THE DEVELOPMENT OF A RACE AND GENDER-SPECIFIC STRESS MEASURE FOR AFRICAN-AMERICAN WOMEN: JACKSON, HOGUE, PHILLIPS CONTEXTUALIZED STRESS MEASURE

Objective: Community-based research was conducted to develop an identity stress measure for African-American women. The aim of the investigation was to capture the voices of African-American women telling their experiences of stress and support and to have their voices inform the development of an identity stress measure representing the realities of being Black and female. In this paper, we describe the components of a race and gender-specific stress measure emerging from a multidisciplinary iterative process that employed qualitative and quantitative methods.

Method: The research was initiated by focus groups and interviews where women were asked to share their experiences of stress and support. Four hundred seventy-four (474) African-American women from the metropolitan Atlanta area collaborated in the study by participating in one or more phases of the research. Content analysis of the qualitative data informed the development of a 71-item race and gender-specific stress measure for African-American women. The scale and a battery of validity measures (Spielburger Anger and Anxiety, John Henryism, and NHIS-depression) were administered twice over a 30-day period followed by group discussions and interviews.

Results: Content and factor analysis resulted in the development of six subscales: racism, burden, personal history, work, support/coping, and stress states. The measure has been validated with established measures of anger, anxiety, depression. Significant correlations were established for all of the stress subscales and measures of anger (trait anger, anger-in, anger-out, and anger expression). Findings indicate significant correlations for the burden subscale and anger-in (r=.33, <.01) and stress states and trait anxiety (r=.57, <.01). (*Ethn Dis*. 2005;15:594–600)

Key Words: African-American Women, Stress, Racism, Gendered Oppression, Grounded Theory, Identity Stressors, Stress Mediators Fleda Mask Jackson, PhD, MS; Carol Rowland Hogue, PhD, MPH; Mona Taylor Phillips, PhD

INTRODUCTION

The disproportionate rate of stressinduced health outcomes among African Americans has given rise to extensive reexaminations of the components of stress. Stimulated by knowledge of the specific challenges and assets of living as an African American and female, research was conducted to explore identity stressors connected to race and gender and to devise a tool for measuring racialized and gendered stress.¹

The link between racial oppression and poor health is being widely studied. Racism has been demonstrated as a causal factor for chronic disease either as a consequence of intermediary psychosocial conditions and affective responses, ie, stress, anger, depression, anxiety, etc, or in direct relationship to cardiovascular disease and other chronic maladies.²⁻¹⁵ Emphasis on women's health has drawn attention to the impact of gender on health.¹⁶⁻²⁰ Attempts to locate gendered stressors have examined role expectations, overload, locus of control, and discrimination.^{21,22} Comparable to racialized stressors, gendered stressors are associated with adverse psychological and physiological responses.²³⁻²⁶

Controlled studies indicate that women, compared to men, display heightened reactivity to racist stimuli suggesting the interaction between race and gender.^{27,28} There is also evidence Racism has been demonstrated as a causal factor for chronic disease . . .

for differential coping responses by gender.²⁹ But while generalized stress measures reveal differential responses by race and gender, they are limited in their ability to assess chronic and acute stress exposure specifically associated with racial and gendered experiences and their contexts.^{30–32}

Measures exist that assess racism and sexism,^{33–38} but additional tools are needed to determine the multiplicative impact of identity stressors connected to race and gender. For instance, in the case of research on reproductive disparities, investigations would be advanced by measures of the combination effects of racial and gendered experiences before and during pregnancy.^{39–45}

In this paper, we describe the process for the development of the 71-item Jackson, Hogue, Phillips Contextualized Stress Measure (JHP Measure) aimed at capturing the authentic experiences of stress and stress mediators for African-American women. An underlying assumption for the development of the tool was that racial stressors are linked to and embedded in the context of gender and that gendered stress evolves from the racial identities assumed and imposed upon African-American women. Access to resources is affected by the identities and experiences of race and gender.^{46,21} Thus, the JHP Measure was designed to capture the content and

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context of identity stress and stress mediators. ^{47–49}

