

## **Development and Initial Validation of the Africultural Coping Systems Inventory**

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*This article describes the development and validation of the Africultural Coping Systems Inventory (ACSI). The ACSI is a 30-item measure of the culture-specific coping strategies used by African Americans in stressful situations and is grounded in an African-centered conceptual framework. Findings from a principal components factor analysis conducted with a sample of African American adults (N = 180) supported a four-factor model as best representing the culture-specific coping behaviors of the group. A content review of the factors suggested the following dimensions of coping behaviors: cognitive/emotional debriefing, spiritual-centered coping, collective coping, and ritual-centered coping. Using a separate sample of African Americans (N = 220), the ACSI was subjected to a confirmatory factor analytic procedure to establish whether the four-dimension model of coping adequately fit the data. This procedure indicated that the four-factor oblique model was the best fit. The ACSI also demonstrated adequate internal consistency and concurrent validity. The authors discuss limitations of the study and implications for future research.*

A content review of several empirically derived paper-and-pencil measures of coping (i.e., Ways of Coping Questionnaire [Folkman & Lazarus, 1988], Coping Strategy Indicator [Amirkhan, 1990], COPE [Carver, Scheier, &

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Weintraub, 1989], and the Coping Strategy Inventory [Tobin, Holroyd, Reynolds, & Wigal, 1989]) revealed a conspicuous absence of the coping behaviors unique to African Americans (e.g., collective coping, spiritual-centered coping, ritual-centered coping). Given that African Americans suffer disproportionately from stress-related diseases (e.g., hypertension, cardiovascular disease, stroke, cancer) (Outlaw, 1993; Semmes, 1996) and that effective coping is a buffer against the deleterious effects of stress (Lazarus & Folkman, 1984), it stands to reason that researchers would have an ethical responsibility to devote more attention to delineating the relationship between stress and coping in this population (i.e., African Americans). Specifically, there is a need to develop valid and reliable measures that capture the culture-specific coping strategies employed by African Americans during everyday stressful situations.

Existing measures of coping are, for the most part, grounded in an ethnocentric European worldview and conceptual framework. According to this framework, coping is viewed as either problem focused or emotion focused. With problem-focused coping, an individual's energies are directed toward managing and/or regulating the stressful situation (e.g., planning, problem solving, direct action) (Folkman & Lazarus, 1988; Tobin et al., 1989). Emotion-focused coping involves the regulation of one's emotional response to a given stressor (e.g., venting, restraint, psychological disengagement) (Folkman & Lazarus, 1988). Although African Americans may display these types of coping responses in some situations, the full repertoire of culturally specific coping behaviors characteristic of this population is not adequately represented by the conventional (i.e., Western or Eurocentric) paradigm. Because the current ethnocentric conceptualizations of stress and coping do not consider the unique life situations, experiences, and history of African Americans, the instruments used to assess coping behavior fail to capture the culture-specific coping strategies characteristic in this population.

Prior research has established the influence of culture on the coping behavior of African Americans with regard to defining stressors, promoting specific coping strategies, and providing the context within which coping occurs (Daly, Jennings, Beckett, & Leashore, 1995; Parks, 1998; Plummer & Slane, 1996). For example, Daly et al. (1995) found that African Americans, when confronted with stressful situations, relied on group-derived ego strengths (e.g., family, community, social support networks) and often employed metaphysical approaches to coping based on religious and/or spiritual belief systems (e.g., prayer, meditation). Majors and Billson (1992), in their classic work *Cool Pose*, established the existence of culture-specific

patterns of coping in African American male adolescents. Other coping behaviors thought to be rooted in African American culture include forming affiliations with other African Americans, seeking guidance in times of stress, prayer, and the use of rituals.

Although African Americans exist in different environmental, geophysical, economic, and sociopolitical conditions than their African progenitors, many of the spiritual beliefs and practices originating in West and Central Africa have been preserved (Ani, 1990; Hollaway, 1990; Sutherland, 1993). In fact, several authors have noted the presence of an African worldview in the value/belief systems of contemporary African Americans (Akbar, 1996; Ani, 1990; Nobles, 1990). For example, the emphasis on spirituality, the connection with the elements of nature (Kambon, 1992), for African Americans is evidence that an African worldview not only survived the *Maafa* (Kiswahili for The Great Disaster) but endured 300 years of chattel slavery as well. To this end, G. G. Jackson (1982) posits that any serious efforts aimed at the study of African American behavior require an integration of the African worldview from its West African genesis. The importance of understanding the African worldview with regard to the coping behaviors of African Americans is further underscored by the premise that coping occurs in a cultural context.

An African-centered approach to the world is reflective of the values, attitudes, and customs originating out of an African philosophical framework and is necessary for understanding the behavior of people of African descent (Asante, 1998; Azibo, 1992; Nobles, 1990). An African-centered philosophy holds that everything in the universe is functionally connected, and individuals are viewed as an extension of the environment. In this regard, the collective consciousness emphasizes cooperation and group orientation; the group serves as a natural support system (A. P. Jackson & Sears, 1992; Post & Weddington, 1997). The notion of all things being connected is known as consubstantiation (Nobles, 1986) and is the axis of the African worldview. Consubstantiation connotes a holistic worldview in which all events, as Semmes (1996) states, "have purpose and meaning."

