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## Racism-Related Experiences and Adiposity: Findings from the Black Women’s Experiences Living with Lupus (BeWELL) Study

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### Abstract

**Background:** Studies suggest that higher rates of excess adiposity in Black women may in part be driven by experiences of racism. Racial microaggressions, which include unintentional and subtle slights and insults, and responses to racism such as racism-related vigilance, may contribute to adiposity in this population. This study examined these understudied racism-related facets as well as interpersonal racial discrimination in relation to adiposity in a cohort of Black women with systemic lupus erythematosus (SLE).

**Methods:** Data are from the Black Women’s Experiences Living with Lupus (BeWELL) Study (2015-2017; n=432). Linear regression was used to examine adiposity measures (body mass index [BMI], percent body fat, and waist-to-hip ratio [WHR]) measured during a physical examination, in relation to self-reported measures of racial microaggressions, racism-related vigilance, and interpersonal racial discrimination.

**Results:** Compared to infrequent microaggressions, very frequent experiences of microaggressions were associated with 2.9 kg/m<sup>2</sup> higher BMI (95% CI: 0.63, 5.21) and 2.6% higher body fat (95% CI: 0.32, 4.80) after adjusting for covariates. Racism-related vigilance, measured continuously, was positively associated with BMI (b=0.84; 95% CI: 0.08, 1.61) and percent body fat (b=0.89; 95% CI: 0.14, 1.64). Very frequent experiences of everyday discrimination were associated with higher BMI (b=2.70; 95% CI: 0.58, 4.83) and WHR (b=0.32; 95% CI: 0.09, 0.55) compared to less frequent everyday discrimination.

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**Conclusions:** Our results suggest that various dimensions of racism are associated with excess adiposity. Efforts to address obesity among Black women with SLE should consider these multiple aspects to reduce racial inequities in adiposity.

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Obesity captures a state of excess adiposity that is related to elevated risk for cardiovascular disease, type 2 diabetes, and premature mortality (Boggs et al., 2011; Flegal et al., 2013; S. Krishnan et al., 2007). The prevalence of obesity in the United States has steadily increased, particularly among Black women. Nearly two-thirds of Black women have obesity (body mass index [BMI]  $\geq 30$  kg/m<sup>2</sup>) (Hales et al., 2020); moreover, a greater proportion of Black women (29%) have severe obesity (BMI  $\geq 35$  kg/m<sup>2</sup>) compared to Hispanic (20%), White (15%), and Asian (3%) women (Ogden et al., 2014). One potential contributing factor to excess adiposity among Black women may be the experience of racism, which is characterized through a variety of forms that may have negative health impacts (T. T. Lewis et al., 2015; Williams et al., 2019). Most epidemiological studies have focused on direct encounters with interpersonal racial discrimination—in specific domains (e.g., workplaces, criminal justice contexts) or routine, everyday interactions (e.g., being treated with less courtesy or respect, being threatened or harassed)—that have previously been shown to be associated with excess adiposity (Bernardo et al., 2017).

Racial microaggressions constitute an understudied facet of racism that may also produce negative health consequences (Williams & Mohammed, 2013). Microaggressions are broadly conceptualized as brief, commonplace messages that are often derogatory and promote hostility toward people of color (Sue et al., 2007). One particular form of microaggression is the experience of unintentional slights and insults. Examples include those around ascription of intelligence (e.g., remarking about how articulate someone is) and the myth of meritocracy (e.g., belief that race does not influence one's level of success).

These experiences of microaggressions are often more subtle and ambiguous, which make them more difficult to acknowledge and identify. Studies have documented several psychological consequences associated with microaggressions, including depression, anxiety, and traumatic stress (A. K. Lee et al., 2016; Nadal et al., 2014, 2019; O'Keefe et al., 2015), but to date, only one study to our knowledge has investigated the association between microaggressions and adiposity among Black women (Manns-James et al., 2020). In this study, interpersonal racial discrimination was not correlated with either BMI or waist circumference; however, the authors did find that microaggressions were positively correlated with these measures of adiposity.