METHODOLOGY

The development of an identity stress measure was part of a line of research designed to examine psychosocial risk factors for adverse reproductive outcomes, ie, low birth weight and preterm delivery. Proceeding from a grounded theory approach where observed experiences informed the conceptual model, the voices of the women as collaborators for the study guided the process that combined quantitative and qualitative methodologies.^{50,51} We elicited the collaboration of communities of African-American women residing in the metropolitan Atlanta community. In total, 474 women from diverse educational and employment backgrounds consented to participate in the development of the stress tool through their involvement in one or multiple phases of the process. Collaborators were recruited through written communication or as the result of health presentations at gatherings of college alumnae groups, church groups, civic organizations, workplace associates and public housing communities. Research participants also referred other women to the project. Participants represented diverse educational and income categories, but the majority of the collaborators were college-educated (Table 1). During these presentations, women were exposed to information revealing the disproportionate rates of chronic diseases (ie, cardiovascular disease, hypertension, cancers, etc) and disparate reproductive outcomes experienced by African-American women. As part of the orientation for the focus groups, women were asked to provide their own explanations for the disparate health consequences among African-American women. At those sessions, the collaborators cited inadequate health care, dietary behaviors, lifestyle and

Table 1. Selected Sociodemographic variables for the sample $(N-30)$	Table 1.	Selected Sociodemographic	Variables for the Sample (N=301
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Variable	Ν
Age	
18–25	10 (3%)
25–34	108 (36%)
35–49	130 (43%)
50–79	53 (18%)
Education	
College-educated	208 (72%)
Non-college educated	63 (28%)
Marital Status	
Married	111 (37%)
Single (includes never married, divorced,	191 (63%)
separated, and widowed)	
Birth History	
At least one child	187 (62%)
No children	115 (38)
Income (in thousands)	
10–30	101 (33%)
31–50	74 (25%)
>51	26 (9%)
Missing	101 (33%)

hereditary factors as contributors to poor health. Those "conversations" also led to the identification of stress as a significant factor for poor health.

Typically, the focus groups involved four to eight women who responded to prompts for explanations of poor health outcomes among African-American women and details of the stress and support in their lives. African-American investigators and research assistants from a biracial research team conducted focus groups, interviews, and administered the pilot stress measure.

The focus groups initiated an iterative process that included semi-structured interviews, the development of stress statements, a jury exercise, prepilot testing, pilot testing, and postmeasure focus groups and interviews. The initial interviews were constructed from content analysis of the transcribed focus group data. Content analysis of the interview and focus group data informed the development of 114 statements. For instance, responses about stress similar to the reaction of one women who said, "well I think of it in the sense that everything falls on me, I mean the mortgage and finances-I do all that myself" was translated into the statement, "I am taking care of everyone else but no one is taking care of me." To ensure that the statements were representative, a jury exercise was conducted with women who had participated in the focus groups and others who had not previously collaborated in the study. During the jury exercise, the women were instructed to critique the statements, examining them for content and structure. Specifically, the women were asked to confirm or challenge the authenticity of the statements and evaluate their structure and clarity. As the result of a jury exercise, content analysis, and continuous assessment of the research process, 71 statements became the items for the pilot scale.

This measure was pre-piloted with women who had not participated in the focus groups or interviews. With the completion of the pre-piloting phase, the measure was administered to 302 women twice in a 30-day period. To validate the measure, a battery of instruments was administered along with the pilot stress measure. They included the National Health Interview Survey (NHIS) for measuring depression, Spielburger state/trait anger inventory, Speilburger state/trait anxiety, and the John Henryism scale for active coping (JHAC).

Immediately following the completion of the second administration of the stress measure, collaborators participated in discussion groups where they were asked to give their reactions to the questions. Subsequent to the discussion groups, semi-structured interviews were conducted with 42 women whose scores on the pilot measure indicated high or low stress exposure. During those interviews, the women were asked to elaborate on their responses to common items regardless of marital, parental, or occupational status.

RESULTS

Scale Descriptors

The voices of the women informed an operational definition of stress as an experience and response initiated by exposures appraised as impeding, threatening or disrupting to short-term or long-range expectations. The scale items that resulted from the voices of the women indicate both experienced and anticipated stress linked to racialized and gendered identities.

The measure is a 71-item Likert scale that is divided into six subscales: four stressor scales: race/racism, burden, work (stressors), personal history; one measure of stress mediators: support and coping; and a subscale capturing stress states.

Race/Racism

The items comprising the race/ racism subscales capture racist encounters and anticipations associated with nurturing/caretaker roles, racial affiliation, and stereotypes. Items from this subscale include statements of "African-American youth are more likely than other youth to encounter negative experience with law enforcement" and "People assume that I am incapable of

Table 2. Reliability (Crombach Alpha) and Test-Retest Correlations

Scales	Cases	Items	Alpha	Test-Retest Correlations
Racism	140	17	.7749	.700 [*] N=298
Burden	109	16	.8053	.802* N=288
History	260	8	.6689	.818 [*] N=288
Work	110	10	.7835	.651 [*] N=278
Support/coping	122	21	.7959	.681 [*] N=268
Stress states	282	4	.6634	.561 [*] N=297
* <i>P</i> <.01				

† P<.05

performing the job because I am African-American."