Also within the framework of the African worldview and under the umbrella of consubstantiation is the process of maintaining concert with the elements of nature. In the African worldview, man is a force within a universal order that has the potential to harmonize with nature (Jahn, 1961). Harmony requires the balancing of relationships between complementary opposites in accord with environmental rhythms (Nobles, 1986). Therefore, in the realm of coping behaviors, effective coping requires the ability to harmonize

with life's events, which are spiritual manifestations that occur in a physical/material form. In this philosophical framework (i.e., African centered), coping is viewed as an effort to maintain a sense of harmony and balance within the physical, metaphysical, collective/communal, and the spiritual/psychological realms of existence. When this balance is upset, stress and disease are the result.

In the context of this study, African American coping behavior is viewed as culturally manifest in the conceptual framework of a worldview that is inherently spirit based; a reality characteristic of people of African descent. Similarly, it should be noted that collective or group-centered approaches to establishing and maintaining harmony during stressful encounters with the environment underscore an African ontological framework that posits "I am because we are and since we are, therefore I am" (Mbiti, 1963, p. 106). The notion of harmony is central to the African worldview and provides the framework for understanding the coping behaviors of African Americans. Moreover, the use of rituals in managing stress is a reflection of an emic nuance of African American coping behavior. Rituals are considered to be a direct expression of the African worldview (Ani, 1990). It is through the use of rituals that "trauma is avoided, crises [are] dealt with and overcome and difficult transitions [are] perceived as passages between stages of normal growth and development" (Ani, 1990, p. 213).

In this study, the goal was to develop and validate a measure of the culture-specific coping behaviors employed by African Americans during everyday stressful situations. Because any legitimate effort to empirically examine the behaviors of African Americans must be pursued within a conceptual framework that is congruent with the reality of this population (Azibo, 1992; Nobles, 1986), the instrument being developed in this study was conceptualized according to an African-centered philosophical framework. As previously outlined, this framework recognizes spirituality, harmony, balance, a collective group orientation, and the emphasis on rituals as comprising the core personality structure of people of African descent. Furthermore, in the process of developing a measure of the culture-specific coping behaviors of African Americans, we were guided by the theory state-derived steady-state approach to Africentric research proposed by Azibo (1996). According to this paradigm, the researcher is guided by the following three factors: (a) Black personality or Africanity approach to the African personality, (b) instruments developed from an African worldview and geared toward assessing levels of Africanity, and (c) the collection of data and testing of hypotheses that are culturally relevant.

## GENERAL METHOD

### ITEM DEVELOPMENT

The items included on the Africultural Coping Systems Inventory (ACSI) were derived from informal interviews with African American adults from a variety of backgrounds (i.e., socioeconomic, gender, educational), a review of related literature, and from personal observations made by the primary researcher. Given that a major rationale for the development of the current measure was the absence of spiritually grounded and culturally relevant coping behaviors in existing instruments, particular attention was given to these domains when constructing items for the ACSI. Based on this procedure, a total of 74 items were generated for the initial ACSI prototype.

### CONTENT VALIDITY

To aid in the evaluation of the ACSI's content validity, the primary researcher facilitated a focus group composed of 7 African American and Afro-Caribbean adults. The focus group members completed the 74-item ACSI prototype, and a discussion of the instrument ensued. The discussion included the ACSI's structure, clarity of items, domain appropriateness of items, and the measure's comprehensiveness. Moreover, the focus group allowed the researchers to evaluate the instrument's efficiency, clarity of instructions, and readability.

Based on the focus group discussion and specific recommendations from the participants, several changes were made to the ACSI prototype. First, several items that members of the focus group found to be ambiguous were rewritten. Second, some of the items on the original ACSI prototype, although rooted in African cultural/value systems, were found to be unfamiliar to many of the focus group participants (e.g., performed libations). These items were eliminated from the instrument. Finally, several items were added to the ACSI based on feedback from focus group members. These procedures resulted in a prototype composed of a 57-item self-report measure of the unique, spiritually based, and culturally relevant coping behaviors employed by African Americans during stressful encounters with the environment.

Following the focus group, four individuals (who were not part of the focus group) with research backgrounds in the domain of African/Black psychology examined the ACSI items for clarity and domain appropriateness. These expert judges independently rated each item of the ACSI for clarity

using a 4-point Likert-type scale (1 = *confusing*, 2 = *ambiguous*, 3 = *fairly clear*, and 4 = *very clear*). For domain appropriateness, each item of the ACSI was rated yes or no. Those items receiving a mean rating of less than 3.0 on item clarity were rewritten or eliminated. Likewise, items rated as not being domain appropriate were rewritten. The net result of this procedure was an ACSI prototype consisting of 57 items.

### PILOT STUDY

Following the item development and content validity studies of the ACSI, a pilot study was conducted with 72 African Americans from a small community college and a private Catholic university, both in the Northeastern United States. The sample consisted of 52 women and 20 men with ages ranging from 17 to 66 years, with a mean age of 28.51 ( $SD = 10.31$ ). One purpose of the pilot study was to evaluate the logistics of the ACSI's administration, such as the time it takes to complete, the readability and clarity of the items, and the clarity of the ACSI's instructions. In addition, the pilot study would facilitate conducting an item analysis of the ACSI. By examining item means, standard deviations, item total correlations, and Cronbach's alphas, the most robust items can be retained for inclusion in the ACSI (Dawis, 1987).

