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Socioeconomic Status and Symptoms of Depression and Anxiety in African American College
Students: The Mediating Role of Hopelessness

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Abstract

Factors such as SES and hopelessness, a dimension of cognitive vulnerability, have been associated with the onset of depression and anxiety pathology in primarily European American study samples. The purpose of this brief report was to examine a main effect of socioeconomic status (SES) and mediating effect of hopelessness in relation to acute symptoms of depression and anxiety in African American college students. Vulnerability-stress theories suggest that cognitively vulnerable individuals are more likely to develop depressive symptoms than individuals without cognitive vulnerabilities (Hankin & Abela, 2005). Participants were 133 African American college students who completed self-report measures of hopelessness and symptoms of depression and anxiety. Results revealed that the relationship between participants' SES and participants' symptoms of depression was partially mediated by self-reported hopelessness. The relationship between participants' SES and anxiety symptoms was fully mediated by their level of hopelessness. However, the direction of the findings was unexpected in that higher SES was associated with increased symptoms of depression and anxiety and also increased hopelessness. Future research and considerations for intervention are briefly discussed.

Keywords: Socioeconomic status, hopelessness, depression, anxiety, African Americans

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Depression and anxiety are the most commonly occurring psychological disorders in the U.S. (National Institute of Mental Health [NIMH], 2010). Among college students, 43% reported that they felt “so depressed it was difficult to function” at least once in the previous 12 months (American College Health, 2010). A study examining the prevalence of psychological symptoms among African American college students found that although not significantly different, African American college students reported more symptoms of depression and anxiety than European American college students (Rosenthal & Schreiner, 2000). Some have noted that psychological symptoms may be more debilitating for African Americans than for European Americans and that African Americans who experience depression or anxiety symptoms are less likely to improve from treatment (Brown, Schulberg, Sacco, Perel & Houck, 1999; Williams et al., 2007). Much of the available research, however, has been largely based on European American samples (Sue & Chu, 2003). Furthermore, there seems to be a paucity of research examining factors associated with depression and anxiety in African American college students. The purpose of this study was to examine how socioeconomic status (SES) and hopelessness might be related to depression and anxiety symptomatology in a sample of African American college students.

The cognitive vulnerability-stress theory has been proposed in conceptualizing both depression and anxiety symptomatology (Hankin & Abela, 2005). Hopelessness, a dimension of cognitive vulnerability, is defined as the expectation that only negative events will occur, that positive events will not occur, and that one cannot control the occurrence of such events (Abramson, Metalsky, & Alloy, 1989). The specific component of hopelessness whereby one

cannot control the occurrence of negative events is said to be related to anxiety symptoms (Alloy, Kelly, Minerka, & Clements, 1990). Vulnerability-stress theories posit that the interaction between preexisting cognitive vulnerability factors (e.g., hopelessness) and the occurrence of negative events leads to the onset of depressive and anxious symptoms (Monroe & Hadjiyannakis, 2002; Monroe & Simons, 1991). Vulnerability-stress theories specify that cognitively vulnerable individuals are more likely to develop depressive symptoms than individuals without cognitive vulnerabilities in response to negative life events (Hankin & Abela, 2005).

Since African Americans are overrepresented among socially and economically strained subgroups, with approximately 24% of the African American population living below the poverty line (Census Bureau, 2009), it is likely that African Americans experience relatively more stressors than European Americans. Studies reveal that SES is associated with higher rates of depressive symptoms and anxious symptoms in primarily European American samples (Henderson et al., 2005; Lorant et al., 2003; Muntaner, Eaton, Miech, & O'Campo, 2004; Nebbitt & Lambert, 2009). Two competing theories address the specific direction of the association between low SES and psychiatric problems: social causation theory (Hollingshead & Redlich, 1958) asserts that living in impoverished neighborhoods brings about mental illness through stress, while social selection theory (Wender, Rosenthal, Kety, Schulsinger, & Welner, 1973) affirms that mental illness brings about the selection of impoverished neighborhoods. However, there seems to be more empirical support for the social causation theory rather than the social selection theory (Johnson, Cohen, Dohrenwend, Link, & Brook, 1999; Simmons, Braun, Charnigo, Havens, & Wright, 2008).