Burden

The burden subscale consists of two parts: 1) items representing the imposed and embraced nurturing and caretaker roles associated with gender identity; and 2) statements capturing distress as the result of the absence of material and personal resources in the presence of high demand. Items from this subscale include, *"Everyone expects me to be strong for them" and "I have major responsibility for the financial support of my household."*

Work

Items in this subscale reflect the experiences and perceptions of racial and gender oppression in the work place. Items also capture intra-racial and intra-gender stressors encountered in the workplace. Sample items are *"Because I am a woman my employer is not open to suggestions from me"* and *"There is little possibility of my advancing to the top position in my job."*

Personal History

The items in the personal history subscale included experiences of mental and physical abuse as individual stressors. An item from this subscale is

"There is a history of mental abuse in my family."

Support/Coping

Support items indicate instrumental and expressive support from family and friends, spirituality/religiosity, and racial and gender identification as sources of social support. The coping items replicate active individual engagement in activities intended to counteract stress. Items from this subscale include, "I have friends who sense when I have a problem and they will help" and "I gain strength and encouragement through a spiritual source through prayer, meditation, and reflection."

Stress States

The stress states subscale captures affective responses to stressors. An item from this subscale is *"I feel that I have far too much to do."*

Psychometric Properties

The subscales for the instrument (racism, burden, personal history, work, coping and stress states) were derived from the EFA (exploratory factor analysis), grounded theory, and content analysis. Exploratory factor component analysis was performed to determine the patterns of correlations within a set of variables. The objective was to examine

Subscales	Racism	Burden	History	Work	Support/ Coping	Stress States	Sum Score
Race/racism	1.00 n=302	.536 [*] .00 n=302	.304 [*] .00 n=302	.385 [*] .00 n=302	053 .361 n=301	.346 [*] .00 n=296	.564 [*] .000 n=297
Burden		1.00 n=302	.489 [*] .00 n=302	.328 [*] .00 n=302	.201 .000 n=301	.479 [*] .00 n=296	.648 [*] .000 n=297
History			1.00 n=302	.254 [*] .00 n=302	.155 .007 n=301	.303 [*] .00 n=296	.498 [*] .000 n=297
Work				1.00 n=302	.100 .088 n=284	.209 [*] .00 n=296	.508 [*] .000 n=286
Support/coping					1.00 n=302	.142 .015 n=296	.367 [*] .000 n=297
Stress states						1.00 n=296	.377 [*] .000 n=294
* <i>P</i> <.01 † <i>P</i> <.05							

 Table 3. Pearson's Correlation Coefficients for JHP Contextualized Stress Measure (Subscales)

the clustering of individual items forming the underlying constructs of the scales. Factor analysis was conducted using a varimax rotation method, retaining 10 factors with eigenvalues over one and using listwise deletion to handle missing data. This process commenced with the identification of common items that all of the participants could respond to regardless of their marital, parental (if they had children), or employment status. Post-measure interviews verified and elaborated the conceptualization of the stress experiences and thus informed the selection of items within each of the subscales. The robust process of "checking with the women," during every phase of the process established a mechanism for constructing and evaluating the subscales and the entire measure against the lived experiences of the women.

As indicated by Table 2 the internal consistency reliabilities for the subscales ranged from .66 to .80 values that are considered adequate. Alpha values of .80 and above are the best indicators that a set of items measures a unidimensional latent construct, conversely lower values reveal a multidimensional structure. Further analysis is warranted to determine the suitability of items for each of the subscales. The somewhat lowered alpha values for the subscales, however, suggest the multidimensional structure of the instrument that is consistent with our conceptualization of the components of stress simultaneously situated in race and gender.

Test-retest results illustrated in Table 3 indicated significant correlations for all of the subscales with the most significant for history (r=.818, <.01) and burden r=.802,<.01). It is unclear why the correlations for work and support/coping subscales, while significant, were lower. The lowest correlation for stress states, also significant, may be attributable to a change in affective responses at each of the times of the administration of the measure.

The most significant association for the scales as shown in Table 4 was found for race/racism and burden (r=.536, <.01). Burden was also significantly correlated with history (r=.489, <.01) and stress states (r=.479, <.01). Validity testing revealed the range of associations between the stress subscales and components of each of the validity measures. As shown in Table 4, significant correlations were established for all of the stress subscales and measures of anger (trait anger, anger-in, anger out, and anger expression), anxiety (trait anxiety), and depression (role impairment, frequency and interruption). Specifically, correlations were seen for stress states and anger-out and trait anxiety (r=.52,<.01 and r=.57, <01 respectively).

