Positive College Experiences Moderate the Association Between Resilience and Anxiety Symptoms among Underrepresented College Students

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Abstract

Generalized anxiety disorders are among the most prevalent mental health concerns for college students. Resilience, one's ability to recover from adversity, is a critical component in reducing anxiety. The association between resilience and anxiety may be strengthened by positive college experiences of institutional support and experiential learning, particularly among underrepresented students. This study explored whether positive college experiences (Gallup "Big Six") moderated the association between resilience (Brief Resilience Scale) and anxiety symptoms (Generalized Anxiety Disorder-7) among underrepresented college students ($N = 430$; 73.5% first year; 38.1% first generation) at a large public institution. Controlling for demographic variables, greater resilience was associated with lower anxiety ($\beta = -.42, p < .001$). Positive college experiences were not directly associated with anxiety ($\beta = -.04, p = .45$); however, positive college experiences moderated the negative association of resilience and anxiety ($\beta = -.14, p < .01$) such that the association between greater resilience and lower anxiety was stronger for students reporting more positive college experiences. The final model accounted for 21% of the variance in anxiety symptoms ($F_{11,418} = 10.22, p < .001$). Findings support a beneficial role of positive college experiences on the association between resilience and anxiety.

Keywords: resilience, college experiences, underrepresented students, mental health, anxiety

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Introduction

The transition into and through college is accompanied by heightened academic rigor, financial concerns, and other personal responsibilities, as well as significant changes to one's social and physical environment. College students today experience increased levels of stress, with anxiety being the most prevalent mental health concern at college counseling centers (Center for Collegiate Mental Health, 2022). Levels of stress and anxiety among college students surged to alarming proportions during the COVID-19 pandemic (Wang et al., 2020). A recent American College Health Association (ACHA) survey found that a large percentage of college students reported moderate (51.7%) or serious (23.3%) levels of distress, and 35.1% were diagnosed or treated for anxiety in the last 12 months (ACHA, 2022). Individuals with anxiety disorders report a lower quality of life (Barrera & Norton, 2009), poorer sleep quality (Ng et al., 2022), and are more likely to drop out of college without obtaining a degree (Kessler et al., 1995). These statistics suggest a need for increased campus resources to address mental health concerns on college campuses and prevent

maladaptive coping behaviors (e.g., behavioral disengagement, substance use, self-harming behaviors). Further, the benefits of reducing anxiety among college students extends into later life by reducing the risk of developing chronic physical conditions associated with stress and anxiety (Scott et al., 2016).

The Mental Health of Underrepresented Students

In addition to contending with their underrepresentation on college campuses, underrepresented college students (e.g., historically marginalized racial/ethnic groups, first-generation, lower socioeconomic status) often experience additional stressors and adjustment distress (House et al., 2020) and have a higher risk for developing and exacerbating mental health concerns (Cokley et al., 2013; House et al., 2020; McDougal et al., 2018). Many underrepresented students also have jobs and attempt to balance heavy academic loads with taxing work schedules (Eichelberger et al., 2017). Typical college demands combined with these additional stressors can have a serious negative impact on underrepresented students' mental health (Billingsley & Hurd, 2019; Hurd et al., 2018), particularly on large university campuses often characterized by high academic pressure, financial burden, and social isolation (Kadison & DiGeronimo, 2004; Lipson et al., 2018).

Underrepresented students are also less likely to use campus mental health and counseling services, even as the percentage of college students seeking help from these services (41.2%) remains high (ACHA, 2022). The lower utilization of mental health services, partly due to factors such as a lack of culturally sensitive services, stigma, and perceived discrimination (Cokley et al., 2011), likely contributes to an underdiagnosis of mental health concerns and lower use of therapy and medication among students of color (Lipson et al., 2018; Liu et al., 2019; Oswalt et al., 2019). Further, underrepresented students are less likely to seek and receive guidance and strategies to become academically and socially engaged with their campus communities (Hurd et al., 2018), putting them at a disadvantage and making them vulnerable to a range of mental health risks (Fischer, 2007; House et al., 2020).

Resilience and Mental Health

Greater resilience is associated with better outcomes in the wake of adversity or chronic stress (Southwick et al., 2014; Schetter & Dolbier, 2011). When faced with stressful situations, resilience promotes adaptive coping behaviors such as positive reframing and help-seeking strategies that are associated with heightened psychological well-being (Hartson et al., 2021). Students reporting greater resilience believe in their ability to successfully adapt to a constantly changing environment and cope with the inevitable challenges of college life (Hartley, 2012). They persevere in the face of difficulty and harness resources to sustain their well-being (Southwick et al., 2014).