The pilot study's findings resulted in the elimination of 15 items from the ACSI. Items were eliminated if they had low item total correlations, little discriminatory ability as indicated by extremely high or low mean scores, and lack of response variation (i.e., small standard deviation). The ACSI had a corrected item total correlation coefficient range from .00 to .54, and the Cronbach's alpha for the total scale was .90. It should be noted that participants reported no difficulty in completing the instrument, understanding the instructions, or interpreting the meaning of the items. Moreover, the ACSI required approximately 20 minutes to complete.

The resulting version of the ACSI prototype is a 42-item self-report paper-and-pencil measure of the culture-specific coping behaviors employed by African Americans during stressful encounters with the environment. To complete the ACSI, individuals were asked to briefly describe a stressful situation that they experienced within the past week or so. Then, on a 4-point Likert-type scale (0 = *does not apply or did not use*, 1 = *used a little*, 2 = *used a lot*, and 3 = *used a great deal*), they were instructed to indicate the extent to which they employed each of the coping behaviors listed on the ACSI. The ACSI is intended for use with adults who are of African descent and are able to read minimally at a seventh-grade level.

## STUDY 1

This study was intended to establish the initial factor structure of the ACSI using exploratory factor analytic methods. In addition, indexes of internal consistency (Cronbach's alpha) were computed for each of the ACSI's subscales. Pearson's product-moment correlation coefficients were calculated to determine the subscale intercorrelations for the ACSI. Finally, to evaluate the ACSI's concurrent validity, the instrument was correlated with another measure of coping (i.e., Ways of Coping Questionnaire [Folkman & Lazarus, 1985]).

### METHOD

#### Participants

The total sample for this study consisted of 180 African American adults from the northeastern United States. Participants were recruited from college and university settings, through personal contacts of the researchers, and from the community at large. Of this number, 104 (57.8%) were female and 75 (41.7%) were male (missing values = 1). Their ages ranged from 16 to 66 years, with a mean age of 29.87 ( $SD = 11.07$ ). The marital status of the sample was 69% single, 24% married or committed relationship, 3% separated, 3% divorced, and 1% widowed. The sample had a mean educational level of 13.75 years ( $SD = 1.99$ ) and a mean annual income of \$28,043 ( $SD = \$17,480$ ).

#### Instruments

The original version of the Ways of Coping Questionnaire (WCQ) (Folkman & Lazarus, 1980) is a 66-item measure of the coping behavior employed by individuals in contextually specific situations. For this study, however, the researchers used a short version of the WCQ developed by Folkman and Lazarus (1985) for use with a student population. The short version is composed of 33 items with five empirically derived factors. The five factors are as follows: Problem-Focused Coping (Factor I), Detachment (Factor II), Wishful Thinking (Factor III), Seeking Social Support (Factor IV), and Focusing on the Positive (Factor V). In completing the WCQ, individuals were asked to think of a stressful situation they encountered within the past week or so. Then, using a 4-point Likert-type scale (0 = *does not apply or not used*, 1 = *used somewhat*, 2 = *used quite a bit*, 3 = *used a great*

*deal*), they were instructed to indicate the extent to which they used each of the coping behaviors listed. To score the WCQ, the items from each of the five subscales were summed.

The 33-item WCQ demonstrated adequate psychometric properties in a study conducted by Scheier, Wiebe, Luther, and Adams (1988). For example, their findings supported a five-factor model similar to that of the original Folkman and Lazarus (1985) study. Moreover, these five factors accounted for 43% of the common factor variance. In the same study, Scheier et al. (1988) calculated coefficients of congruence for the five factors. These indexes ranged from .95 to .98, indicating stability among the five factors. For this study, Cronbach's alphas were calculated for all five factors of the WCQ: Problem Focused, .81; Detachment, .82; Wishful Thinking, .67; Seeking Social Support, .76; and Focusing on the Positive, .73.

Although grounded in a Eurocentric conceptual framework, the WCQ was selected as the best available measure for the purpose of establishing the concurrent validity of the instrument under development in this study. Given that there are currently no instruments available that assess the culture-specific coping behaviors of African Americans, it was necessary to find an existing measure that reflected at least some behaviors characteristic of people of African descent. Because several of the WCQ subscales (i.e., Seeking Social Support, Focusing on the Positive, and Problem-Focused Coping) approximate some of the culture-specific behaviors of African Americans, it was deemed the most acceptable choice available at this time.

A demographic data questionnaire was administered to the participants in this study requesting background information. Specifically, the participants were asked to indicate their age, gender, marital status, annual income, and highest level of education completed.

### **Procedure**

The ACSI was administered in small groups or classroom settings. In instances when the ACSI was sent away for data collection, it was administered by doctoral-level proctors who had been briefed in the proper administration protocol. The survey questionnaires were completed anonymously and on a voluntary basis. All participants were informed of their right to withdraw from the study at any time without explanation or fear of repercussions. Following the data collection, participants were debriefed in a group. Each survey packet included a cover letter and a demographic data questionnaire. The survey questionnaires were counterbalanced to control for instrumentation effects.