Repeated experiences of racism, including interpersonal racial discrimination as well as racial microaggressions, may result in heightened vigilance, as a means to brace oneself for the potential of future experiences of racism (Clark et al., 2006). Racism-related vigilance includes cognitive, affective, behavioral, and physiologic efforts to prepare oneself for the experience of racism, regardless of whether or not it occurs (H. Lee & Hicken, 2016). While vigilance may result from previous experience of racial discrimination, women may become more vigilant as a result of experiences recalled by family and friends or nationally publicized killings and assaults of unarmed Black Americans (e.g., Alton Sterling, Sandra Bland, Philando Castile) (Hicken et al., 2018). Chronic vigilance has also been

associated with higher prevalence of obesity (Powell et al., 2016) and higher BMI and waist circumference (Hicken et al., 2018).

Adiposity shares similar physiologic pathways of inflammation with systemic lupus erythematosus (SLE), a chronic autoimmune disorder characterized by inflammation and unpredictable symptom onset. SLE disproportionately impacts Black women (Lim & Drenkard, 2008). Women overall have approximately 9 times the prevalence of SLE compared to men; among women, Black women have 3-4 times the prevalence compared to their White counterparts (Lim et al., 2014). Moreover, Black women experience greater SLE severity, including higher levels of disease activity, and worse consequences, such as irreversible organ damage and mortality (E. Krishnan & Hubert, 2006; Plantinga et al., 2016; Rhew et al., 2009).

Psychosocial stress, including experiences of racial discrimination, has been found to exacerbate symptoms and complications of SLE (Chae et al., 2019; Martz et al., 2019; Yelin et al., 2018). Qualitatively unique forms of gendered racism (e.g., experiences in workplace settings, negative comments regarding Black women's physical appearance) (J. A. Lewis et al., 2016) compound stressors associated with the management of a chronic illness, which may result in poorer health outcomes (Moody & Lewis, 2019). Moreover, excess adiposity has been found to be associated with greater disease activity and worse functioning (Katz et al., 2011; Patterson et al., 2019; Teh et al., 2019), suggesting that understanding how different forms of racial discrimination are associated with adiposity among Black women with SLE may help inform better ways to manage the disease. The goal of this study was to examine adiposity in relation to interpersonal racial discrimination, racial microaggressions, and racism-related vigilance among Black women with SLE.

## METHODS

### Study Population

The Black Women's Experiences Living with Lupus (BeWELL) Study was comprised of 438 Black women diagnosed with SLE, aged 18-79 years old, living in the Metropolitan Atlanta area. Participants were recruited from the larger Georgians Organized Against Lupus (GOAL) cohort (Drenkard et al., 2014). During the interview, participants provided information on sociodemographic characteristics, lifestyle, and behavioral factors. Trained field researchers collected measures of adiposity during a physical exam. We examined data collected at baseline (April 2015-May 2017). Most participants were interviewed at the Division of Rheumatology of the Emory University School of Medicine, though some women (n=20) elected to participate via home visits. All study protocols were approved by the Institutional Review Board at Emory University.

### Measures

**Everyday Racial Discrimination.**—We measured everyday interpersonal racial discrimination (e.g., being harassed or threatened, being viewed as unintelligent) using the 10-item Everyday Discrimination Scale (EDS) (Williams et al., 1997), which was modified to explicitly assess experiences attributed to “race, ethnicity, or color” (Cronbach's

alpha=0.91) (Martz et al., 2019). Participants were asked about the frequency of these occurrences during the past 12 months. Response choices were: 0 = never, 1 = less than once a year, 2 = a few times a year, 3 = a few times a month, 4 = at least once a week, and 5 = almost every day. Scores were averaged across all items. In addition to examining this as a continuous variable, we also created a 3-level categorical variable: less frequent: 1, somewhat frequent: 1.01 – 2, very frequent: >2.