Although college students display varying levels of resilience, their ability to cope with adversity has significant implications for their mental health (Eisenberg et al., 2016). Enhanced resilience is associated with a lower level of anxiety and depressive symptoms among college students (Taylor et al., 2014; Wu et al., 2020) as well as better academic achievement (DeRosier et al., 2013; Johnson et al., 2015). Resilience and coping interventions with college students consistently enhance mental health (Hartson et al., 2021; Houston et al., 2017; Steinhardt & Dolbier, 2008). Resilience is particularly important for underrepresented

college students who may experience additional psychological distress due to marginalization, microaggressions, and discrimination across various social and academic contexts (Albright & Hurd, 2020).

Recent research focused on mental health interventions among underrepresented college students is promising. For example, a strength-based resilience intervention for Black male college students, *Changing Minds, Changing Lives*, was associated with resilient adaptation and growth. The program focused on active coping, building strength, cognitive awareness, and social support, and students who participated in the program emerged with new skills, enhanced feelings of connectedness to others, and a stronger sense of self (Helling & Chandler, 2021). Positive associations between resilience and psychological well-being were also reported among undergraduate students attending a Historically Black University. In this study, resilience was conceptualized on a continuum between flexibility (i.e., expanding one's perceived options in response to stress) and reactivity (i.e., constricting one's options to stress). Results revealed that a student's ability to be mindful and nonreactive facilitated approach-coping strategies, as opposed to avoidance-coping strategies, which in turn reduced the burden of the stressor and enabled a more positive and adaptive response when faced with adversity (Freligh & Debb, 2019). This capacity to successfully adapt to the challenges of college life reinforces a positive habitual reaction of resilience which mitigates the negative impact of stress on mental health among underrepresented college students.

The Utility of Positive College Experiences

Positive college experiences promote better adjustment and adaptation which can contribute to enhanced mental health (Leary & DeRosier, 2012). Gallup's "Big Six" measure of positive college experiences (Gallup-Purdue Index, 2014), which assesses perceived support from faculty and experiential learning, has received significant attention given its positive association with well-being, life preparedness, job success, and job satisfaction among college graduates (Crabtree, 2019; Seymour & Lopez, 2015). College graduates who reported greater academic and social integration with their campus communities were more engaged at work after college and thriving in career, social, financial, physical, and community well-being (Busteed & Auter, 2018). More specifically, college graduates who reported receiving support from faculty and participating in experiential learning had 1.9- and 1.3-times greater odds of thriving in well-being, respectively (Ray & Marken, 2014).

Institutional support such as positive encouragement provided by faculty and opportunities to participate in faculty research, long-term academic projects, and experiential academic internships can help currently enrolled college students navigate a challenging college environment (Greeson, 2013; Morrison & Allen, 2007) and reduce symptoms of anxiety (Leary & DeRosier, 2012). Positive college experiences are associated with better psychological outcomes (Hanson et al., 2016; Maymon et al., 2019) and play an influential role in students' persistence and ability to adapt and adjust (Leary & DeRosier, 2012). Positive college experiences are particularly important for underrepresented students who often have challenges finding resources and support systems on campus. Several programs (e.g., financial aid, summer internships, TRIO Programs, McNair Scholars Program) help underrepresented students increase access to educational opportunities and complete their degrees

(Renbarger, 2019; Renbarger & Long, 2019). Yet, a large national dataset found that compared to White students, students of Color experience a more negative campus climate (Koo, 2021).

The stereotype inoculation model (Thiem and Dasgupta, 2022) posits that to reduce the interconnected barriers faced by historically marginalized students – barriers that hold them back despite their best efforts and motivation to succeed and feed negative stereotypes and low academic expectations – structural changes that require institutions and faculty to rethink programs to become more inclusive for all students are needed. Examples that promote positive college experiences include faculty role models and living-learning communities that help students broaden professional networks and mentoring opportunities. Receiving support from an 'ingroup member' helps inoculate students against stereotypes and gives them a future 'possible self' to aspire to. Such communities also foster interdependence and communal values rather than individual advancement and independence. These communal values serve to reduce stress and anxiety created by the cultural mismatch felt by many first-generation students who think that success will enable them to give back to their families and better serve their communities. Instructional practices focus on verbal and written feedback and encouragement, promoting help-seeking behaviors and a growth mindset where abilities are developed through persistent hard work rather than fixed mindsets where students are believed to be intelligent or not. Faculty are encouraged to create learning environments that enable greater peer collaboration and semester-long learning experiences and growth rather than the traditional independent class project (Thiem & Dasgupta, 2022).