**TABLE 1**  
**Means, Standard Deviations, and Subscale Intercorrelations for**  
**the Africultural Coping Systems Inventory (N = 180)**

<i>Subscales</i>	<i>Factor I</i>	<i>Factor II</i>	<i>Factor III</i>	<i>Factor IV</i>	<i>M<sup>a</sup></i>	<i>SD<sup>b</sup></i>
Factor I	—	.22**	.28**	.14*	12.3/1.12	6.58/.60
Factor II	—	—	.35**	.25**	9.5/1.19	5.53/.70
Factor III	—	—	—	.22**	9.8/1.23	4.80/.60
Factor IV	—	—	—	—	.94/.31	1.85/.62

NOTE: Factor I (Cognitive/Emotional Debriefing) includes 11 items, Factors II (Spiritual-Centered Coping) and III (Collective Coping) 8 items, and Factor IV (Ritual-Centered Coping) 3 items for comparison and interpretive purposes.

a. The scaled mean converted all means to the 0 to 3 Likert-type scale range used in this study.

b. The scaled standard deviations converted all standard deviations to the 0 to 3 Likert-type scale range used in this study.

\* $p < .05$ . \*\* $p < .01$ .

## RESULTS

### Factor Structure

An exploratory principal-components factor analysis was performed on all 42 items of the ACSI (see Table 1). This procedure yielded 13 factors with eigenvalues greater than 1.0. However, a scree test (Cattell, 1965) indicated that as many as four factors were interpretable. Consequently, the researchers forced a one-, two-, three-, and four-factor extraction using orthogonal and oblique solutions. Of these extraction methods, the four-factor orthogonal solution loaded items to factors that were consistently more logical than those of the oblique rotation method.

The four-factor orthogonal solution accounted for 35% of the common variance: Factor I (eigenvalue = 6.83) accounted for 16% of the common variance, Factor II (eigenvalue = 3.09) accounted for 7% of the common variance, Factor III (eigenvalue = 2.57) accounted for 6% of the common variance, and Factor IV (eigenvalue = 2.32) accounted for 6% of the common variance. The criteria for retaining items to factors were as follows: (a) items with factor loadings of .42 or higher were selected and (b) items meeting the .42 criterion on more than one factor were eliminated.

Based on the results of the exploratory factor analysis, a total of 14 items were eliminated from the ACSI prototype. However, two of these items were later retained for inclusion on the final ACSI prototype. Although the two items failed to meet the criteria for inclusion (i.e., .42), a content review of the items revealed that they represented important indicators of the coping

behaviors unique to African Americans. Moreover, the two items in question substantially increased the Cronbach's alpha coefficients for their respective subscales. Thus, the final version of the ACSI comprised 30 items in total. The 30-item ACSI derived from the factor analytic procedure outlined above represents the most robust indicators of the coping behaviors employed by African Americans during stressful encounters with the environment. A content review of the items representing each factor resulted in the assignment of descriptive labels. Factor I has 11 items and is best described as Cognitive/Emotional Debriefing (e.g., "Sought out people I thought would make me laugh"). Factor II has 8 items and is best described as Spiritual-Centered Coping (e.g., "Read passage from a daily meditation book"). Factor III has 8 items and is labeled Collective Coping (e.g., "Got a group of family and friends together to help with the problem"). Factor IV is composed of 3 items and can best be described as Ritual-Centered Coping (e.g., "Burned incense for strength or guidance in dealing with the problem").

### **Internal Consistency and Subscale Intercorrelations**

Cronbach's alpha correlation coefficients were calculated for the four subscales of the ACSI. The coefficient alphas for the four subscales of the ACSI were .80 for Factor I, .79 for Factor II, .71 for Factor III, and .75 for Factor IV. Although alpha coefficients between .80 and .90 are highly desirable, the ACSI's alpha coefficients were well within the acceptable range (Nunnally, 1978).

Pearson product-moment correlation coefficients were calculated to evaluate the subscale intercorrelations for the ACSI (see Table 2). These findings indicated that Factor I was correlated .22 with Factor II, .28 with Factor III ( $p < .01$ ), and .14 with Factor IV ( $p < .05$ ). Factor II correlated .35 with Factor III and .25 with Factor IV ( $p < .01$ ). Factor III correlated .22 with Factor IV ( $p > .01$ ). On the basis of these low intercorrelations, the ACSI subscales can best be conceptualized as measuring a related, yet distinct, construct associated with the culturally relevant coping behaviors of African Americans.

### **Concurrent Validity**

To establish the concurrent validity of the ACSI, Pearson product-moment correlation coefficients were computed between its subscales and the subscales of the WCQ (Folkman & Lazarus, 1985). The results of these analyses are reported in Table 3. The Cognitive/Emotional Debriefing subscale of the ACSI was positively and significantly correlated with the following

**TABLE 2**  
**Means, Standard Deviations, and Factor Loadings for**  
**the 35 Items of the Africultural Coping Systems Inventory (N = 180)**

