Original Research Paper

Navigating stress and resilience: coping strategies among Black male osteopathic medical students

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Abstract

Background: This study explored the distinct stressors, resilience levels, and coping strategies among Black male osteopathic medical students (BMOMS), aiming to fill a critical gap in medical education research. **Methods:** This cross-sectional survey analyzed 85 of 101 (84.2 % completion rate) participants. Participants completed the Graduate Stress Inventory-Revised (GSI-R), Connor-Davidson Resilience Scale (CD-RISC-10) and Brief Resilient Coping Scale (BRCS), along with demographic items. Associations were examined with Pearson/Spearman correlations and three multiple linear regressions. **Results:** BMOMS reported moderate–high stress (GSI-R 76.6 ± 21.1); all item scores correlated with total stress (ρ =.35–.68). Resilience and adaptive coping were closely aligned (r =.83, 95 % CI .75–.89). In multivariable analysis (R^2 =.33), stress rose with bisexual orientation (B = 22.9), marriage (B = 31.9), and being partnered (B = 15.5), but fell with health-insurance coverage (B = –22.7). Income predicted both resilience (R^2 =.29) and coping (R^2 =.30): earnings of $25–49 k (B = 5.6; coping B = 2.9) and $50–74 k (B = 9.0; coping B = 3.5) outperformed lower-income peers. **Discussion:** Among BMOMS, resilience markedly buffers stress; higher income and health-insurance coverage bolster both resilience and coping, whereas relationship commitments and minoritized sexual orientation intensify stress. Intersectional, evidence-based supports, affinity mentoring, confidential mental-health care, financial/insurance navigation, and targeted scholarships, are warranted. Limitations include self-report and volunteer bias, a social-media convenience sample below target (85 vs 98), and a cross-sectional design that bars causal inference. Longitudinal work is needed to confirm effect sizes and chart trajectories through training.

Key Words: Black Male, Osteopathic Medical Student, Stress, Resilience, Coping

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Background

The underrepresentation of Black male osteopathic medical students (BMOMS) in U.S. medical education reflects persistent systemic barriers rooted in historical exclusion, socioeconomic disparities, and racial discrimination.[1] During the 2022–2023 academic year, the most recent year for which data is available from the American Association of Colleges of Osteopathic Medicine (AACOM) is available, just 493 Black men, only 1.3 % of all students, were enrolled across the 38 colleges of osteopathic medicine.[2] In the 2022 entering class only 520 Black men applied (2.2 % of applicants) and 109 matriculated (1.3 % of 8,636 first-year students).[3] These figures stand in stark contrast to Black men's share of the U.S. population (about 6.7 %) and highlight a widening diversity gap that limits culturally concordant care and perpetuates health inequities.[4,5]

Focusing explicitly on Black male students is warranted for several reasons. First, national medical-school data document a unique, decades-long decline in Black male enrollment that has not been paralleled among Black women or other underrepresented minority (URM) groups. Second,

BMOMS shoulder intersectional stressors such as racial stereotyping, hyper-visibility, pressure to disprove negative tropes about Black masculinity, and financial obligations as traditional family breadwinners, that impacts their ability to successfully complete medical school.[6,7] Understanding how these male-specific experiences shape stress, resilience and coping is therefore essential for designing targeted supports.

Existing research extensively documents stress and burnout among medical students, and theoretical frameworks such as Moos' Integrative Model of Stress and Coping underscore the crucial moderating roles of individual resilience and coping strategies in these processes.[4–6] Yet few investigations have interrogated how Black male medical students, particularly those in osteopathic programs, navigate these stressors or how their resilience interfaces with adaptive coping.[7] Although osteopathic colleges have made incremental gains in diversity, Black males remain markedly under-represented, constraining the external validity of prior findings.[8] The osteopathic curriculum amplifies these challenges: beyond the conventional pre-clinical and clinical demands, students complete roughly 200 additional hours of hands-on osteopathic manipulative treatment training (OMT) and often confront skepticism within predominantly allopathic clinical environments. While the profession's whole-person ethos dovetails with resilience science, the added curricular load and philosophical minority status can magnify stress for students already grappling with racial isolation—dynamics that remain virtually unexamined among Black male osteopathic medical students.