**Microaggressions.**—Racial microaggressions were measured using a 12-item scale based on a framework created by Sue et al. (2007). Participants were asked how frequently they had ever experienced unintentional racial slights attributed to being Black. Example items included: “People have commented on how articulate you are in a surprised way because you are Black”; “You hear people say that Blacks get advantages and unfair benefits”; “You hear people say that they can't be racist because they have Black friends.” The scale demonstrated good reliability among BeWELL participants ( $\alpha=0.86$ ) (Hunter et al., 2020). We examined the mean score across items, which had response options of: 1=never; 2=rarely; 3=sometimes; and 4=many times. In addition to examining this as a continuous variable, we also created a 3-level categorical variable: less frequent: 2; somewhat frequent: 2.01-3; and very frequent: >3.

**Racism-Related Vigilance.**—Vigilance was measured with a 4-item scale developed for this study that assesses emotional, cognitive, behavioral, and physical efforts to brace oneself for potential experiences of racism (e.g., “I avoid going to some places where I think I will be discriminated against because I am Black”; “I feel like I have to be vigilant about the possibility I will be discriminated against because I am Black”). Item response options were: 1=strongly agree; 2=agree; 3=neither agree nor disagree; 4=disagree; and 5=strongly disagree. We reverse-coded items so that higher scores indicated greater vigilance. We then calculated the mean score across all items. In addition to examining this as a continuous variable, we created a three-level categorical variable: low vigilance: 2; neutral vigilance: 2.01-3; high vigilance: > 3.

**Measures of Adiposity.**—Multiple measures of adiposity were collected in the BeWELL Study. BMI was calculated using weight (kg) and height (m<sup>2</sup>), which were measured by a trained field researcher. For eight women with a physical disability and one participant who refused to participate in this component, we utilized self-reported height and weight information. Another participant (n=1) self-reported weight information due to instrument limitations.

Though BMI is the most common tool used to assess body fat, it may be an imperfect measure of fat distribution. Also measured was percent body fat using a handheld body fat analyzer (Omron Healthcare, Incorporated). The field researcher entered the participant's height and weight information along with demographic characteristics (e.g., age, gender) into the device; participants were instructed on how to properly grip the device, which then estimated percent body fat using bioelectrical impedance technology. Several participants (n=23) had percent body fat that was “out of range” for the analyzer; thus, we top-coded these to the highest value of percent body fat for the analyzer.

Aside from general fat distribution, evidence suggests abdominal fat may be a better indicator of cardiovascular disease risk compared to BMI (Cao et al., 2018). Also measured was waist-to-hip ratio, which was calculated from waist and hip circumference measurements in centimeters. Participants' waist and hip measurements who exceeded the tape measure (n=13) were coded at the maximum value (152cm).

### Covariates

Covariates were selected based on theorized relationships between racism and adiposity and included: age, education level (less than high school; high school; some college; Bachelor's degree or higher), work status (full-time; part-time; out of labor force including retired, homemaker, or retired; not working, including unemployed, laid off, or unable to work due to health or disability), financial strain, ratio of income to poverty, current smoking status (yes/no), alcohol intake (yes/no), years since SLE diagnosis, SLE disease activity, and SLE organ damage.

Financial strain was measured using the six-item Financial Strain Index from the Welfare, Children, and Families: Three-City Study assessing participants' level of financial strain, including difficulty paying bills or inability to afford necessary resources (e.g., food, clothing, housing) (Angel et al., 2012). Items were summed with scores ranging from 6 to 24; higher scores indicated greater financial strain. Ratio of family income to poverty was calculated by comparing the reported annual household income to the federal poverty level, which is based on the number of adult and child family members living in the household (National Center for Health Statistics, 2015). SLE disease activity was measured using the Systemic Lupus Activity Questionnaire (SLAQ), a 24-item questionnaire related to disease activity within the past 3 months, including symptoms such as fatigue, joint swelling, and rashes (Karlson et al., 2003). Possible SLAQ scores range from 0 to 44, with higher scores indicating greater disease activity. SLE organ damage was measured using the Brief Index of Lupus Damage (BILD), a validated measure assessing the extent of cumulative organ damage since onset of SLE and present for at least 6 months across 12 organ systems (Yazdany et al., 2011). Possible BILD scores range from 0 to 30, with higher scores indicating greater organ damage.

### Statistical Analysis

Women who were missing data on racism measures (n=1) and covariates (n=5) were excluded from analyses. We had complete data on BMI and percent body fat, resulting in an analytic sample of 432 women for these analyses; women who were missing WHR (n=4) were excluded from those outcome-specific models, resulting in an analytic sample size of 428 for these analyses.

