


The Path to Better Health for Black Women: Predicting Self-Care and Exploring Its Mediating Effects on Stress and Health

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Abstract

Stress leads to poor self-rated health for many black women because of racial and economic discrimination which results in psychological distress and restricted access to resources. Resilience factors such as self-care may be able to buffer the impact of stress; however, the role of self-care in reducing the effect of stress on self-rated health has not been explored. Self-care involves the utilization of self-awareness and agency to seek remedy for imbalance and to sustain equilibrium. Despite anecdotal exploration of these factors, there has not been a systematic investigation of whether self-awareness and agency indeed predict self-care. Subsequently, this study sought to provide evidence that self-awareness and resilience predict self-care, and self-care can mediate the negative relationship between stress and self-rated health. A cross-section of 223 black women living in the United States completed a battery of assessments of self-care, mindfulness, perceived stress, resilience, and self-rated health. Through a series of regression analyses exploring mediating effects, a path emerged. Findings indicate that awareness and resilience do predict self-care, and self-care mediates the negative relationship between stress and health. These analyses suggest that the role of stress on black women's health can be reduced by the implementation of awareness and resilience.

Keywords

self-care, self-rated health, perceived stress, black women, mediation, path analysis

What do we already know about this topic?

This article discusses where we are in understanding self-care, and its potential role in improving the health of black women. We know that self-care is a practice that involves several activities that can potentially impact the health and well-being of individuals. In some cases, it has been described as psycho-emotional activities that reduce stress, and in other instances, as physical tasks (e.g., pill taking) that maintain health after dysfunction or disease.

How does your research contribute to the field?

This research attempts to provide a direct path for how self-care can play a role in the physical health of individuals. It also opens the conversation on self-care to the experiences of black women and posits this practice as an intervention for a history of literature showing the impact of stress on the health of black women.

What are your research's implications toward theory, practice, or policy?

This research informs practice specifically, as it shows that self-care can be used as an intervention into the negative relationship between stress and health for black women. Additionally, this research calls for a conceptualization of self-care in public health literature.

Minimal literature has systemically investigated the role of self-care in black women's health. Shanklin-Flowers¹ adapted the World Health Organization's definition of self-care for use with black women to describe: "knowledge and skill-based activities that are undertaken by individuals, families and communities to enhance and restore health, prevent disease, and limit or cope with illness and disability, with or without the support of health care professionals (p. 18)."¹ Subsequently, self-care can aid in

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maintaining good health and reversing poor health experiences.²

Black Women's Health

In the United States, black women represent 14.4% of the female population and 52% of the African American population,^{3,4} yet exceed all races in mortality for heart disease, cancer, stroke, and diabetes.⁵ Black women are second in cancer incidence, but first in mortality with top cancers including lung and bronchus, breast, and cervical cancers.⁵ Fifty-nine percent of black women aged 20 and above are obese, and 44.8% have hypertension.³ Black women are double the percentage points of all other groups on low-weight infant births and infant mortality and represent most new cases of chlamydia, gonorrhea, syphilis, and HIV infections.⁵ These data illustrate the risk black women face when it comes to their health.

Black women experience poor health because of an ecological system in which a macrosystem of societal practices around of race, class, and gender have great implications for black women.⁶⁻⁹ Such implications include discriminatory socioeconomic processes that constrain a black woman's economic resources that can force her into poorer neighborhoods and toxic physical environments.¹⁰ Discriminatory experiences from the macrosystem, exosystem, and chronosystem expose some black women to stress, which in addition to the impact of socioeconomic status (SES), can cause adverse health effects.¹¹ Schulz et al¹² conducted a longitudinal study with 343 African American women in Detroit to examine the effects of discrimination on depression and self-reported health (SRH) over time. Self-reported health was defined as one's perception of their general health status.¹² There was an association between a change in discrimination over time and a change in depressive symptoms over time, more specifically when discrimination increased, symptoms of depression also increased. Inversely, as discrimination increased, there was a decrease in SRH. After controlling for age and SES, the relationship between discrimination and SRH remained constant.¹² This suggests discrimination is a key factor contributing to poor mental health and SRH over time, with poor SRH as a key predictor of morbidity and mortality.¹³ Therefore, some black women are impacted by an ecosystem that limits their physical resources and provides stressful experiences that result in diminished health and life. Self-care is an individualized strategy that has the potential to reduce and buffer the burden of stress on many black women's health.¹⁴