<i>Item</i>	M	SD	<i>Loading</i>			
			<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>
Factor I						
5. Tried to forget about the situation	.97	1.09	.54	-.01	-.27	.01
8. To keep from thinking about the situation I found other things to keep me busy	1.3	1.06	.65	.00	.00	-.12
17. Tried to convince myself that it wasn't that bad	1.5	1.05	.60	.21	-.10	-.16
19. Spent more time than usual doing group activities	.67	.91	.50	.00	.30	.00
21. Hoped that things would get better with time	1.9	1.03	.70	.13	.00	.00
23. Spent more time than usual doing things with friends and family	1.1	1.08	.53	.17	.44	.00
26. Tried to remove myself from the situation	1.2	1.08	.42	.00	.27	.12
27. Sought out people I thought would make me laugh	1.2	1.11	.64	.00	.21	.16
28. Got dressed up in my best clothing	.60	.89	.46	.24	.00	.25
29. Attended a social event (dance, party, movie) to reduce stress caused by the situation	1.1	1.09	.47	.00	.23	.13
40. Found myself watching more comedy shows on TV	.83	1.09	.57	.00	.23	.13
Factor II						
1. Prayed that things would work themselves out	2.0	1.03	.00	.60	.00	-.13
6. Went to church (or other religious meeting) to get help from the group	.57	.94	.00	.46	.18	
13. Read a scripture from the Bible (or similar book) for comfort and/or guidance	1.1	1.18	.00	.73	.17	.00
18. Asked someone to pray for me	1.2	1.19	.00	.73	.00	.18
22. Read passage from a daily meditation book	.79	1.05	-.10	.50	.27	.13
30. Asked for blessings from a spiritual or religious person	.80	1.09	.11	.64	.15	.26
38. Sung a song to myself to help reduce the stress	1.1	1.17	.26	.48	.00	.23
41. Left matters in God's hands	2.0	1.11	.24	.63	.00	-.13

**TABLE 2 Continued**

<i>Item</i>	M	SD	<i>Loading</i>			
			<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>
Factor III						
2. Got a group of family or friends together to help with the problem	.81	.99	.00	.00	.54	.14
3. Shared my feelings with a friend or family member	1.2	1.01	.00	.00	.61	.00
4. Remembered what a parent (or other relative) once said about dealing with these kinds of situations	1.5	1.09	.15	.01	.52	.00
7. Thought of all the struggles Black people have had to endure and this gave me strength to deal with the situation	1.2	1.16	.00	.22	.46	.00
11. Sought advice about how to handle the situation from an older person in my family or community	1.2	1.07	.00	.00	.55	.00
14. Asked for suggestions on how to deal with the situation during a meeting of my organization or club	.51	.89	.00	.16	.36	.23
31. Helped others with their problems	1.4	1.07	.27	.29	.37	.24
33. Sought emotional support from family and friends	1.4	1.06	.11	.20	.66	.00
Factor IV						
32. Lit a candle for strength or guidance in dealing with the problem	.31	.78	.00	.00	.00	.75
35. Burned incense for strength or guidance in dealing with the problem	.34	.79	.00	.00	.12	.73
38. Used a cross or other object for its special powers in dealing with the problem	.30	.75	.00	.20	.00	.60

NOTE: Factor I = Cognitive/Emotional Debriefing; Factor II = Spiritual-Centered Coping; Factor III = Collective Coping; Factor IV = Ritual-Centered Coping.

subscales of the WCQ: Detachment, Seeking Social Support, and Focusing on the Positive. The spiritual-centered subscale of the ACSI was positively and significantly correlated with the following WCQ subscales: Problem-Focused Coping, Seeking Social Support, and Focusing on the Positive. The ACSI's Collective Coping subscale was positively and significantly correlated with the following WCQ subscales: Problem-Focused Coping, Seeking Social Support, and Focusing on the Positive. Finally, the

**TABLE 3**  
**Pearson Product-Moment Correlation Coefficients for the Subscales**  
**of the Africultural Coping Systems Inventory and the Ways of Coping**  
**Questionnaire (N = 180)**

<i>Ways of Coping</i> <i>Questionnaire Subscale</i>	<i>Africultural Coping Systems Inventory</i>			
	<i>Factor I</i>	<i>Factor II</i>	<i>Factor III</i>	<i>Factor IV</i>
Problem Focused	.27	.34*	.51**	.24
Detachment	.57**	.22	.06	-.31
Wishful Thinking	.19	.25	.03	-.02
Seeking Social Support	.37*	.38*	.50**	.08
Focusing on the Positive	.62**	.61**	.59**	.24

NOTE: Factor I = Cognitive/Emotional Debriefing; Factor II = Spiritual-Centered Coping; Factor III = Collective Coping; Factor IV = Ritual-Centered Coping.  
 \* $p < .05$ . \*\* $p < .01$ .

Ritual-Centered Coping subscale of the ACSI did not correlate with any of the WCQ subscales.

## STUDY 2: CONFIRMATORY FACTOR ANALYSIS OF THE ACSI

### METHOD

#### Participants

The participants for Study 2 consisted of 220 African American adults who were recruited from a historically Black college in the Southeast, a medium-sized Catholic university in the Northeast, a medium-sized public university in the Northeast, and the community at large. Of the 220 participants in this study, 54 (25%) were male and 159 (72%) were female. There were 7 missing values for gender. The participants' ages ranged from 17 to 62 years, with a mean age of 28.16 ( $SD = 10.71$ ). For marital status, 150 (68%) participants were single, 43 (20%) were married, 15 (7%) were either separated or divorced, and 4 (2%) were widowed. There were 7 (3%) missing values for marital status. The sample had a mean educational level of 13.74 years ( $SD = 2.56$ ) and a median annual income of \$19,000.