The current literature lacks empirical studies examining (1) the intersection of stress, resilience, and coping specifically among BMOMS; (2) the demographic factors that influence these variables; and (3) the unique stress profiles faced by this population within osteopathic education. Addressing these gaps is essential for developing institutional interventions that support the academic success and well-being of BMOMS.

Guided by Moos' Integrative Model of Stress and Coping, this cross-sectional study interrogates how BMOMS experience stress, cultivate resilience, and employ coping strategies within the distinctive demands of osteopathic training. It asks, "How do demographic factors and the osteopathic learning environment predict perceived stress, resilience, and coping?" and pursues three analytic strands: (1) quantifying the correlations between specific stressors and global stress, (2) gauging the magnitude of the resilience–coping relationship, and (3) determining the independent predictive value of age, sexual orientation, relationship status, income, financial-aid reliance, health-insurance coverage, and year of study for stress, resilience, and coping outcomes. By elucidating these multifaceted dynamics, the study seeks to furnish the empirical foundation needed for more equitable, data-driven policies and support structures in osteopathic medical education.

By explicitly situating the inquiry within the osteopathic educational system and articulating a focused research question on Black men, this study addresses three critical gaps: (1) the paucity of sex-specific analyses in URM medical education research; (2) the absence of up-to-date enrollment figures to benchmark diversity efforts; and (3) the limited understanding of how osteopathic training features interact with psychosocial resources. Findings may inform evidence-based, gender-responsive interventions, such as culturally concordant mentoring, financial counseling, and embedded mental-health services, needed to support BMOMS and to advance equity within osteopathic medicine.

Literature Review

The challenges faced by Black male medical students are deeply rooted in a history of systemic exclusion and persistent inequities in educational access.[1] Although diversity initiatives have expanded in recent decades, Black males remain significantly underrepresented across both allopathic and osteopathic medical schools.[8] This underrepresentation contributes to limited access to mentorship, professional networks, and culturally responsive institutional support, exacerbating feelings of isolation and psychological distress.[9]

Medical education is an inherently stressful process, with high academic demands, frequent evaluations, and intense clinical expectations.[10] Black male students must also navigate racial discrimination and stereotype threat, which compounds these universal stressors contributing to increased risks of anxiety, depression, and burnout.[6,7] Despite the recognized impact of stress on medical students, relatively few studies explore the specific coping mechanisms and resilience strategies employed by Black male trainees.

Theoretical models such as Moos' Integrative Model of Stress and Coping provide a valuable framework for understanding these dynamics.[11] Building on Lazarus and Folkman's Transactional Theory, Moos' model emphasizes that stress responses are shaped by both personal and environmental systems, including social climate, financial status, and institutional culture.[10] Resilience is conceptualized not as a static trait but as an active, dynamic process influenced by cognitive appraisal and available coping resources.[11] Research indicates that Black male students often engage in adaptive coping strategies such as seeking social support, employing spirituality, and practicing proactive problem-solving.[12,10] However, institutional environments that lack culturally sensitive support structures may undermine these coping efforts, contributing to poorer mental health outcomes and higher attrition rates.[9, 14]

In the context of osteopathic medicine, while efforts to enhance diversity are evident, the small proportion of Black male students persists.[13] This underrepresentation not only affects student well-being but also has broader implications for health equity. Diverse clinical teams are associated with improved patient outcomes and reduced healthcare disparities, emphasizing the societal importance of supporting underrepresented students.[17,18]

Instruments

Survey composition

Data were collected through a self-administered Qualtrics questionnaire divided into four sections:

Section	Instrument	Items	Construct captured
1	Graduate Stress Inventory-Revised (GSI-R)	21	Stress appraisal across academic, environmental, and family/monetary domains
2	Brief Resilient Coping Scale (BRCS)	4	Propensity to engage in adaptive coping strategies
3	Connor-Davidson Resilience Scale, short form (CD-RISC-10)	10	Trait-level resilience
4	Demographics	7	Age, year in program, income, relationship status, etc.