Self-Care

The literature has paid little attention to self-care and the factors influencing its practice among black women. Self-care has been explored in nursing research, where Orem² defined self-care as a daily practice that can have therapeutic effects on human development and functioning. Orem's theory

posited self-care is the result of a balance between requisites and agency that requires awareness, detection, and interpretation of psycho-emotional and physical dysfunction to determine an appropriate course of action.^{2,15} Similarly, Baker postulated self-care for psychologists is a 3-dimensional process involving self-awareness, self-regulation, and balance.^{16,17}

There are requisites (ie, needs) that an individual observes before deliberately seeking to improve health.² Self-awareness can help an individual to detect such requisites as well as assess risk to self from harmful emotions.^{16,18} Self-awareness is a component of mindfulness that can help an individual be more cognizant of their thoughts, feelings, and sensations particularly during times of stress.^{19,20} Practicing self-awareness and mindfulness can increase self-care subsequently inspiring action to treat the effects of stress.²¹ Self-awareness and mindfulness have been shown to increase practices related to self-care such as meditation and therapy.^{22,23} However, none of these studies focused on black women.

Self-care agency drives self-care requisites into action, providing an individual with "operational powers (p. 49)"² to seek a remedy and capacity to perform operations to repair their health. This outcome is possible when the individual possesses sufficient knowledge to seek care. Similar to agency, self-regulation is the process by which an individual manages their requisites.¹⁶ This includes using self-awareness to recognize when boundaries have been exceeded.¹⁷ Self-regulation employs the conscious management of impulses and the regulation of energy, mood, and behavior to achieve balance.¹⁸ Which means that, the outcome of self-care may be obtainable through the intentional relationship between self-awareness and self-regulation.

Orem and hooks used the term agency, Shanklin-Flowers used efficacy, while Boykin and others suggested resilience is the driving force of African American engagement in health behaviors.^{1-2,10,24-26} Boykin found that when African Americans experience high stress but have low resilience, they report poor SRH.²⁵ Boykin's Dynamic Model of African American SRH supposes stressors due to discrimination, SES, and age result in poor health when not balanced by individual-, communal-, and societal-level resilience factors.²⁵ The notion that familial and communal support builds resilience is supported by literature that describes the importance of social support and community involvement in cultivating resilience to stressors which play a role in improving health.^{27,28} However, the responsibility to microsystems of families, communities, and jobs can also exacerbate stress and subsequently create poor health experienced by black women. Suplee, Gardner, and Borucki²⁹ looked at the application of self-care and care for child in a sample of minority women who had recently given birth. Their findings indicate income, housing, and relationships impact these women's ability to practice self-care after caring for their child. Thus, practicing self-care for black women may be difficult due to the need to take care of others in the face of systemic pressures. However, such a reality also makes self-care necessary

for many black women. Despite this literature, there is limited evidence that self-awareness or agency (via resilience) are associated with self-care.

Thus, in addition to exploring how self-care impacts the relationship between stress and SRH, there is a need to explore which factors impact the employment of self-care among black women. Therefore, this study seeks to explore these relationships and their appropriate predictive paths in a sample of black women. There are 2 hypotheses: mindfulness and resilience predict self-care but are mediated by income and having dependents; and self-care mediates the relationship between stress and SRH.