Table 4.	Correlations of Racism,	Burden, Work,	and Stress States	with Anger, Anxi	ety and Depression
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	T-Ang	Ax/In	Ax/Out	Ang/Ex	Tanx	Role imp (NHIS)	Fr/Int (NHIS)
Racism	.24*	.29*	.19*	.28*	.31*	.13*	.16*
Burden	.25*	.33*	.29*	.36*	.42*	.20*	.17*
Work	.26*	.29*	.14*	.27*	.23*	.16*	.12*
Personal his- tory	.25*	.36*	.39*	.37*	.39*	.14†	.16*
Stress state	.30*	.52*	.37*	.35*	.57*	.25*	.12*

Note-N=301 for all correlations. * P<.01, † P<.05, ‡ P<.001

Legend: T-Ang=Spielburger Trait Anger; Ax/In=Anger-in; Ax/Out=Anger-out; Ang/Ex=Anger expression; Tanx=Trait Anxiety; Role imp=Role impairment (NHIS); Fr/Int=Frequency and Interruption (NHIS).

The preliminary qualitative and quantitative data ... are confirming the transcendent impact of racism and gendered stressors, crossing the boundaries of class and age indicators.

Analysis also indicated significant associations for burden, anger-in (r=.33, <.01), and anger expression (r=.39, <.01). Racism was associated with trait anxiety (r=.31, <.01), and anger-in (r=.29, P<.01). Stress states and burden were associated with role impairment as a measure of depression (r=.25and r=.20, P<.01).

Limitations and Future Application

While the site of the research was metropolitan Atlanta, one of the focus groups involving 17 women took place in a northeastern city. That gathering was an attempt to discern regional effects on experienced stressors among African-American women. Acknowledging the distinct historical, cultural, and social landscape shaping the perceptions and experiences of race and gender in the city and region of the research, we nonetheless project the generalizability of the measure to cross regional populations of African-American women. This assumption warrants multi-site administration of the tool.

The intent of the research was to document the stressors and supports of African-American women of childbearing age. Because of the characteristics of the communities that we entered, the ages of women (18 to 79 years) were more diverse than anticipated. The spread of the collaborators' ages permitted a glimpse of the experiences of stress and support for African-American women across the life span. Nevertheless, as with concerns about regional effects, future administration of the measure has potential for plotting the life course of stressors and supports, as risk factors and mediators for health outcomes among African-American women. The preliminary qualitative and quantitative data (not presented in this paper) are confirming the transcendent impact of racism and gendered stressors, crossing the boundaries of class and age indicators.

Admittedly, the sampling of stressors is not exhaustive; however, the methodology for the development of the measure permits on-going reassessment and expansion of measure items. As a health risk factor, stress is difficult to measure.^{52,53} Typically, in epidemiological studies the impact of stress is assessed indirectly, presumably through socioeconomic and sociocultural indicators. Direct measures of stress examine the individual's assessment of and response to allostatic events. We can measure recall of stressful life events, socioeconomic position, susceptibility to stress (anger, anxiety, and stress reactivity), and resistance and resilience (spirituality, social support).

Conceiving stress as race and gender-based requires analytical perspectives that resist the eclipsing of lived experiences for the sake of cross population comparisons. As Rowley indicates, indirect measures of stress through socio-demographic assessments across populations tends to erase the particular factors emerging from being Black and female.⁴⁴

Our scale is unique as the product of a comprehensive process whereby women named those experiences they confronted as stressors. As indicated by the validity analysis, associations between the subscales and measures of affective responses have been established (anger, anxiety, depression). We likewise expect that subscales from our instrument will correlate with generic measures of stress, coping, and resilience. Ultimately, this measure should complete the complex puzzle of stressors whose accumulative effect on physiological responses results in disproportionate rates of ill health and higher mortality rates for African-American women.

We anticipate that this measure will be included in case control investigations as well as observational studies for determining the pathway by which identity stress compromises health outcomes. Future administration and analysis of the measure will likely result in the expansions of items and the refinement of the psychometric properties of this tool.

CONCLUSION

Although the deleterious consequences of stress for health outcomes are well established, there is the need for further examinations of the genesis of psychosocial stress resulting in poor health. The development of a race and gender specific stress measure is an attempt to advance the methodology for assessing stress. Anticipated applications of this measure will test theoretical approaches for addressing disparities among African-American women as well as inform the development of "grounded theory" and methodologies for the translation of the research to culturally sensitized, race- and genderspecific interventions.

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- Data analysis and interpretation: Jackson, Hogue, Phillips

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