Students who report greater interaction with faculty and involvement in experiential learning show better academic performance (Trolian et al., 2016) and greater social integration into the campus community (Cook-Sather & Felten, 2017; Raposa et al., 2021). Further, greater campus support fosters enhanced resilience in response to stressful situations, enabling a 'stress-is-enhancing' versus a 'stress-is debilitating' mindset that can help reduce the impact of stress on the development of anxiety among college students (Huebschmann & Sheets, 2020). Among college nursing students, perceptions of a supportive campus climate were associated with greater resilience and lower depression. The authors noted that although the research literature is scant, the effects of resilience on mental health might be moderated by campus climate (Mcdermott et al., 2020).

Because positive college experiences may strengthen the association between greater resilience and lower anxiety, the purpose of this study was to examine if robust positive campus experiences of institutional support and experiential learning moderated the association between resilience and anxiety symptoms among currently enrolled underrepresented students. Specifically, it was hypothesized that: 1) resilience is negatively associated with anxiety symptoms; 2) positive college experiences are negatively associated with anxiety symptoms; and 3) the product of resilience and positive college experiences is associated with anxiety symptoms. Given the lack of research, we did not propose a direction for this final exploratory hypothesis.

Methods

Sample and Procedures

A total of 447 undergraduate students attending a large university in the southwestern United States (U.S.) and enrolled in programs that provided academic

assistance housed within the Division of Diversity and Community Engagement participated in the study. Students were recruited through in-person announcements and completed an online Qualtrics survey two weeks prior to final exams as part of a larger project focused on underrepresented students (Wright et al., 2021). Seventeen participants were missing data on age and removed from the analysis. Thus, the final analytic sample size was $N = 430$. Using a G*Power analysis with an estimated effect size of .02, alpha of .05, and 80% power, the minimum sample size needed was 395 participants (Faul et al., 2007). Thus, the study sample size of $N = 430$ was sufficient to test the study hypothesis. All procedures were approved by the Institutional Review Board of The University of Texas at Austin.

Sample characteristics include a mean age of 19 ± 1.6 years, 62.6% female, 51.2% living on campus, 73.5% first-year students, and 38.1% first-generation students (i.e., neither parent received a four-year college degree). The race/ethnicity of the sample was 18.8% non-Hispanic White, 17.7% Black, 40.2% Hispanic, 20.0% Asian and 3.3% other. Each student subsequently received a confidential personal feedback profile that included their individual survey scores, along with the possible range of scores for each variable, the average score on each variable for all students completing the survey, educational information about each variable, and a list of campus academic, financial, health and wellness, and safety resources to support their mental health. The personal feedback profile provided an educational opportunity and expressed our appreciation to students for their participation. Research team members were available to discuss students' personal feedback profile and answer any questions upon request.

Survey Measures

Generalized Anxiety Symptoms. Anxiety symptoms were assessed using the 7-item Generalized Anxiety Disorder questionnaire (GAD-7) which measures symptoms of participants' severity of anxiety (Spitzer et al., 2006). The scale has demonstrated excellent internal consistency ($\alpha = .91$) and mostly excellent internal and external validity among college undergraduate students (Sriken et al., 2022). Participants in the current study reported how often they were bothered by such problems as "worrying too much about different things," and "feeling nervous, anxious or on edge" over the past two weeks on a scale ranging from 0 (*not at all*) to 3 (*nearly every day*). Scale responses were summed with possible scores ranging from 0-21. Scores ≥ 5, ≥ 10, and ≥ 15 indicate mild, moderate, and severe anxiety, respectively (Spitzer et al., 2006). The reliability of the GAD-7 was high ($\alpha = .91$).

Resilience. Resilience was assessed using the 6-item Brief Resilience Scale (BRS) which measures participants' self-reported ability to adapt to or recover from stress (Smith et al., 2008). The BRS was designed for use with undergraduate students (Smith et al., 2008) and has continued to demonstrate sound psychometric properties in this population (Julian et al., 2022). Participants responded to sample statements including "I tend to bounce back quickly after hard times," and "It does not take me long to recover from a stressful event." Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). As Smith and colleagues (2008) suggest, a total resilience score was obtained by reverse-coding items 2, 4, and 6 and then calculating the mean of the six items. Possible scores range from 1-5 with higher scores indicating greater resilience. The reliability of the BRS was high ($\alpha = .84$).