Methods

Sample

This was a cross-sectional study that examined the relationships among mindfulness, resilience, self-care, stress, and SRH in 223 adult black women currently living in the United States. Participants were predominately nonimmigrant (92.8%), with nonimmigrant parents or grandparents (84.8%), and ranged in age from 18 to 74 (Table 1). Immigration was explored because self-care may be influenced by culture, and black women from different countries have cultural norms that may vary.¹⁴ Most respondents were heterosexual (86.5%), single (60.1%), without dependents (62.6%), employed full time (52.5%), with personal income between \$0-\$50 000 (63.7%). The most frequent degrees were high-school diplomas (32.7%) and a master's (26.9%).

Procedure

A link to an online questionnaire with a prompt requesting the participation of black women was emailed to select offices of institutional research at US universities and colleges and to human resources offices at national organizations with large black female constituents (eg, African American sororities). Participants were encouraged in the prompt and at the end of the questionnaire to share the survey link with other black women. This process expanded participants throughout the United States. A screening item in the questionnaire required individuals to self-report their identity as black, a woman, and 18 years or older to complete the questionnaire. Completion of the questionnaire was estimated at 20 to 30 minutes and was available for 5 months. A total of 512 individuals attempted the questionnaire and 223 completed all of the assessments. Statistical power of .925 was obtained for the first hypothesis and .614 for the second using the 223 respondents.

Instruments

The online battery of instruments included scales for self-care, mindfulness, resilience, and perceived stress. A demographic

Table 1. Demographic Characteristics of Study Population.

	N	%	Mean	SD
Age	222		34.86	14.86
Immigration				
Nonimmigrant	223	92.8		
Immigrant		7.2		
Parental immigration				
Nonimmigrant	223	84.8		
Immigrant		15.2		
Sexual orientation				
Heterosexual	223	86.5		
Bisexual		8.5		
Homosexual, asexual, or Other		4.9		
Marital status				
Single	223	60.1		
Married/domestic partnership		29.1		
Widowed		.9		
Divorced		9.9		
Dependents				
0	223	62.6		
1		18.9		
2		13.5		
3		3.6		
4		1.4		
Employment status				
Full time	223	52.5		
Part time		22.9		
Unemployed		17.9		
Temporary/self-employed		6.7		
Highest degree				
Diploma/General Educational Development	223	32.7		
Associates		10.8		
Bachelors		17.9		
Masters		26.9		
Doctorate		11.7		
Personal income				
\$0-\$25 000	223	44.4		
\$26 000-\$50 000		19.3		
\$51 000-\$75 000		17.0		
\$76 000-\$100 000		9.9		
>\$101 000		9.4		

section collected height and weight to calculate body mass index (BMI), as well as age, personal income, marital status, number of dependents, highest degree obtained, sexual orientation, gender expression, and individual and parental immigration.

Self-care. The Saakvitne et al and Butler self-care assessments were combined and adapted into a 68-item scale with 7 domains: *physical, psychological, emotional, spiritual, relationship, workplace/professional, and overall balance.*^{30,31} All items were scored on a Likert rating scale: 0 = "it never occurred to me"/"never," 1 = "rarely," 2 = "occasionally,"

Table 2. Descriptive Statistics and Reliabilities for All Scales.

K = 113	Items	Minimum score	Maximum score	Mean	SD	α
Self-care assessment (total)	68	1.03	3.93	2.95	0.391	0.961
Physical	14	13.07	50.29	39.12	5.58	0.774
Psychological	12	13.08	44.33	31.48	5.41	0.775
Emotional	10	9.10	36.40	28.02	4.52	0.793
Relationship	11	10.09	40.36	26.76	6.18	0.842
Professional	11	10.09	40.36	29.00	5.28	0.793
Spiritual	8	7.13	28.50	22.72	3.72	0.770
Overall balance	2	1.50	6.00	4.98	1.06	0.832
Nonjudging inner experience	8	8	40	26.91	6.79	0.903
Awareness	8	8	40	28.57	6.27	0.914
Nonreactivity inner experience	7	11	35	22.08	4.29	0.737
Resilience	12	22	60	48.60	6.11	0.675
Perceived stress	10	0	40	18.21	8.67	0.859

and 3 = "frequently." Items on this assessment were averaged. Reliability for the subscales were acceptable and the full self-care assessment had excellent reliability (Table 2).³² A total self-care score was obtained by averaging the entire assessment. Scores ranged between 1.03 and 3.93 with a mean score of 2.95 (SD = .391).