There does not, however, seem to be a one to one association between low SES and acute psychological distress. For example, investigators for the National Survey of American Life (NSAL; Williams et al, 2007) recruited a representative sample of approximately 5,500 African Americans and 1,500 European Americans to examine the associations between neighborhood variables, health problems, employment and mental health. The results revealed lower rates of psychiatric disorders for African Americans than European Americans. Specifically, lower lifetime prevalence of major depression, panic disorder, social phobia, agoraphobia, generalized anxiety disorder, and dysthymia were observed for African Americans relative to European Americans. However, African Americans tended to be worse off than European Americans with respect to poverty, health care, housing and income (Jackson et al., 2004). Given evidence that African Americans tend to be overrepresented in lower SES areas but report lower rates of syndromal-level problems (Williams et al., 2007), some understanding of the complex SES-emotional health association is warranted.

Given the proximal nature of hopelessness to anxiety and depression, hopelessness might be conceptualized as a mediator between SES and depressive symptoms, as well as between SES and anxious symptoms. Though Adler and Snibbe (2003) reviewed potential cognitive, affective, and biological mediators that influence the association between SES and physical and psychological health, no known study to date has examined hopelessness as a mediator between SES and depression and anxiety symptoms in African American college students. The specific hypotheses for the current study were: (1) SES would be negatively associated with hopelessness, symptoms of depression and symptoms of anxiety; (2) hopelessness would be positively associated with symptoms of depression and anxiety; (3) hopelessness would mediate

the association between (a) SES and depression symptomatology and (b) SES and anxiety symptomatology.

Method

Participants

Participants were 133 African American students enrolled at a moderately-sized university in the Midwestern region of the U.S. The university's enrollment is estimated as 18% African American. Participants volunteered for this study to partially fulfill an introductory psychology requirement, to gain academic credit, or to receive a \$10 gift card. Four participants were excluded from the study because they were less than 18 years of age. Participants' ages ranged from 18 years to 33 years ($M=19.41$, $SD=2.39$). The sample was predominantly female (63.70%). See Table 1 for specific education, income, and occupation details.

Measures

Beck Hopelessness Scale (BHS) (Beck, Weissman, Lester, & Trexler, 1974) was used to assess participants' views and beliefs relating to their degree of pessimism towards the future. The BHS is a 20-item measure in which the participant rates each item "true" or "false". Example items include: "all I can see ahead of me is unpleasantness rather than pleasantness," and "I have great faith in the future" (reverse coded). Possible scores range from 0 to 20 with higher scores indicating higher levels of hopelessness. The BHS has high internal consistency among non-clinical and clinical samples with an alpha of .93 (Beck et al., 1974). Though no specific data are available for use of the BHS with African Americans, it has been reported to have strong convergent and discriminant validity (Goldston et al., 2001; Kumar & Steer, 1995; Reinecke et al., 2001; Steed, 2001). Cronbach's alpha for this sample was .82.

Brief Symptom Inventory (BSI; Derogatis, 1975) was used to assess symptoms of depression and anxiety. The BSI is a 53-item scale that is used to measure participants' self-reported somatization, obsessive-compulsive behavior, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Each item on the BSI is rated on a 5-point Likert scale ranging from 0 (not at all distressed) to 4 (extremely distressed). For the purpose of this study, only the depression and anxiety dimensions were included in the analyses. For the depression scale, questions included, "during the past 7 days, how much were you distressed by feeling lonely?" For the anxiety scale, questions included, "during the past 7 days, how much were you distressed by feeling tense or keyed up?" Boulet and Boss (1991) found internal consistency estimates for the depression and anxiety symptom dimensions that ranged from .85-.89. There is evidence for good construct validity of the BSI with African Americans (Hoe & Brekke, 2009). This was the case even when construct validity was examined for the individual subtests of depression and anxiety. For this study, Cronbach's alpha was .90 for depression symptoms and .89 for anxiety symptoms.