We used multivariable linear regression to assess associations between our three adiposity outcomes (BMI, percent body fat, and WHR) and each of the three racism measures individually (everyday discrimination, microaggressions, vigilance), both as categorical and continuous variables. Statistical analyses were performed using SAS v9.4 software (SAS Institute, Inc., Cary, NC).

Sensitivity analyses were performed, for instance, excluding participants who were top-coded from analyses. Results from these analyses did not result in substantively different findings.

## RESULTS

The mean age of participants was 46.8 years, with a mean disease activity score of 15.1 and mean BMI of 30.9 kg/m<sup>2</sup>. Almost half of participants were classified as being in the “less frequent” interpersonal racial discrimination group (on average experiencing each of the ten items “less than once a year”; n=207; 47.9%). Most participants also reported somewhat frequently experiencing microaggressions (n=222; 51.4%). Regarding vigilance, the largest group was those categorized as “high vigilance” (n=177; 41.0%). Additional baseline participant characteristics are provided in Table 1. Correlations between all main study variables were also provided; all racial discrimination measures and vigilance were positively correlated (Table 2). Everyday discrimination was weakly correlated with all adiposity measures (r=0.10-0.16,  $p<0.05$ ). Microaggressions were also weakly correlated with BMI (r=0.15,  $p<0.01$ ) and percent body fat (r=0.12,  $p<0.05$ ) but not correlated with WHR (r=0.03,  $p=0.56$ ). Vigilance was weakly correlated with BMI (r=0.11,  $p<0.05$ ) but not correlated with WHR nor percent body fat.

### Body Mass Index

Results from linear regression models for BMI are presented in Table 3. Examining the three racism variables categorically, we found that very frequent experiences of racial microaggressions were associated with 2.9 kg/m<sup>2</sup> greater BMI compared to those who reported less frequent experiences after adjusting for covariates (b=2.92; 95% CI: 0.63, 5.21). When examined continuously, microaggressions were positively associated with higher BMI after adjustment for covariates (b=1.26; 95% CI: 0.02, 2.50).

When examining racism-related vigilance as a categorical variable, we found a significant association with BMI in the age-adjusted model, with those in the high vigilance group having 2.1 kg/m<sup>2</sup> greater BMI compared to those in the low vigilance group (b=2.16; 95% CI: 0.29, 4.02); however, this effect was no longer significant after adjustment for the complete set of covariates (b=1.67; 95% CI: -0.20, 3.54). When examined continuously, racism-related vigilance was positively associated with BMI in both age-adjusted models (b=1.08; 95% CI: 0.32, 1.84) and the fully adjusted model (b=0.84; 95% CI: 0.08, 1.61).

Very frequent experiences of everyday discrimination (on average, experiencing each of the ten items “more than a few times a year”) were associated with 2.7 kg/m<sup>2</sup> greater BMI compared to less frequent experiences after adjusting for covariates (b=2.70; 95% CI 0.58, 4.83). Associations were also significant when examined continuously (b=1.37; 95% CI: 0.54, 2.19).

### Percent Body Fat

Similar to BMI, very frequent experiences of racial microaggressions were associated with 2.6% higher body fat compared to less frequent experiences after adjusting for covariates (Table 3, b=2.56; 95% CI: 0.32, 4.80). When examined continuously, microaggressions were

significantly associated with percent body fat in the age-adjusted model ( $b=1.40$ ; 95% CI: 0.29, 2.50) but this was no longer significant after adjusting for the full set of covariates ( $b=0.95$ ; 95% CI:  $-0.26$ , 2.16).