Mindfulness. It was measured using the Five Facet Mindfulness Questionnaire, a 39-item instrument that covers 5 domains: *observing, describing, acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience*. Only the domains of *acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience* were used (23 items).¹⁹ Scales chosen had items that appeared applicable to the Baker description of self-awareness. Response categories ranged from 1 = "never true," 2 = "rarely true," 3 = "sometimes true," 4 = "often true," to 5 = "always true."¹⁶ The scores were summed, and the subscales obtained acceptable to excellent reliability (Table 2).³²

Resilience. It was assessed using the John Henryism Scale, a 12-item instrument that assesses efficacy and vigor, commitment to hard work, and determination.²⁶ The rating scale ranged from 1 = "completely false," 2 = "somewhat false," 3 = "neutral," 4 = "somewhat true," to 5 = "completely true." James noted reliability can range from .70 to .80; however, the scale yielded poor reliability with this sample (Table 2).^{26,32}

SRH and health status. They were measured using an inventory of diseases and conditions and a single-item self-rating of health with the following Likert scale options: 1 = "poor," 2 = "fair," 3 = "good," 4 = "very good," and 5 = "excellent." A total number of diseases/conditions per individual was summed.

Perceived stress. It was assessed using a sum of the scores on the Perceived Stress Scale.³³ Participants scored themselves

based on numerical values between 0 and 4 with higher scores signifying greater perceived stress. This sample had an average of 18.26 which is close to high stress score of 20 and above as given by Cohen, Kamarck, and Mermelstein. This scale yielded very good reliability (Table 2).^{32,33}

Data Analyses

Items on surveys were reversed coded when necessary. Most assessment scores resulted in continuous data with the exception of employment status, marital status, income, and SRH, which were ordinal. Pearson and Spearman Rho were calculated to determine associations between continuous and ordinal data, respectively. Continuous data met the criteria for normality except for weight and number of diseases which exceeded the parameter of 2 for kurtosis.³⁴ To test hypotheses, analyses included 1-way analysis of variance (ANOVA) and multivariate linear regression. Analyses were conducted using SPSS (SPSS Inc, Chicago, Illinois) and Process MACRO.^{35,36}

Results

The median weight was 175 lbs. (SD = 44.82) and mean BMI was 29.29 (SD = 7.10), which is considered overweight. These black women rated their health as good or very good (76%, N = 170), but self-reported having experienced at least 1 condition or disease. The most frequent self-reported conditions were depression (21.5%, N = 48), vision problems (21.1%, N = 47), headaches (20.2%, N = 45), asthma (19.7%, N = 44), anxiety (19.3%, N = 43), sexually transmitted disease (14.3%, N = 32), and hypertension (13.9%, N = 31).

Self-care was positively correlated with the 3 domains of mindfulness, resilience, SRH, and negatively correlated with stress (Table 3). The 3 domains of mindfulness were positively correlated with resilience and SRH and negatively correlated stress; resilience and SRH were positively correlated

Table 3. Pearson and Spearman Rho Correlation Coefficients for Model Variables.

	1	2	3	4	5	6	7
Self-care	1						
Nonjudging inner experience	0.216**	1					
Awareness	0.263**	0.479**	1				
Nonreactivity inner experience	0.277**	0.224**	0.138*	1			
Resilience	0.191**	0.193**	0.272**	0.178**	1		
Perceived stress	-0.353**	-0.529**	-0.362**	-0.456**	-0.179**	1	
Self-reported health	0.325**	0.200**	0.179**	0.187**	0.210**	-0.197**	1

Note. 1 = Self-care; 2 = Mindfulness-Nonjudging inner experience; 3 = Mindfulness-Awareness; 4 = Mindfulness-Nonreactivity inner experience; 5 = Resilience; 6 = Perceived Stress; 7 = self-reported health.