The instrument therefore contained 42 scored items in total; the complete questionnaire is reproduced verbatim in the Appendix to facilitate transparency and replication.

Collectively, the existing literature suggests that resilience and coping are vital for Black male medical students but are insufficiently studied within osteopathic education. Few empirical studies directly quantify how demographic factors such as income, relationship status, and health insurance intersect with stress and coping processes in this group. Addressing these gaps is necessary to develop targeted interventions that promote both individual student success and institutional inclusivity.

Methods

A cross-sectional survey design was employed to assess stress, resilience, and coping strategies among Black male osteopathic medical students (BMOMS) in the United States. This design enabled the collection of quantitative data at a single point in time, capturing the immediate experiences and perceptions of BMOMS regarding their educational and psychosocial challenges.

Participants and Sampling

Participants were self-identified Black/African American male students actively enrolled in accredited U.S. osteopathic medical programs during the 2023–2024 academic year. Based on national enrollment data, the estimated population of BMOMS was approximately 500 individuals.[13] Using purposive sampling, the study recruited participants through targeted outreach efforts, including student organizations, affinity groups, and institutional channels.

Eligibility criteria included: (1) identification as Black or African American; (2) identification as male; (3) current enrollment in an accredited U.S. osteopathic medical school; and (4) willingness to provide informed consent. Out of 101 initial survey responses, 85 complete and eligible responses were retained for analysis. Although purposive sampling ensured focus on the population of interest, it introduces potential selection bias, limiting the generalizability of findings beyond the study sample.

Measures

• **GSI-R** (7-point items; higher = more stress): α = .91 overall, subscales α = .74/.68/.30; 4-week test–retest r = .80–.85.[19]
• **BRCS** (4 items, 1–5 scale; total 4–20): α = .68; 3-week test–retest r = .71; good convergent validity with coping and well-being indices.[20]
• **CD-RISC-10** (10 items, 0–4 scale; total 0–40): unidimensional; α ≈ .85 in normative samples, > .93 in COVID-19 cohorts; strong construct validity.[21]

Re-validation status

Guidelines recommend recalculating content validity, ICCs, and Cronbach's α in a pilot subsample, but no revalidation was conducted. Reliability and validity therefore rely on the instruments' original studies, and the lack of sample-specific psychometrics is acknowledged as a study limitation and addressed in the Limitations.

Data Collection and Analysis

From 1 March – 21 August 2024, Black male osteopathic medical students were recruited through social media (X/Twitter, Instagram, six osteopathic Facebook groups), school list-servs, and word-of-mouth. After e-consent on Qualtrics and screening for age ≥ 18 years, Black male identity, U.S. COM enrollment, and English proficiency, anti-duplication checks and manual review removed invalid cases, yielding 85 complete records from 101 downloads (usable completion = 84.2 %). De-identified data were exported to SPSS 26, stored on an encrypted drive, and < 1 % MCAR item-level missingness was imputed by regression. Scale scores (GSI-R 21–147; BRCS 4–20; CD-RISC-10 0–40) were summed, and analyses comprised descriptives, Spearman correlations, and multiple linear regressions predicting stress, resilience, and coping from demographic and socioeconomic covariates; diagnostics confirmed normality, homoscedasticity, and acceptable multicollinearity. A conventional response rate could not be calculated because the reach of open invitations was unknown.

Ethical Considerations

Ethical approval was obtained from the Bellarmine University Institutional Review Board (IRB #1149). All participants provided informed consent electronically prior to data collection. Participation was voluntary, and confidentiality was maintained throughout the research process.

Results

Demographic Characteristics

The final analytic sample consisted of 85 Black male osteopathic medical students (BMOMS). Most respondents were aged 21–30 years (70.6 %, 95 % CI 60.2 %–79.2 %) and identified as heterosexual (76.5 %, 95 % CI 66.4 %–84.2 %). Nearly all participants reported receiving financial aid (91.8 %, 95 % CI 83.9 %–96.0 %) and the majority had current health-insurance coverage (87.1 %, 95 % CI 78.3 %–92.6 %). Annual income varied: 45.9 % earned < $25 000 (95 % CI 35.7 %–56.4 %). Students from every year of training were represented, with first- and second-year cohorts forming the largest subgroups. Full demographic details are presented in **Table 1**.