When examining racism-related vigilance as a categorical variable, we found a statistically significant association with percent body fat in the age-adjusted model, with those in the high vigilance group having 2.1% higher percent body fat compared to those in the low vigilance group ( $b=2.09$ ; 95% CI: 0.28, 3.90); however, this association was attenuated and no longer significant in the fully adjusted model ( $b=1.78$ ; 95% CI:  $-0.04$ , 3.60). When examined continuously, racism-related vigilance was positively associated with percent body fat in both the age-adjusted ( $b=1.01$ ; 95% CI: 0.27, 1.75) and fully adjusted models ( $b=0.86$ ; 95% CI: 0.12, 1.61). Everyday discrimination was positively associated with percent body fat when examined continuously in the age-adjusted model ( $b=1.00$ ; 95% CI: 0.23, 1.78); however, in the fully adjusted model, the association was attenuated and no longer significant ( $b=0.78$ ; 95% CI:  $-0.03$ , 1.60).

### Waist-to-Hip Ratio

We did not observe any significant associations between microaggressions and vigilance with WHR in fully adjusted models. However, experiencing very frequent everyday discrimination was associated with higher WHR compared to less frequent experiences in both age-adjusted ( $b=0.30$ ; 95% CI: 0.09, 0.52) and fully adjusted models ( $b=0.32$ ; 95% CI: 0.09, 0.55). When examined continuously, everyday discrimination was not associated with WHR.

## DISCUSSION

This study examined adiposity in relation to interpersonal racial discrimination, racial microaggressions, and racism-related vigilance among Black women with SLE. In accordance with prior research, our results suggest that multiple dimensions of racism negatively impact adiposity.

A notable contribution of our work is our finding that experiences of microaggressions and racism-related vigilance, relatively understudied facets of racism, are associated with BMI and percent body fat (though not waist-to-hip ratio) among Black women with SLE. These findings are consistent with prior research (Hicken et al., 2018; Manns-James et al., 2020; Powell et al., 2016). For example, microaggressions were associated with higher BMI and waist circumference among 136 Black collegiate women; blatant forms of interpersonal racial discrimination were not directly correlated with adiposity in this sample (Manns-James et al., 2020). Another study nationally representative of Black adults found that thinking about race daily, a measure of vigilance, was associated with obesity (Powell et al., 2016). Lastly, data from the Chicago Community Adult Health Study revealed that vigilance—not discrimination—was associated with higher BMI and waist circumference among Black women (Hicken et al., 2018).

Our findings also largely corroborate previous research that found that direct experiences with interpersonal racial discrimination contribute to excess adiposity in this population

(Cozier et al., 2009, 2014), though there is measurement complexity in how interpersonal racial discrimination is defined, either as everyday or lifetime experiences. Some studies have found that the Experiences of Discrimination (EOD) measure significantly predicts adiposity (Manns-James et al., 2020), while others have found an absent or inverse association with adiposity (Shin et al., 2017). Differences in modeling, measures used, or studied populations may explain divergent findings. The EOD measure was initially included in our analyses though later dropped due to multicollinearity with the EDS.

Our results suggest that the experience of racism, regardless of whether the perpetrator is acting intentionally or unintentionally, is associated with greater adiposity among Black women with SLE. One possible mechanism through which this may occur is through the engagement of psychobiological pathways, including prolonged activation of the hypothalamic-pituitary-adrenal (HPA) axis and overproduction of pro-inflammatory cytokines. Racial discrimination has been previously linked to elevated inflammatory cytokines and SLE disease activity (Beatty Moody et al., 2014; Eudy et al., 2014; Su et al., 2012). Our findings contribute to understanding how multiple facets of racism negatively impact Black women, who are disproportionately affected by excess adiposity and SLE.

### Strengths and Limitations

Strengths of our study include the examination of racism in three dimensions: microaggressions, vigilance, and everyday racial discrimination. We also analyzed multiple objective anthropometric measurements of adiposity. However, several limitations must be considered. First, we may have unmeasured confounding due to the lack of measurements for discrimination based on body size or weight. In addition to racial and gender discrimination, Black women may also be more likely to experience weight discrimination (Puhl et al., 2008), which suggests that obesity may attract racist behavior from society at large. Second, our cross-sectional observation study design limits inferences regarding a causal association between racial discrimination and incident adiposity. Future research should utilize a life course approach to examine the relationship between the developmental timing of exposures and changes in adiposity over time. Third, our study did not examine structural forms of racism (e.g., racial residential segregation) that studies have found contribute to adiposity (Bower et al., 2015; Kershaw et al., 2013; Pool et al., 2018). To fully understand mechanisms by which racial discrimination affects health, a greater focus on how institutional and systemic forms of racism are related to and interact with individual experiences of racism is needed. Fourth, our study utilized a newly created vigilance scale that has not been validated in other populations. Though our scale demonstrated good reliability among BeWELL participants ( $\alpha=0.85$ ), there is a critical need to assess how existing measures of vigilance accurately and adequately capture complex phenomena concerning how responses to racism are associated with physical and mental health. Lastly, our study population included only Black women with SLE, which may limit generalizability of findings, though studies in healthy Black women also found associations between racial discrimination and greater adiposity (Cozier et al., 2009, 2014).