Hollingshead 4-factor index of social status (Hollingshead, 1975) was used to assess participants' SES based on their parents' SES. The four factors used in this index are: parents' level of education, occupation, sex and marital status. As required by the index, the SES score of a nuclear family was estimated by summing the weighted scores. Scores on the Hollingshead scale range from 8 to 66 with lower and higher scores indicating lower and higher SES, respectively. In this study, participants' parents' SES ranged from 17 to 66 with a mean of 42.98 and a standard deviation of 9.97.

Procedure

The university institutional review board approved this study. Potential participants were informed that their participation in the study was completely voluntary and that at any time during the study, they could choose to leave without penalty. Upon consent, participants were administered a brief demographic form along with a battery of questionnaires. All participants were verbally debriefed and provided a written debriefing form. None of the participants discontinued participation or requested a referral for psychological services. Approximately 35 minutes were required to complete the packet of questionnaires.

Results

Overview

All data were analyzed using the Statistical Package for Social Sciences (SPSS 16.0). To examine if SES would predict symptoms of anxiety and depression via hopelessness, linear regression analyses were conducted. All analyses included statistical controls for gender due to the common 2:1 female-to-male ratio for the prevalence of depression (Hankin & Abramson, 1999). According to Baron and Kenny (1986), there is a logical sequence to testing a mediational model. Following this logic, if participants' SES predicts level of depressive and anxious symptoms through the mediating role of self-reported level of hopelessness, then the following conditions must be true: (1) participants' SES should be associated with symptoms of anxiety or depression; (2) participants' SES should be associated with level of hopelessness; (3) participants' level of hopelessness should be associated with level of depression or anxiety symptomatology; and (4) after controlling for the effect of hopelessness in step one, participants' SES should no longer be significantly associated with level of depressive or anxious symptoms.

Additionally, if the effect of participants' SES is entirely eliminated in step 4, the results are indicative of a full mediation. If, however, the effect of participants' SES is significantly reduced, but not entirely eliminated, the results are indicative of a partial mediation. For the current study, means, standard deviations, and bivariate correlations for all participant self-report measures are represented in Table 2. As seen in the table, higher levels of SES were associated with higher levels of depressive symptoms and symptoms of anxiety. Power analyses, conducted using a hierarchical multiple regression calculator (Cohen, 1988; Soper, 2012), indicated that at $\alpha = .05$ and given a medium effect size, statistical power of .98 was obtained with $n = 133$.

Mediation Analyses

In condition one, the association between SES and symptoms of depression was significant. However, this association was in an unexpected direction such that higher SES was associated with higher levels of depressive symptoms ($\beta = .29, p < .01$). Similar results were found for symptoms of anxiety such that higher SES was significantly associated with higher levels of anxiety symptoms ($\beta = .20, p < .05$). For condition two, the association between SES and hopelessness approached significance ($\beta = .18, p = .056$). This result was also not in the expected direction. Regarding condition three, and in line with the third hypothesis, higher levels of hopelessness was significantly associated with higher levels of depressive symptoms ($\beta = .42, p < .001$). Similarly, higher levels of hopelessness was also significantly associated with higher levels of anxiety symptoms ($\beta = .36, p < .001$).

After controlling for the proportion of variance in depressive symptoms accounted for by hopelessness in step 4, SES remained associated with depressive symptoms ($\beta = .22, p < .05$). However, the effect of hopelessness on SES and depressive symptoms was reduced by 21.02%

(Sobel test = 1.97, $p < .05$). Therefore, the association between SES and depressive symptoms was partially mediated by hopelessness. After controlling for the proportion of variance in symptoms of anxiety accounted for by hopelessness, SES was no longer associated with anxious symptoms ($\beta = .14$, ns). Thus, the association between SES and anxious symptoms was fully mediated by feelings of hopelessness (Figure 1).