Stress Levels and Primary Stressors

Global Stress Index–Revised (GSI-R) scores ranged from 21 to 147, producing a mean of 76.64 (SD = 21.06) and a 95 % CI of 72.09–81.19, indicating moderate-to-high stress overall. Financial burden, academic workload, fear of failing program expectations, and discrimination emerged as principal stressors. Notably, "paying monthly expenses" (M = 4.93, SD = 1.45) and "fear of failing to meet program expectations" (M = 4.85, SD = 1.80) each demonstrated large positive correlations with total stress ($r \geq 0.64$, $p < .001$), underscoring their substantive contribution. Correlation coefficients for individual stressors are detailed in **Table 2**.

Relationship Between Resilience and Coping

Resilience, measured by the 10-item Connor-Davidson Resilience Scale (CD-RISC-10), averaged 26.99 (SD = 6.70; 95 % CI 25.54–28.44), whereas adaptive coping, measured by the Brief Resilient Coping Scale (BRCS), averaged 14.82 (SD = 3.22; 95 % CI 14.13–15.51). Pearson analysis revealed a strong, very-large positive association between resilience and coping ($r = 0.83$, 95 % CI 0.75–0.89, $p < .001$), accounting for approximately

69 % shared variance. The corresponding Spearman coefficient supported these findings (ρ = 0.79, 95 % CI 0.69–0.86, p < .001). A Spearman correlation (ρ = 0.79, $p < .001$) supported these findings, indicating that higher resilience is associated with more effective coping strategies (see **Figure 2**).

Predictors of Stress

Multiple-linear-regression modelling did not yield an overall significant equation; nevertheless, several individual parameters were meaningful. Relative to heterosexual peers, bisexual students reported markedly higher stress (B = 22.92, 95 % CI 4.33–41.52), representing a moderate standardized effect (β ≈ 0.28). Relationship status was influential: married students exhibited the greatest stress burden (B = 31.90, 95 % CI 11.34–52.46, β ≈ 0.57 — large), and those in committed relationships also reported elevated stress (B = 15.49, 95 % CI 3.00–27.98, β ≈ 0.28). Conversely, possessing health insurance predicted appreciably lower stress (B = –22.71, 95 % CI –37.55 to –7.86, β ≈ –0.36), a moderate-to-large protective effect. Regression coefficients are presented in **Table 3**.

Predictors of Resilience and Coping

Household income emerged as the sole consistent socioeconomic predictor. Compared with those earning < $25 000, participants in the $25 000–$49 999 bracket scored higher on resilience (B = 5.58, 95 % CI 1.34–9.81, β ≈ 0.25) and on coping (B = 2.89, 95 % CI 0.90–4.88, β ≈ 0.44 — large). Those earning $50 000–$74 999 exhibited even greater resilience gains (B = 8.99, 95 % CI 2.16–15.81, β ≈ 0.39) and moderate coping advantages (B = 3.46, 95 % CI 0.23–6.69, β ≈ 0.31). No other demographic variable consistently predicted resilience or coping scores. Full regression results for resilience and coping are shown in **Tables 4** and **5**.

Potential Confounders

Stress–resilience links may be confounded by both measured and unmeasured factors. Income and health-insurance status proxy broader socioeconomic resources that simultaneously dampen stress and fortify resilience, risking bias if left uncontrolled. Relationship status and sexual orientation shape social support and discrimination exposure, thereby altering stress and coping. Year of study serves as a temporal marker: newcomers face unfamiliar academic demands, whereas seniors grapple with licensing exams. Future multivariable or stratified models should adjust for these covariates and test interaction terms to distinguish confounding from true moderation.