## **Instruments**

The ACSI is a 30-item self-report measure of the unique coping behaviors employed by African Americans during stressful encounters with the environment. The ACSI is grounded in an African-centered conceptual framework and consists of the following dimensions or subscales: Cognitive/Emotional Debriefing (CED; 11 items), Spiritual-Centered Coping (SC; 8 items), Collective Coping (CC; 8 items), and Ritual-Centered Coping (RC; 3 items). To complete the ACSI, participants were asked to recall a stressful situation that occurred within the past week or so. After recalling the event, respondents were then required to briefly describe the stressful situation. Finally, using a 4-point Likert-type scale (0 = *did not use*, 1 = *used a little*, 2 = *used a lot*, 3 = *used a great deal*), the ACSI required respondents to indicate which coping strategies they employed in coping with the stressful situation described.

## **Procedures**

The procedures for Study 2 were identical to those employed in Study 1. Participants were administered the ACSI and a demographic data questionnaire individually or in large groups. They were informed of the parameters of informed consent as well as their right to withdraw from the study at any time without any negative consequences. Following the administration of the survey questionnaires, participants were debriefed individually or in a group.

## **RESULTS**

### **Internal Consistency and Subscale Intercorrelations**

Cronbach's alpha coefficients were calculated for the four subscales of the ACSI. The coefficient alphas for the four subscales of the ACSI were .79 for CED, .82 for SC, .78 for CC, and .76 for RC. With regard to the ACSI subscale intercorrelations, CED correlated .40 with SC, .34 with CC, and .30 with RC. The SC subscale correlated .50 with the CC subscale and .38 with the RC subscale. Last, the CC subscale correlated .39 with the RC subscale.

### **Confirmatory Factor Analysis**

With regard to examining the construct validity of a measure, researchers agree that confirmatory factor analysis (CFA) is a powerful tool for such

**TABLE 4**  
**Confirmatory Factor Analyses'**  
**Goodness-of-Fit Indexes for the Null Model and Competing Factor**  
**Models of the Africultural Coping Systems Inventory (*N* = 220)**

<i>Model</i>	$\chi^2$	df	p	<i>GFI</i>	$\chi^2/df$	<i>RMSR</i>	<i>RNI</i>
Null model	2267.82	435	.00	.39	52.11	.22	
Global factor	1263.44	405	.00	.66	3.12	.10	.53
Four-factor orthogonal	964.85	405	.00	.74	2.38	.16	.69
Four-factor oblique	841.27	399	.00	.77	2.11	.09	.76

NOTE: RMSR = root mean squared residual; RNI = relative noncentrality index.

endeavors (see Schmitt & Stults, 1986). As such, a CFA was conducted on the four-factor 30-item ACSI using the LISREL 7 computer program (Jöreskog & Sörbom, 1989). Comparisons were made between a four-factor orthogonal model, a four-factor oblique model, a global factor model, and a null model. Several indexes assessing the degree to which the model fits the data were computed for all four competing models.

Table 4 provides a complete summary of the CFA results for this study. In referring to this table, it can be observed that the chi-square statistics for all four competing models were significant. Taken alone, these results would suggest an unsatisfactory fit to the data for all competing models. More significantly, however, other CFA fit indexes indicated that the four-factor oblique model had the greatest degree of fit when compared with the null, global, and four-factor orthogonal models. The four-factor oblique had the best fit because it had the lowest  $\chi^2$  value (841.27), the highest goodness-of-fit index (GFI; .77) and adjusted goodness-of-fit index (AGFI; .73), the lowest  $\chi^2/df$  value (2.11) and root mean squared residual (.090), and the highest relative noncentrality index (RNI; .76). It should be noted that in contrast to the chi-square statistic, the RNI is independent of sample size and possibly the best available measure for determining the fit of structural equation models (Gerbing & Anderson, 1993).

The GFI and AGFI, if taken alone, suggest an unsatisfactory fit of the proposed model. More desirable fits have GFI and AGFI indexes in the high .80s and .90s. According to Bagozzi and Heatherton (1994), it is not uncommon for measurement models to have an unsatisfactory fit when four or more items represent each component and the sample size is fairly large. In such cases, a poor fit is likely to be related to one or more of the following factors: (a) the complexity of the models, (b) high levels of random error to be found

in a scale with many items, and (c) the many parameters to be estimated. A method recommended by Bagozzi and Heatherton (1994) to address this issue is to sum items within each component, thus creating aggregate variables that represent parallel indicators of the construct being measured by the items. Items with the highest component loadings are paired with items having the lowest component loading in sequential order, where the first, second, and third highest loadings are paired with their corresponding lowest loadings. After the items are aggregated to form new and fewer indicators of the same construct, they are reentered into the LISREL 7 program and subjected to a second confirmatory factor analysis.