* $P < .05$. ** $P < .01$.

Table 4. Summary of Regression Analysis for Variables Predicting Self-Care and SRH.

Predicting self-care									
Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Nonreactivity	.020	.004	.092**	.021	.006	.236**	.021	.006	.236**
Nonjudging	.004	.004	.064						
Awareness	.011	.055	.177**	.014	.004	.227**	.014	.004	.227**
Resilience	.066	.004	.092						
Dependents				.053	.028	.128	.053	.026	.127*
Personal Income				.000	.020	-.002			
R^2		.139			.145			.145	

Mediation Model predicting SRH						
Variable	Self-care		SRH without mediation		SRH with mediation	
	β	SE β	β	SE β	β	SE β
Stress	-.353**	.063	-.181**	.066	-.090	.069
Self-care					.258**	.069
R^2		.125		.033		.091

Note. SRH = self-reported health.

* $P < .05$. ** $P < .01$.

and both were negatively correlated with stress. Additionally, self-care was positively correlated with age ($r = .182$, $P < .01$, $N = 222$), personal income ($r = .148$, $P < .01$), number of dependents ($r = .151$, $P < .05$), and highest degree obtained ($r = .138$, $P < .05$). Some of the highest correlations yielded included other factors with mindfulness-nonjudging inner experience and perceived stress.

Given employment status and marital status were nominal variables, a series of ANOVAs were computed using self-care with these variables in addition to ordinal variables: Personal income and highest degree obtained. Homogeneity of variance could be assumed for all comparisons. These ANOVAs indicated neither employment status ($P = .139$), marital status ($P = .059$), personal income ($P = .089$), or highest degree obtained ($P = .369$) significantly differed in self-care between groups and response categories.

To test the hypothesis that resilience and all 3 facets of mindfulness predict self-care, these factors were entered as independent variables in a multiple linear regression. The linear regression model was significant ($F[4, 218] = 8.808$, $P = .000$) with 13.9% of the variance accounted for in Model 1, where only nonreactivity to inner experience ($\beta = .092$, $P = .001$) and awareness ($\beta = .177$, $P = .017$) were significant (Table 4). Given the significance of the correlation between self-care and resilience, a second multiple linear regression was run with only nonreactivity and resilience, and separately with awareness and resilience as predictors. With awareness, resilience was not significant ($P = .153$). Only with nonreactivity was resilience significant ($\beta = .147$, $P = .025$).

Personal income and number of dependents were used as separate mediators in regression analyses with nonreactivity

and awareness. For mediation to occur, nonreactivity and awareness had to predict dependents and personal income, dependents and personal income had to predict self-care; and with all 4 variables in a predictive model (Model 2), nonreactivity and awareness had to predict self-care at lesser values (or not at all) with dependents and personal income. Nonreactivity ($P = .055$) nor awareness ($P = .828$) predicted dependents. Likewise, neither nonreactivity ($P = .119$) nor awareness ($P = .218$) predicted personal income. Dependents did not predict self-care with nonreactivity in the model ($P = .063$), but did predict self-care with awareness ($\beta = .064$, $P = .017$). Personal income did not predict self-care with nonreactivity ($P = .249$) or awareness ($P = .295$) in the model. This information indicates no mediation exists.

