et al., 2008).

The skills for stress management ranged from relaxation techniques to cognitive behavioral therapy to help participants identify typical responses to stress (e.g., stress eating) and steps to break the response to typically stressful stimuli. Many women expressed how the program helped them increase knowledge about nutrition, which in turn gave them the ability to make better food choices when faced with stressors. As a result of the focus on these skills, knowledge, and tools for stress management, many participants may have identified this program as a resource for helping them deal with stressful life events rather than a distraction from unexpected problems or life stressors.

While life stressors may not have directly deterred participation in the *EatRight for Life* program for some individuals, they were not conducive to the overall success (i.e., achievement of personal goals) of the individuals. Participants acquired skills during the program, but actual implementation of these skills was a challenge for a number of reasons, including personal and environmental factors. Resource constraints caused by childcare issues, increased workloads, and other unexpected events or commitments (e.g., caring for sick family member, unplanned change in household income) affected how much time, effort, or attention participants could devote to engaging in the program during the work day and on their own. To cope with these constraints, resources such as time or money may have been diverted from other healthful activities to deal with these issues. In these instances, the impact of the immediate environment may have a significant influence on the ability of an individual to adopt and maintain healthful behavior changes.

There were also cases where life events did distract from participation in the program. As researchers, it is important to provide information to deal with life stressors even when continued participation is not feasible. Unexpected changes in routine schedule can greatly limit a person's time to devote to a program. Issues such as family illness or death of a close relative can impact the time a participant is available to attend classes and fully participate in a program. This may be especially true for individuals with limited resources for coping with unplanned changes in their schedules. Work-to-family spillover has been associated with lower status jobs and lack of control over work environments and schedules (Devine et al., 2006). This spillover has also been associated with poor food choices, lack of meal planning and lower fruit and vegetable consumption. Working with individuals to develop adaptive coping skills rather than maladaptive practices including emotional eating can aid in continued progress even when they are unable to attend the program regularly.

In addition to personal challenges, there were also environmental factors that were observed to impede adoption of new behavior. Institutional and environmental factors, such as non-flexible work schedules, restrictive dress codes, and inconsistent support from all levels of management may work to discourage adherence to positive behavior changes, particularly within the workplace setting. Developing and enforcing workplace policy changes can contribute to overall health improvements and lifestyle changes. For example, employees took an average of 8% more steps on casual clothing day compared to when they wore regular business attire (Anders, 2006). Additionally, researchers can work with worksites to help promote healthy behaviors, such as offering healthy food options at office gatherings and encouraging walking breaks among employees throughout the workday. Changing the work environment to enable employees to make

healthier food choices may relieve stress associated with feelings of having no control over food choices.

Although in-depth interviews can provide valuable insight in to the success of a program that incorporates coping mechanisms in standard behavioral therapy, the study has several limitations. For example, those who were interviewed may be more likely to view their participation in the program as a success opposed to who those who declined. As a result, information of factors that prevented them from dealing with life stressors and its effect on weight reduction cannot be captured.

Because of the multiple roles African American women undertake in their professional and personal lives, life stressors may have a positive or negative influence on how an individual prioritizes other commitments. Additional research is needed to address the reciprocal relationship that may exist between life stressors and implementation of a standard behavior therapy. In some cases, life stressors may positively and/or negatively influence an individuals' commitment to a behavioral intervention. In other cases, the behavioral intervention may actually help an individual to cope with the life stressor. Based on this premise, researchers must work to develop programs that incorporate ways to deal with life stressors into standard behavioral therapy so that an optimal synergistic relationship between life stressors and behavior therapy may be achieved, thus providing the individual with the best opportunity to be successful in implementing the desired behavior change and successfully coping with life stressors.

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