## Implications for Practice and or Policy

Recently, racism was recognized as a public health issue (Centers for Disease Control and Prevention, 2021) and our findings add to existing knowledge that experiencing racial discrimination is detrimental to health. Our findings also contribute to a growing body of evidence that racial microaggressions and racism-related vigilance may be relevant to adiposity among Black women with a chronic inflammatory illness. Several studies have documented the direct harmful effects of discrimination and related stress on SLE outcomes (e.g., disease activity, organ damage) among Black women (Chae et al., 2019; Hunter et al., 2020; Martz et al., 2019). This study provides additional insight into mechanisms by which discrimination may be associated with poorer disease outcomes in this population, i.e., via adiposity, which is an important health outcome among people living with SLE (Katz et al., 2011; Patterson et al., 2019; Teh et al., 2019). Future work is needed to understand biologic mechanisms regarding how discrimination is associated with disease activity through obesity.

Historically, interventions have often targeted blatant forms of racial discrimination. However, the more ambiguous and subtle forms of racism are highly salient in the lives of Black Americans and also result in health tolls (Hall & Fields, 2015; Sue et al., 2008). Interventions that address multiple forms of racism across societal domains may reduce chronic stress and subsequently improve health outcomes.

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Data Access and Responsibility: David H. Chae had full access to all the data in the study and takes responsibility for the integrity of the data. Nicole D. Fields takes responsibility for the accuracy of the data analysis.

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**Table 1**

Baseline Characteristics of Black Women's Experiences Living with Lupus (BeWELL) Study Participants, 2015-2017

Characteristic	Mean	SD
Age	46.8	12.3
Financial Strain	13.6	4.4
Poverty-to-Income Ratio	2.0	1.7
Years Since Diagnosis	16.0	10.4
SLE Activity (SLAQ Score)	15.1	8.0
SLE Organ Damage (BILD Score)	2.5	2.5
BMI	30.9	8.1
WHR	0.8	0.1
Percent Body Fat	37.8	8.7
	<b>N</b>	<b>%</b>
Education Level		
Less than high school	36	8.3%
High school	78	18.1%
Some college	196	45.4%
Bachelor's degree or higher	122	28.2%
Work Status		
Full-time	124	28.7%
Part-time	54	12.5%
Out of labor force	21	4.9%
Unable to work	233	53.9%
Smoking Status		
Yes	63	14.6%
No	369	85.4%
Alcohol Intake		
Yes	171	39.6%
No	261	60.4%
Everyday Discrimination		
Less frequent	207	47.9%
Somewhat frequent	146	33.8%
Very frequent	79	18.3%
Experience of Microaggressions		
Less frequent	120	27.8%
Somewhat frequent	222	51.4%
Very frequent	90	20.8%
Racism-Related Vigilance		
Not vigilant	118	27.3%
Neutral	137	31.7%
Vigilant	177	41.0%

Abbreviations: BILD, Brief Index of Lupus Damage; BMI, Body Mass Index; SD, standard deviation; SLAQ: Systemic Lupus Activity Questionnaire; SLE: systemic lupus erythematosus; WHR, waist-to-hip ratio