In a multiple linear regression with all 4 variables ($F[4, 217] = 9.19$, $P = .000$), personal income did not predict self-care ($P = .982$) but dependents was trending ($P = .065$). Therefore, personal income was dropped from the model ($F[3, 218] = 12.321$, $P = .000$, $R^2 = .145$) resulting in significant values for nonreactivity ($\beta = .236$, $P = .000$), awareness ($\beta = .227$, $P = .000$), and dependents ($\beta = .127$, $P = .045$) with no change in R^2 (Model 3). Structure coefficients indicated nonreactivity (.059) was a slightly stronger indicator than awareness (.056), but largely stronger than number of dependents (.018). Collinearity and multicollinearity were not assumed based on tolerance (.966-.985) more than .10 and variance inflation factors (1.01-1.03) less than 10.³

To test the second hypothesis that self-care mediates the relationship between perceived stress and SRH, all 3 variables were transformed into z -scores to standardize the various scales. Using Process MACRO model 4 for mediation, the following regression models were run together: stress predicting self-care, stress predicting SRH, and both stress and self-care predicting SRH. Stress predicted self-care ($\beta = -.353$, $P < .001$) and SRH ($\beta = -.181$, $P = .007$). In the model with self-care, stress no longer predicted SRH ($P = .191$; Table 4). Mediation of self-care on the relationship between stress and SRH was indicated by the lack of significance of stress once self-care was added to the model [$F(2, 220) = 11.01$, $P = .000$, $R^2 = .091$]. This indicated self-care completely mediated the relationship between stress and SRH.

Discussion

The goals of this research were to examine the relationships between self-awareness and resilience in predicting self-care and determine the role of self-care in the health of a sample of black women. There were no differences in the amount of self-care practiced by employment status, marital status, personal income, and highest degree obtained. These findings suggest self-care is not contingent upon socioeconomic factors, although amount of self-care practiced was associated with increases in personal income and education. The correlation between self-care with personal income and education

may suggest these factors follow similar trends, but are not dependent on each other.

Despite its correlation with self-care, personal income did not predict self-care in the regression model, which is contrary to the findings of Suplee et al.²⁹ Suplee et al.²⁹ also discussed relationships as associated with self-care. In this study, having dependents was used as a proxy for relationships. Having dependents was both associated and predictive of self-care. There was a positive relationship between numbers of dependents and self-care whereby as number of dependents increased, practices of self-care also increased. This may speak to the model by Boykin that relationships with dependents supply black women with resilience to combat poor health.²⁵

This study examined the paths of 3 mindfulness categories (ie, awareness, nonreactivity to inner experience, and nonjudging inner experience) and resilience in predicting self-care. The results provide statistical evidence that mindfulness and resilience are components of practicing self-care. Self-care was positively correlated with resilience and all 3 facets of mindfulness although not predicted by nonjudging inner experience. Resilience was only predictive of self-care with nonreactivity in the model. Given resilience was also correlated with the 3 facets of mindfulness, it is possible that resilience was suppressed by these relationships. The strongest path to self-care included awareness, nonreactivity, and dependents as contributing variables without mediation. This means having dependents or personal income do not interrupt the path from some forms of mindfulness to self-care.

Both models (nonreactivity and resilience, or awareness, nonreactivity, and dependents) accounted for a small percentage of self-care. This may imply that there are other factors that influence self-care. In addition, the subscales of the self-care assessment did not obtain strong reliability; thus, it is possible that the variance unaccounted for in self-care is due to issues with the subscales. Future analyses will explore the validity of this self-care assessment with black women.

Finally, self-care completely mediated the relationship between stress and SRH as hypothesized. This finding is promising given the impact of the experience of discrimination on weight and one's general perception of health.^{7,8} This sample of black women was above the average for weight and BMI based on national standards. An overwhelming majority of these women had at least one self-reported condition or disease, suffering mostly from depression. With the average stress score being considered high, the possibility that practices of self-care can interrupt the impact of stress on health is promising.³ However, these women considered their health to be good or very good despite physical and psychological health. This may suggest physical and psychological health, or medically recognized conditions and diseases, are not the only ways these women conceptualize their health. Consequently, there may be practices of self-care employed to tackle other areas of health (e.g., emotional or relationship).