Discussion

The primary aim of the current study was to examine the mediating role of hopelessness on SES and symptoms of depression and anxiety. Our results were partially supported in that we found significant associations for SES to hopelessness, depression symptoms, and anxiety symptoms as predicted. The relationships to SES, however, were not in the expected directions. Specifically, African Americans university students who reported higher levels of SES¹ also reported higher acute levels of depressive symptoms, anxiety symptoms and hopelessness. These findings suggest that the experience of psychological disturbance for African Americans may be more complex than once thought, with multiple factors needing to be considered. It is notable, nonetheless, that the symptom means for anxiety (.60) and depression (.61) were expectedly lower than has been reported in previous research for which means of .97 for depressive symptoms and .85 for anxious symptoms were reported for an outpatient clinical sample of African American adults (Hoe & Brekke, 2009).

Though the findings associated with SES were unexpected, they are consistent with the incongruent person-environment fit (Spencer, 2001) and the cultural mismatch hypotheses (Halpern-Felsher et al., 1997). These hypotheses suggest that members of ethnic minority groups may be more negatively affected by psychological factors when they are in incongruent social

environments than when they are in more congruent social environments. Since our study participants were enrolled at a PWI, these hypotheses may be applicable. It has been suggested that African American students enrolled at predominantly White institutions (PWI) tend to report poorer psychosocial adjustment and more psychological distress than those enrolled at historically Black colleges and universities (HBCUs) (Griffin, 1991; Joiner & Walker, 2002; Outcalt & Skewes-Cox, 2002). Though several studies have examined African Americans' academic success and achievement in PWIs (e.g., Caldwell & Obasi, 2010; Cokley, 2000; Nasim, Roberts, Harrel, & Yong, 2005; Thompson & Fretz, 1991), few have examined correlates of anxiety and depression for African American college students enrolled at PWIs (cf. Kimbrough, Molock, & Walton, 1996; Nottingham, Rosen, & Parks, 1999; Pillay, 2005).

Meyer (1995, 2003) suggested that persons from underrepresented groups experience "minority stress" due to identification with a stigmatized group that has been historically the target of discrimination. For example, African Americans at PWIs may experience similar academic stressors that other university students experience with the added stress of being perceived as a minority (Wei et al., 2010; Prillerman, Myers, & Smedley, 1989; Smedley, Myers, & Harrell, 1993). Schwitzer, Griffin, Ancis, and Thomas (1999) indicated that African American students attending PWIs must adjust to feelings of loneliness and racism that may highly influence their academic performance. Consistent with the concept of minority stress, it has been documented that African Americans at PWIs reported experiencing daily forms of racism that included verbal expressions of prejudice, glaring looks and problems with interpersonal exchanges (Swim, Hyers, Cohen, Fitzgerald, & Bylsma, 2003). Since approximately 87% of

African Americans are estimated to attend PWIs (Provasnik & Shafer, 2004), future investigation into the unique psychological needs of this group is needed.

The path to anxiety and depression symptomatology is expectedly complex and multi-determined by presence of certain risk and also protective factors. In the current study, symptoms of anxiety were fully accounted for and symptoms of depression were partially accounted for by perceptions of one's circumstance as hopeless. Despite the unexpected findings regarding the direction of the associations for SES and psychological outcomes, hopelessness seems to be a meaningful pathway and a potential point of cognitive intervention particularly for those in higher social and economic standing.

Several limitations of this study should be noted. First, the cross-sectional study design does not afford causal conclusions about hopelessness as a mediator of SES and psychological symptoms that a prospective design would permit. Second, self-report measures were utilized to assess hopelessness and symptoms of depression and anxiety. Although these questionnaires demonstrate good reliability and likely generate valid interpretations, future research would benefit from clinical interview and multi-informant methodology. Third, our study participants were university students enrolled at a PWI. Thus, it is unclear to what degree these findings generalize to other potentially advantaged or to less advantaged African Americans. Fourth, to our knowledge, no studies have examined the validity of the BHS in African American adults. Though the BHS has been used widely, including with African American samples, available studies have yet to scrutinize the measure's psychometric properties for African American samples. Therefore, we cannot make definitive inferences about the validity of findings associated with the BHS.