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**Table 2**

Correlations of all major study variables, N=432

	1	2	3	4	5	6
1. Everyday Discrimination	1.00					
2. Experience of Microaggressions	0.41 ***	1.00				
3. Racism-Related Vigilance	0.42 ***	0.29 ***	1.00			
4. Body Mass Index	0.16 **	0.15 **	0.11 *	1.00		
5. Percent Body Fat	0.10 *	0.12 *	0.09	0.81 ***	1.00	
6. Waist-to-Hip Ratio	0.13 **	0.03	0.06	0.36 ***	0.32 ***	1.00

\*\*\*  $p < .0001$

\*\*  $p < .01$

\*  $p < .05$

**Table 3**  
 Baseline Analysis of the Association between Racism-Related Experiences and Select Measures of Adiposity in The Black Women's Experiences Living with Lupus Study, 2015-2017

		b (95% CI)					
		BMI, kg/m <sup>2</sup> (n=432)		Percent Body Fat, % (n=428)		Waist-to-Hip Ratio (n=428)	
	Age-Adjusted	Multivariable Adjusted <sup>a</sup>	Age-Adjusted	Multivariable Adjusted	Age-Adjusted	Multivariable Adjusted	
<b>Experience of Microaggressions</b>							
Infrequent	ref	ref	ref	ref	ref	ref	
Somewhat frequent	1.78 (0.01, 3.55) *	1.24 (-0.55, 3.03)	1.05 (-0.67, 2.78)	0.55 (-1.20, 2.29)	0.10 (-0.09, 0.29)	0.10 (-0.10, 0.29)	
Very frequent	3.62 (1.45, 5.79) **	2.92 (0.63, 5.21) *	3.24 (1.12, 5.35) **	2.56 (0.32, 4.80) *	0.06 (-0.17, 0.29)	0.08 (-0.17, 0.33)	
Continuous	1.70 (0.57, 2.83) **	1.26 (0.02, 2.50) *	1.40 (0.29, 2.50) *	0.95 (-0.26, 2.16)	0.03 (-0.09, 0.15)	0.04 (-0.10, 0.17)	
<b>Racism-Related Vigilance</b>							
Not vigilant	ref	ref	ref	ref	ref	ref	
Neutral	1.04 (-0.93, 3.01)	0.85 (-1.11, 2.82)	0.52 (-1.39, 2.44)	0.41 (-1.50, 2.32)	0.03 (-0.17, 0.24)	0.01 (-0.20, 0.22)	
Vigilant	2.16 (0.29, 4.02) *	1.67 (-0.20, 3.54)	2.09 (0.28, 3.90) *	1.78 (-0.04, 3.60)	0.13 (-0.06, 0.33)	0.13 (-0.07, 0.33)	
Continuous	1.08 (0.32, 1.84) **	0.84 (0.08, 1.61) *	1.01 (0.27, 1.75) **	0.86 (0.12, 1.61) *	0.08 (0.001, 0.16) *	0.08 (-0.01, 0.16)	
<b>Everyday Discrimination</b>							
Less frequent	ref	ref	ref	ref	ref	ref	
Somewhat frequent	1.45 (-0.24, 3.13)	1.21 (-0.50, 2.92)	1.42 (-0.24, 3.07)	1.33 (-0.34, 3.01)	0.10 (-0.08, 0.27)	0.12 (-0.06, 0.31)	
Very frequent	3.36 (1.30, 5.42) **	2.70 (0.58, 4.83) *	1.97 (-0.04, 3.99)	1.47 (-0.61, 3.55)	0.30 (0.09, 0.52) **	0.32 (0.09, 0.55) **	
Continuous	1.61 (0.82, 2.40) ***	1.37 (0.54, 2.19) **	1.00 (0.23, 1.78) *	0.78 (-0.03, 1.60)	0.08 (-0.003, 0.17)	0.08 (-0.01, 0.17)	

\*\*\*  
 p<.0001

\*\*  
 p<.01

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<sup>a</sup>  
\*  
 $P < .05$

Abbreviations: BeWELL, Black Women's Experiences Living with Lupus; BMI, Body Mass Index; CI, confidence interval

<sup>a</sup>Adjusted for age, education level (less than high school, high school, some college, Bachelor's degree or higher), work status (full time, half-time, out of labor force, unable to work), financial strain, ratio of income to poverty, smoking status, alcohol drinking status, SLE disease activity, SLE organ damage.