### **Aggregate-Item Confirmatory Factor Analytic Procedure**

Based on the method recommended by Bagozzi and Heatherton (1994), new aggregate variables were created and reanalyzed using the LISREL 7 program. The first factor included the following aggregate items: CED1, items 15 and 18; CED2, items 8 and 20; CED3, items 19 and 26; CED4, items 12 and 14; CED5, items 17 and 29; and CED6, item 5. For the second factor, the following aggregate items were created: SC1, items 6 and 10; SC2, items 13 and 27; SC3, items 16 and 21; and SC4, items 1 and 30. For the third factor, the following aggregate items were created: CC1, items 11 and 24; CC2, items 3 and 22; CC3, items 7 and 9; and CC4, items 2 and 4. The final factor consisted of the following aggregate items: RC1, items 23 and 28; and RC2, item 25. Because these aggregated variables represented new items of the same components, Cronbach's alphas were again calculated. For the CED, SC, CC, and RC subscales of the ACSI, Cronbach's alphas were .78, .80, .81, and .65, respectively.

By reviewing the aggregate-item confirmatory factor analysis results presented in Table 5, it can be observed that all of the fit indexes for the competing factor models improved. The GFIs and AGFIs for both the orthogonal and oblique models now ranged from .81 to .89 and .76 to .85, respectively. The RNIs for the orthogonal and oblique models ranged from .78 to .91, respectively. Moreover, the four-factor oblique model again demonstrated the best overall fit among the competing models. Given a GFI of .89 and an RNI of .91, the four-factor oblique model demonstrated a satisfactory fit to the data for the ACSI. That the four-component oblique model is the best fit is not surprising given the low-to-moderate correlations found between the subscales of the ACSI.



**TABLE 5**  
**Aggregate Confirmatory Factor Analyses'**  
**Goodness-of-Fit Indexes for the Null Model and Competing Factor**  
**Models of the Africultural Coping Systems Inventory (*N* = 220)**

<i>Model</i>	$\chi^2$	df	p	<i>GFI</i>	$\chi^2/df$	<i>RMSR</i>	<i>RNI</i>
Null model	1264.60	120	.00	.42	10.54	.29	
Global factor	533.96	104	.00	.72	5.13	.11	.71
Four-factor orthogonal	350.51	104	.00	.81	3.57	.20	.78
Four-factor oblique	197.95	98	.00	.89	2.01	.06	.91

NOTE: RMSR = root mean squared residual; RNI = relative noncentrality index.

## DISCUSSION

This study was aimed at the development and validation of a paper-and-pencil, self-report measure of the culture-specific coping behaviors employed by African Americans during stressful encounters with the environment. The ACSI was developed using an African-centered theoretical framework as the underlying conceptual model from which to understand the coping behaviors of African Americans. In addition to an African-centered conceptual model driving the development of the ACSI, the research process itself was informed by an Africentric epistemology (i.e., Azibo's [1996] theory state-derived steady-state approach).

With an emphasis on capturing the unique aspects of the Black/African personality, the researchers created an extensive list of coping behaviors employed by African Americans during stressful situations. To ensure that the coping behaviors sampled by the ACSI reflected an African worldview, items were derived from personal interviews with African Americans, a review of the related literature, and from the researchers' own experiences. Following this procedure, a focus group was conducted with several African American adults. A preliminary prototype of the instrument was then administered to a small sample of participants representing the target population (African American adults). The net result of the preliminary phase of this study was a 42-item self-report measure of coping behaviors rooted in African cultural/value systems, intended for use with African American adults from a wide range of demographic backgrounds.

A principal components factor analysis supported a four-factor orthogonal model as best representing the unique coping behaviors of African Americans. Although later rejected in favor of the four-factor oblique model, the initial four-factor orthogonal factor solution was selected based on a content review and the logic of the items loading to factors. The four subscales of the

ACSI were reviewed for content and assigned descriptive labels. Factor I, Cognitive/Emotional Debriefing, represents an adaptive reaction by African Americans in their efforts to manage environmental stressors. These coping behaviors (e.g., "Hoped things would get better with time") reflect a very basic level of survival thrust (Kambon, 1992) and very likely evolved out of the centuries of enslavement and racial oppression experienced by Africans in America. Factor II, Spiritual-Centered Coping, represents the core component of the African personality. Spiritual-centered coping behaviors (e.g., "Prayed that things would work themselves out") are based on African Americans' sense of connection with the spiritual elements in the universe as well as with the Creator. Factor III, Collective Coping, is grounded in the African-based cultural/value system that places the group above the individual. Here, African Americans rely on group-centered activities (e.g., "Got a group of family or friends together") for coping with stressful situations. Factor IV, Ritual-Centered Coping, represents an African-based cultural practice that relies on the performance of rituals as a means of acknowledging the role of ancestors in one's life, celebrating events, and paying homage to various religious deities.

With regard to the psychometric properties of the ACSI, the four subscales demonstrated adequate internal consistency reliability (Cronbach's alpha ranged from .71 to .80). Furthermore, initial evidence for the instrument's concurrent validity was established by a correlational study with a second measure of coping (WCQ [Folkman & Lazarus, 1985]). Although the concurrent validity of the ACSI was supported by data demonstrating positive and significant correlations with the WCQ, some caution should be exercised in making interpretations given that the conceptual framework of the WCQ is grounded in a Euro-centric epistemology. As such, it was anticipated that some of the ACSI subscales would find no equivalent construct represented by the WCQ.