The current findings have some implications for future research and approaches to clinical practice. As an example, much more theoretically-supported research on social standing and associated psychological symptoms is warranted. Within ethnic groups, there is substantial heterogeneity that accounts for divergent paths to depression and anxiety pathology. As empirical investigations continue to emerge, the relationship between SES and psychological symptoms will contribute to more comprehensive models for how seemingly advantaged persons might be vulnerable to psychological strain. Specific attention to ethnic “minority stress” as a potential factor in the association between SES and psychological symptoms seems warranted. Treatment methodology and prevention efforts might be similarly fine-tuned. Although resources are expectedly allocated to the prevention and treatment of depressive and anxious symptoms of African Americans from low socioeconomic backgrounds, those in higher socioeconomic statuses should not be overlooked by mental health service providers or university students who may themselves be vulnerable. Specific attention to reducing experiences of hopelessness may be critical to psychological well-being and long-term success.

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Table 1

SES Characteristics for Study Participants and Their Parents

Characteristic	Participant		Mother		Father	
	N	%	N	%	N	%
Education						
High school graduate	54	40.60	31	23.30	53	39.80
Some college or specialization	62	46.60	51	38.30	33	24.80
College or university graduates	13	9.80	33	24.80	22	16.50
Finished graduate training	2	1.50	15	9.80	13	9.80
Did not report	2	1.50	5	3.80	12	9.00
Occupation						
Farmer, service worker	1	.80	1	.80	3	2.30
Worker, without formal training	9	6.80	8	6.00	5	3.80
Machine operator, semiskilled worker	1	.80	8	6.00	6	4.50
Clerical/sales worker; business owner; professional	7	5.30	89	66.80	73	54.90
Unemployed; student	107	80.50	20	15.00	32	24.10
Did not report	8	6.00	7	5.30	14	10.50
Marital Status						
Single and never married	118	88.70	--	--	--	--
Not married but living with partner	7	5.30	--	--	--	--
Married and living with partner	5	3.80	--	--	--	--
Separated or divorced	1	.80	--	--	--	--
Did not report	2	1.50	--	--	--	--
Gender						
Male	47	35.30	--	--	--	--
Female	86	64.70	--	--	--	--

Table 2

Means, Standard Deviations, and Intercorrelations for Self-Report Measures

	1	2	3	4
1. ANX	1			
2. DEP	.87**	1		
3. SES	.23*	.31**	1	
4. BHS	.37**	.42**	.21*	1
<i>M (SD)</i>	.60 (.79)	.61 (.78)	42.98 (9.97)	2.16 (2.60)

Note. ANX = Brief Symptom Inventory, Anxiety Dimension. DEP = Brief Symptom Inventory, Depression Dimension. SES = Hollingshead Four Factor Index of Social Status. BHS = Beck Hopelessness Scale.

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

Table 3

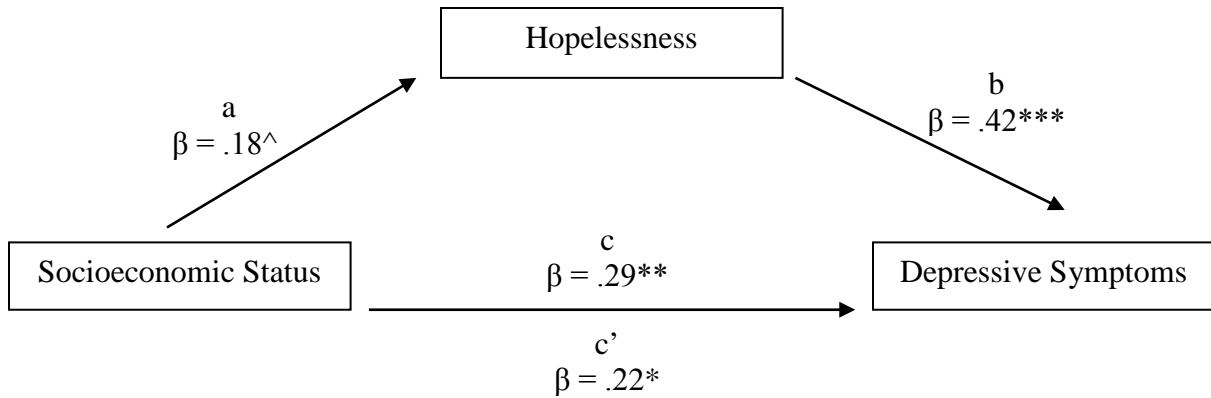
Hopelessness Mediating SES, and Symptoms of Depression and Anxiety