Discussion

Grounded in Moos' Integrative Model, which views adaptation as environmental demands filtered through personal resources via coping, this study shows that BMOMS face chief stressors in tuition-linked debt, heavy coursework, and discrimination, while resilience and adaptive coping function as personal-resource and process elements. Their strong association (ρ = 0.79; r = 0.83) supports the model's prediction that better resources enable more effective coping and temper stress. Economic security demonstrated resource migration: higher income and health-insurance coverage moved from the structural to the personal sphere, producing lower stress and stronger resilience/coping. In contrast, marriage/partnership and bisexual identity independently raised stress, revealing role-conflict and minority-stress dynamics the model underplays, and highlighting a need for intersectional refinements that integrate race, gender, sexuality, and class. Mean stress (GSI-R ≈ 77) exceeded mixed-race osteopathic norms by ~0.5 SD, and the resilience–coping link was stronger than in predominantly White samples, suggesting culturally rooted mechanisms, collective efficacy, spirituality, that warrant qualitative exploration, especially given additional manual-medicine demands and osteopathy's philosophical minority status.

Potential Confounders

Concurrent measurement allows confounding. Higher income can boost resilience through access to wellness resources and lower stress by reducing financial worry, obscuring causal direction. Health-insurance status, intertwined with income, institutional benefits, and family support, may separately affect stress. Relationship status may confound sexual-orientation effects if partnered bisexual students bear added financial or caregiving loads. Year of study, a proxy for curricular demands and licensing milestones, could still hide residual confounding as coping and resilience evolve. Longitudinal analyses with time-varying covariates or propensity methods are needed to clarify these interdependencies.

Implications for Osteopathic Medical Education

Grounded in Moos' model, reducing stress for Black male osteopathic students requires structural, not merely individual, action. Schools should (1) offset debt and living costs through need-based

Table 1: Sample Demographic Characteristics

Variable	Frequency	Percent
Age		
18 to 20 years old	4	4.7
21 to 25 years old	30	35.3
26 to 30 years old	30	35.3
31 to 35 years old	14	16.5
36 to 40 years old	3	3.5
41 to 45 years old	1	1.2
51 to 55 years old	3	3.5
Relationship status		
Single, never married	28	32.9
Married	14	16.5
Divorced	4	4.7
Separated	3	3.5
Coupled	34	40.0
Widowed	1	1.2
Prefer not to say	1	1.2
Sexual orientation		
Heterosexual/Straight	65	76.5
Gay/Homosexual	12	14.1
Bisexual	6	7.1
Asexual	2	2.4
Annual income		
Less than $25,000	39	45.9
$25,000 to $49,999	33	38.8
$50,000 to $74,999	8	9.4
$75,000 to $99,999	2	2.4
$100,000 to $149,999	1	1.2
$150,000 or more	2	2.4
Currently receive financial aid		
Yes	78	91.8
No	7	8.2
Have health insurance		
Yes	74	87.1
No	11	12.9
School year		
First year	27	31.8
Second year	23	27.1
Third year	15	17.6
Fourth year	18	21.2
Fifth year	2	2.4

Table 2: Statistics for Individual Stressors and Spearman Correlations with Overall Stress

Stressor	*M*	*SD*	Spearman Correlation with Overall Stress	Sig.
Fulfilling responsibilities both at home and at school	3.26	1.95	.73	< .001
Trying to meet peers of your race/ethnicity on campus	3.81	1.92	.65	< .001
Taking Exams	4.86	1.86	.59	< .001
Being obligated to participate in family functions	3.09	1.89	.70	< .001
Arranging childcare	1.53	1.38	.30	.005
Finding support groups sensitive to your needs	4.15	2.10	.62	< .001
Fear of failing to meet program expectations	4.85	1.80	.64	< .001
Participating in class	2.66	1.65	.58	< .001
Meeting with faculty	2.73	1.76	.62	< .001
Living in the local community	2.07	1.59	.54	< .001
Handling relationships	2.92	1.70	.73	< .001
Handling the academic workload	4.68	1.37	.58	< .001
Peers treating you unlike the ways that they treat each other	2.95	1.62	.71	< .001
Faculty treating you differently than your peers	2.85	1.84	.69	< .001
Writing papers	1.81	1.36	.26	.018
Paying monthly expenses	4.93	1.45	.66	< .001
Having money problems	4.46	1.59	.65	< .001
Adjusting to life as a medical student	3.96	1.47	.65	< .001
Being obligated to repay loans	5.12	1.77	.44	< .001
Anticipation of matching into a residency position	5.46	1.45	.32	.003
Meeting deadlines for course-related activities	4.49	1.45	.54	< .001