The problem-focused subscale of the WCQ was positively and significantly correlated with the ACSI's Spiritual-Centered Coping and Collective Coping subscales. This suggests that an African worldview is underlying the active, problem-solving behaviors employed by African Americans during stressful encounters with the environment. There was a positive and significant relationship between the WCQ's Detachment subscale and the ACSI's Cognitive/Emotional Debriefing subscale. This relationship is logical and supports the instrument's concurrent validity as well, given that the behavioral responses in this domain are based on a basic level of what Kambon (1992) refers to as African survival thrust. As noted earlier, this basic-level survival thrust evolved out of centuries of racial oppression experienced by Africans in America. A Western conceptualization of basic level survival

thrust behaviors (e.g., ACSI Item 21: "Hoped things would get better with time") are viewed as detachment (e.g., WCQ Item 12: "Go along with fate: Sometimes I just have bad luck"). However, in an Africentric framework, these behaviors are not viewed negatively but reflect a basic component of the African survival thrust (see Kambon, 1992).

The Seeking Social Support subscale of the WCQ was positively and significantly correlated with all of the ACSI's subscales except the Ritual-Centered Coping subscale. Of these relationships, as hypothesized, the most robust correlation was between the WCQ's Seeking Social Support subscale and the ACSI's Collective Coping subscale. The WCQ subscale Focusing on the Positive was positively and significantly correlated with all subscales of the ACSI except the Ritual-Centered Coping subscale. It should be noted that these correlations were extremely robust (.59 to .62) when compared with the other subscales. The direction and strength of these correlations was hypothesized based on the nature of the African worldview. The African worldview is inherently positive and presupposes that all things in the universe are part of a divine plan (Myers, 1988). The underlying philosophical framework of the African worldview that recognizes the interrelatedness of all things in the universe also supports these findings. That the Ritual-Centered Coping did not correlate with any of the WCQ subscales is not surprising given the lack of equivalence in Western cultural systems for this coping behavior.

To further examine the construct validity of the ACSI, the powerful confirmatory factor analysis procedure was conducted with the instrument's items. The results of this analysis indicated that, although the fit indexes for the ACSI factor structure were less than desirable, a four-factor oblique model had the best fit to the data. Due to the tendency for complex models with many parameters to be estimated to have poor fits, a second aggregate confirmatory procedure was conducted with the ACSI items. The results of this procedure indicated that the factor structure of the ACSI had an adequate fit to the data as reflected in an RNI of .91. It should be noted that the four-factor oblique model again demonstrated the best fit to the data.

Given that African Americans as a group experience greater exposure to environmental stressors than the general population (Daly et al., 1995), including stress related to racism and oppression (Utsey & Donterotto, 1996), and are at a higher risk for stress-related diseases (Semmes, 1996), the need for understanding culture-specific coping strategies is warranted. As stress is defined, coping as a buffer occurs through the mutual influence of the individual and the situation (Plummer & Slane, 1996). Research conducted into the nature and effectiveness of African American coping, such as this study, is one step toward illuminating those factors that determine increased psychological vulnerability or the potential for resilience.

Although this study is a contribution toward understanding the culture-specific coping behaviors of African Americans as well as those behaviors that promote healthy psychological functioning, there are some limitations to be considered. For one, this study relied on self-report data from participants. Self-report data can have questionable reliability for any of the following reasons: (a) participants are unable to accurately recall the events in question, (b) participants are unable to recall how they responded to the event in question, and (c) participants may embellish the event and/or their response to the event. A second limitation of the current study was the use of a measure (WCQ [Folkman & Lazarus, 1985]) grounded in a Western conceptual framework and developed for use with a non-African population to validate the ACSI. Given that no Africentric measures of coping exist and that the WCQ had several subscales (e.g., Seeking Social Support, Focusing on the Positive, and Problem-Focused Coping) that closely approximated an African-centered cultural/value system, it was determined to be the best choice for the purposes of this study. However, caution has been exercised in making interpretations based on correlations between subscales of the ACSI and the WCQ subscales. Finally, although this study was composed of a sample representative of African Americans from diverse backgrounds (e.g., college students, community sample, professionals), the majority of participants were college students. The limitations inherent in the use of college student samples are well-known and will not be elaborated on in this discussion.

Future studies with the ACSI might focus on providing additional evidence of the instrument's reliability and validity. Specifically, in addition to providing additional evidence of the measure's internal consistency reliability and concurrent validity, some evidence of its test-retest reliability and divergent validity should be established. Furthermore, using other instruments grounded in an African-centered epistemology, where available, would be useful in providing culturally relevant construct validation. In addition, future studies might explore alternate models that potentially represent the culture-specific coping behavior of African Americans (i.e., a two-, three-, or five-factor model). Finally, researchers must explore the relationship between the coping behaviors delineated in the ACSI and the psychological and somatic health status of African Americans. Variables such as age, gender, socioeconomic status, level of acculturation, and geographic region should also be explored.

Despite the limitations described above, this study's findings suggest that the ACSI has potential as a reliable and valid measure of the coping behaviors employed by African Americans during stressful encounters with the environment. It is anticipated that researchers will further evaluate the ACSI for its psychometric properties as well as its use as a research tool with African

American populations. These inquiries must be informed by an African-centered epistemology and aimed at ensuring the optimal psychological, spiritual, and physical functioning of African Americans.

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