Path	Predictor	Outcome	B	β	SE	<i>t</i>	R ²
Symptoms of Depression							
c	SES	DEP	.02	.29	.01	3.14**	.11
a	SES	BHS	.05	.18	.03	1.93^	.05
b	BHS	DEP	.13	.42	.02	5.24***	.43
c'	SES	DEP	.03	.22	.01	2.52*	.51
Symptoms of Anxiety							
c	SES	ANX	.02	.20	.01	2.14*	.27
a	SES	BHS	.05	.18	.03	1.93^	.23
b	BHS	ANX	.11	.36	.03	4.42***	.38
c'	SES	ANX	.01	.14	.01	1.52	.44

Note. ANX = Brief Symptom Inventory, Anxiety Dimension. DEP = Brief Symptom Inventory, Depression Dimension. SES = Hollingshead Four Factor Index of Social Status. BHS = Beck Hopelessness Scale.

^ $p = .056$ (approaching significance). * $p < .05$. ** $p < .01$. *** $p < .001$.

A



B

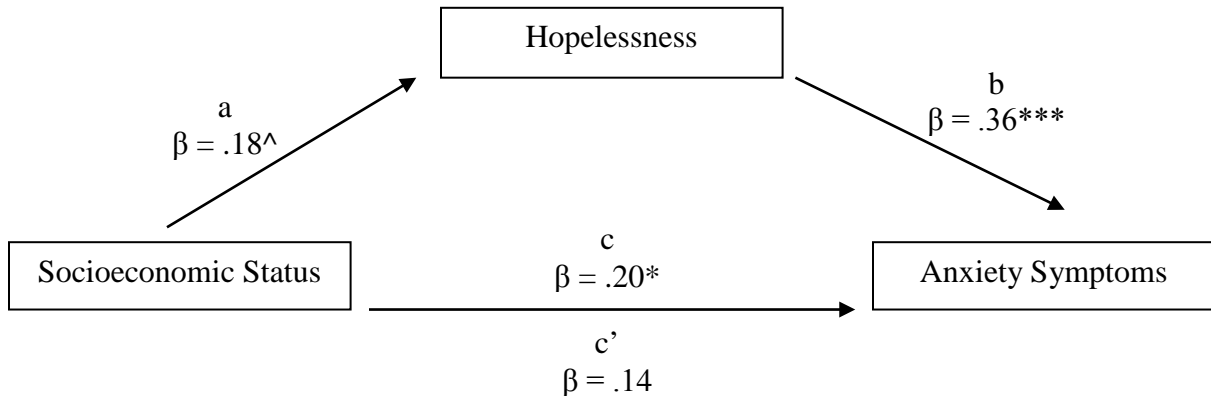


Figure 1. Model with hopelessness as a mediator for SES and self-reported symptoms of depression (A) and symptoms of anxiety (B).

$^{\wedge} p = .056$. $^{*} p < .05$. $^{**} p < .01$. $^{***} p < .001$.

FOOTNOTE

¹ Mean SES for the current sample (42.98; SD=9.97) is comparable to that of previous studies reporting mean SES of 43.69 (SD=11.56) in African Americans (Beeghly et al., 2003).