Table 3: Coefficients for Regression Predicting Stress

					95% CI *B*	
Variable	*B*	*SE*	Beta	Sig.	Lower	Upper
(Constant)	70.98	18.43		< .001	34.18	107.78
Age [ref: 25 or younger]						
26 to 30	1.94	7.30	0.04	.791	-12.63	16.51
31 to 35	-2.29	10.13	-0.04	.822	-22.52	17.94
36 or older	2.95	12.53	0.04	.814	-22.08	27.98
Sexual orientation [ref: Heterosexual]						
Homosexual	14.03	7.11	0.23	.053	-0.17	28.24
Bisexual	22.92	9.31	0.28	.016	4.33	41.52
Asexual	-2.78	15.21	-0.02	.856	-33.17	27.61
Relationship status [ref: Single]						
Married	31.90	10.24	0.57	.003	11.46	52.34
Divorced/separated/widowed	18.96	13.03	0.26	.150	-7.06	44.98
Coupled	15.49	6.93	0.36	.029	1.64	29.33
Did not disclose	-10.66	22.51	-0.06	.637	-55.61	34.30
Income [ref: Less than $25,000]						
$25,000 to $49,999	-5.57	6.37	-0.13	.385	-18.29	7.16
$50,000 to $74,999	-17.38	10.39	-0.24	.099	-38.14	3.38
$75,000 or more	1.55	22.98	0.02	.946	-44.35	47.45
Financial aid [Yes]	12.90	17.84	0.17	.472	-22.72	48.52
Health insurance [Yes]	-22.71	7.30	-0.36	.003	-37.28	-8.13
School year [ref: First]						
Second	-2.39	6.13	-0.05	.698	-14.62	9.85
Third	-0.16	8.29	0.00	.985	-16.71	16.39
Fourth	1.30	8.19	0.03	.874	-15.05	17.65
Fifth	21.41	18.95	0.16	.263	-16.44	59.27

Table 4: Coefficients for Regression Predicting Resilience

					95% CI *B*	
Variable	*B*	*SE*	Beta	Sig.	Lower	Upper
(Constant)	24.36	6.06		< .001	12.26	36.46
Age [ref: 25 or younger]						
26 to 30	0.40	2.40	0.03	.867	-4.39	5.19
31 to 35	-1.20	3.33	-0.07	.720	-7.85	5.45
36 or older	4.41	4.12	0.18	.289	-3.82	12.64
Sexual orientation [ref: Heterosexual]						
Homosexual	-4.02	2.34	-0.21	.091	-8.69	0.65
Bisexual	-3.10	3.06	-0.12	.315	-9.22	3.01
Asexual	-2.60	5.00	-0.06	.605	-12.59	7.39
Relationship status [ref: Single]						
Married	-5.84	3.37	-0.33	.088	-12.56	0.88
Divorced/separated/widowed	-6.30	4.28	-0.28	.146	-14.86	2.25
Coupled	-3.59	2.28	-0.26	.120	-8.14	0.96
Did not disclose	-10.00	7.40	-0.16	.181	-24.78	4.78
Income [ref: Less than $25,000]						
$25,000 to $49,999	5.58	2.09	0.41	.010	1.40	9.76
$50,000 to $74,999	8.99	3.42	0.39	.011	2.16	15.81
$75,000 or more	6.47	7.56	0.23	.395	-8.62	21.56
Financial aid [Yes]	-0.05	5.86	0.00	.993	-11.76	11.66
Health insurance [Yes]	3.66	2.40	0.18	.132	-1.13	8.45
School year [ref: First]						
Second	0.54	2.02	0.04	.791	-3.49	4.56
Third	-1.71	2.72	-0.10	.532	-7.15	3.73
Fourth	-0.87	2.69	-0.05	.747	-6.25	4.50
Fifth	3.99	6.23	0.09	.525	-8.46	16.43