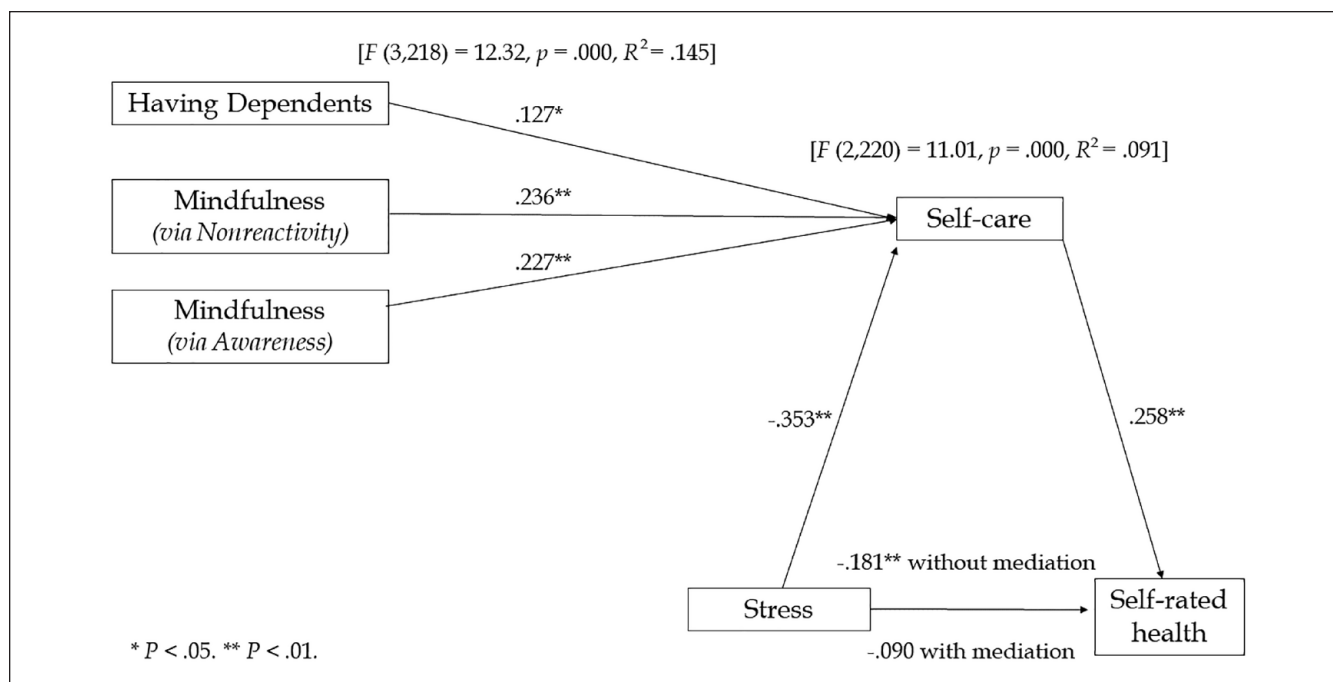


Figure 1. Predicted path to SRH for black women.

Limitations

Resilience was poorly measured in this sample, and the John Henryism Scale may be an inadequately proxy for self-care agency due to differences between the terms. Although number of dependents played an important role in these analyses, it may not have captured what Suplee et al²⁹ and Boykin²⁵ meant by relationships. Additionally, the questionnaire was lengthy resulting in a 49% completion rate and smaller sample. However, most relationships between variables were statistically significant despite mild correlations obtained from the limited sample size. Finally, an examination of sampling bias could not be examined because the location of the respondent was not requested.

Conclusion

Greater awareness, nonreactivity, and resilience lead to increased self-care, and self-care is crucial to disrupting the negative influence of stress on self-rated health (Figure 1). Thus, for black women who experience high stress, some forms of mindfulness and other approaches to self-care may reduce the impact of stress on their health.

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