Positive College Experiences. Gallup's "Big Six" scale was used to measure participant experiences of institutional support and experiential learning (Gallup-Purdue Index, 2014). Items were adapted to reflect students' current college experiences. Experiences of institutional support were assessed by the following items: "My professors care about me as a person," "I have a mentor who encourages me to pursue my goals and dreams," and "I had (or have) at least one professor who made me excited about learning." Items assessing experiential learning included the following: "I am extremely active in extracurricular activities and organizations," "I worked (am working) on a project that took a semester or more to complete," and "I had (or have) an internship or job that allowed me to apply what I was learning in the classroom." Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Scale responses were summed with a higher total score representing greater undergraduate experiences of support and experiential learning. The reliability of the Gallup scale was marginally acceptable ($\alpha = .60$).

Data Analysis

Descriptive statistics were summarized using SPSS Version 28 (Armonk, NY). To examine the moderating effect of undergraduate positive college experiences on the association between resilience and generalized anxiety symptoms, concurrent hierarchical multiple regression analyses were performed. Demographic variables—age, sex, race/ethnicity, first-generation status, and living status—were included in the model as covariates. Continuous predictor variables were mean-centered before the interaction term was computed to reduce collinearity. The hierarchical regression model consisted of three steps: 1) regression of anxiety on demographic variables; 2) addition of the focal predictors, resilience, and positive college experiences; and 3) calculation and inclusion of the interaction term between resilience and positive college experiences. Post-hoc probing of the interaction and simple slopes was performed to determine the association between resilience and anxiety symptoms at varying levels of positive college experiences using the methods outlined by Aiken and West (1991).

Results

Table 1 presents the means, standard deviations, and bivariate correlations for the conceptual model variables. Students reported an average generalized anxiety level of 8.58 (SD = 5.61), approaching a moderate level (≥ 10) of anxiety (Spitzer et al., 2006). Table 2 shows the regression results for the moderation model. Demographic covariates including age, sex, race/ethnicity, first-

Table 1

Means, Standard Deviations, and Correlations for Conceptual Model Variables (N = 430)

| Variable	Mean (SD)	1	2	3
1. Anxiety Symptoms	8.58 (5.61)	—		
2. Resilience	3.38 (0.73)	-.42**	—	
3. Positive College Experiences	20.69 (3.67)	.09	.11*	—

Note. * $p < .05$, ** $p < .01$

generation status, and living status were entered into Model 1 and did not account for significant variance in anxiety symptoms ($F_{8,421}$ = 1.34, p = .22). The focal predictors of resilience and positive college experiences were added in Model 2. Resilience was inversely associated with anxiety symptoms (β = -.42, p < .001), but positive college experiences were not (β = -.04, p = .45). The focal predictors in Model 2 explained an additional 17% of the variance in anxiety symptoms ($F_{2,\ 419}$ = 43.45, p < .001). In Model 3, the inclusion of the resilience x positive college experiences interaction term yielded a significant interaction effect (β = -.14, p < .01), indicating that positive college experiences moderated the association between resilience and anxiety symptoms. The final model explained an additional 2% ($F_{1,418}$ = 10.37, p < .01) and accounted for a total of 21% of the variance in anxiety symptoms ($F_{11,\ 418}$ = 10.22, p < .001). Among demographic variables, first generation status was significantly associated with higher anxiety symptoms across all three models (βs = .10 to .12, ps < .05).

Post hoc probing of the significant interaction term and analysis of simple slopes indicated a significant association between resilience and anxiety symptoms at high (β = -4.55, t = -8.37, p < .001) and low (β = -2.32, t = -5.21, p < .001) levels of positive college experiences. Plotting the interaction was performed to illustrate the regression of anxiety symptoms on varying levels of resilience and positive college experiences. As Figure 1 shows, levels of resilience and positive college experiences were approximated at one standard deviation below and one standard deviation above their respective mean scores. The graph illustrates that positive college experiences moderated the association between resilience and anxiety symptoms, such that the inverse association of resilience with anxiety symptoms was stronger for students reporting higher scores on positive college experiences.

Figure 1
The Moderating Effect of Positive College Experiences on the Association Between Resilience and Anxiety Symptoms
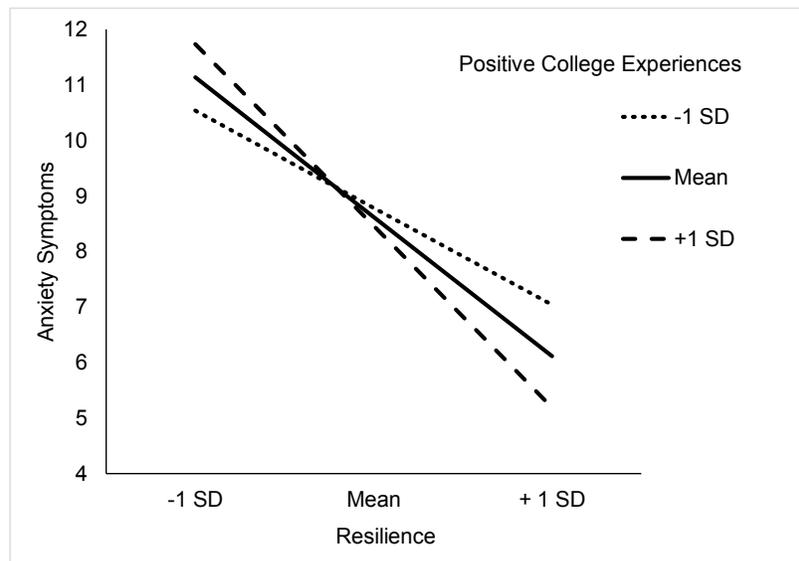
Table 2