Table 5: Coefficients for Regression Predicting Coping

					95% CI *B*	
Variable	*B*	*SE*	Beta	Sig.	Lower	Upper
(Constant)	11.83	2.89		< .001	6.07	17.60
Age [ref: 25 or younger]						
26 to 30	-0.05	1.14	-0.01	.966	-2.33	2.23
31 to 35	-0.13	1.59	-0.01	.937	-3.29	3.04
36 or older	1.53	1.96	0.13	.440	-2.40	5.45
Sexual orientation [ref: Heterosexual]						
Homosexual	-1.63	1.11	-0.18	.148	-3.86	0.59
Bisexual	-1.15	1.46	-0.09	.431	-4.07	1.76
Asexual	-3.53	2.38	-0.17	.144	-8.28	1.23
Relationship status [ref: Single]						
Married	-2.64	1.60	-0.31	.105	-5.84	0.56
Divorced/separated/widowed	-0.71	2.04	-0.06	.730	-4.78	3.37
Coupled	-1.64	1.09	-0.25	.136	-3.81	0.53
Did not disclose	-5.63	3.53	-0.19	.115	-12.67	1.41
Income [ref: Less than $25,000]						
$25,000 to $49,999	2.89	1.00	0.44	.005	0.90	4.88
$50,000 to $74,999	3.46	1.63	0.32	.038	0.21	6.71
$75,000 or more	4.65	3.60	0.34	.201	-2.54	11.83
Financial aid [Yes]	2.44	2.79	0.21	.386	-3.14	8.01
Health insurance [Yes]	1.13	1.14	0.12	.326	-1.15	3.41
School year [ref: First]						
Second	0.22	0.96	0.03	.822	-1.70	2.13
Third	-1.59	1.30	-0.19	.226	-4.18	1.00
Fourth	-0.73	1.28	-0.09	.571	-3.29	1.83
Fifth	-1.83	2.97	-0.09	.540	-7.76	4.10

scholarships, emergency micro-grants, and financial-literacy coaching; (2) widen health-care access via affordable insurance or campus clinics; (3) deter discrimination with anti-bias training, bystander programs, and transparent reporting; (4) embed culturally responsive resilience curricula co-led by Black faculty; (5) aid married or caregiving students through counseling and flexible scheduling; and (6) disaggregate wellness data by race and gender for iterative evaluation. At the policy level, accrediting bodies and state loan-forgiveness programs should link funding and compliance to equity benchmarks such as URM-male retention and mental-health service utilization.

Limitations

Interpretation is constrained by several design features. The cross-sectional design bars causal inference, so findings are reported as associations. Social-media and affinity-network recruitment yielded 85 respondents; ≈ 17 % of the estimated 500 Black male osteopathic students nationwide, introducing sampling bias and limiting power and generalizability. Volunteer and self-report biases may have inflated associations, and although the scales have strong published psychometrics, they were not revalidated here, leaving potential common-method variance. Unmeasured influences such as campus racial climate, mentorship quality, and prior mental-health diagnoses may further confound results. These limits warrant cautious interpretation and underscore the need for longitudinal, mixed-methods, multi-institutional studies.

Future Research Directions

Longitudinal cohorts tracking BMOMS from matriculation through residency matching could illuminate causal pathways and resilience trajectories. Mixed-methods designs that integrate narrative interviews would deepen understanding of culturally specific coping repertoires. Comparative studies with allopathic counterparts and with Black female osteopathic students could parse gendered and institutional influences. Finally, intervention trials that manipulate environmental resources (e.g., stipends, mentoring) could test Moos' transactional assumptions experimentally.

Conclusion

Interpreted through Moos' Integrative Model, this study reveals that BMOMS experience a misalignment between strenuous environmental demands and uneven personal resources, with resilience operating as a pivotal mediator of adaptive coping. Structural supports—chiefly financial and health-related—appear to shift this balance, whereas intersecting identities can exacerbate or buffer stress depending on context. By illuminating these dynamics and their constraints, the present work lays conceptual and empirical groundwork for multilevel interventions aimed at cultivating a thriving, representative osteopathic workforce.

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