Hierarchical Regression of Anxiety Symptoms on Resilience, Positive College Experiences, and Interaction Term (N = 430)

	Model 1			Model 2			Model 3		
	B	$SE\ B$	β	B	$SE\ B$	β	B	$SE\ B$	β
Age	-0.3	.19	-.01	-.11	.18	-.03	-.11	.18	-.03
Sex	1.05	.56	.09	.23	.52	.02	.19	.52	.02
Race White	-1.54	1.63	-.11	-.53	1.50	-.04	-.53	1.48	-.04
Race Black	-1.29	1.64	-.09	.16	1.51	.01	.15	1.49	.01
Race Hispanic	-1.91	1.57	-.17	-1.02	1.43	-.09	-1.09	1.42	-.10
Race Asian	-.15	1.62	-.11	-.83	1.48	-.06	-.88	1.46	-.06
First Generation	1.30	.59	.12*	1.18	.54	.10*	1.27	.54	.11*
Living Status	.27	.62	.02	.56	.57	.05	.52	.56	.05
Resilience				-3.21	.35	-.42***	-3.43	.36	-.44***
Positive College Experiences				-.06	.07	-.04	-.04	.07	-.02
Resilience x Positive College Experience							-.30	.09	-.14**
Model R^2		.03			.19			.21	
F for Model		1.34			9.98***			10.22***	
ΔR^2		ℬ			.17***			.02**	
F ⌧⬚ R^2					43.45***			10.37**	

Note. Coding: sex (0 = male, 1 = female); first generation (0 = no, 1 = yes); living status (0 = on campus, 1 = off campus)
* $p < .05$, ** $p < .01$, *** $p < .001$

Discussion

The high prevalence of anxiety among college students underscores the need to provide institutional support and resources to better facilitate adaptation to the challenges and opportunities of college life (Beiter et al., 2015). This need is particularly important for underrepresented college students as they are uniquely vulnerable to mental health concerns (Garriott & Nisle, 2018; McClain et al., 2016) and less likely to use campus mental health services (ACHA, 2022). The present study found that underrepresented students with higher resilience had fewer anxiety symptoms and that this association was moderated by Gallup's "Big Six" positive college experiences, indicating a beneficial influence of institutional support and experiential learning on the mental health of underrepresented college students.

The study finding of a negative association between resilience and anxiety symptoms is consistent with previous literature (Leary & DeRosier, 2012; Hartson et al., 2021) and suggests that programs designed to reduce anxiety among underrepresented students may benefit from including a resilience component, particularly given the increased risk for mental health concerns on college campuses (House et al., 2020; McDougal et al., 2018). Building resilience can lessen the negative impact of stress on college students' mental health status by enhancing problem-focused coping strategies, positive affect, and self-esteem when faced with challenging situations (DeRosier et al., 2013; First et al., 2018; Steinhardt & Dolbier, 2008). College programs focused on enhancing underrepresented students' resilience can also assist students in securing positive mentoring relationships with faculty that help increase students' sense of belonging, autonomy, academic engagement, and personal and social growth (Raposa et al., 2021).

The current study suggests that the interplay of resilience and positive college experiences has a beneficial influence on underrepresented college students' mental health. A sense of belonging and involvement in academic communities are significant determining factors of resilience and mental health among college students (Brown, 2004; Stanton-Salazar, 2011; Zimmerman, 2010). In addition to the benefits on mental health, institutional support has been shown to facilitate better academic and social adjustment to college, especially among underrepresented students (Cook-Sather & Felten, 2017; Santos & Reigadas, 2002). These positive experiences of support foster adjustment and enable a stress enhancing mindset that can reduce the impact of stress on anxiety symptoms (Huebschmann & Sheets, 2020).

For example, paid experiential learning opportunities related to future career employment opportunities – versus employment that simply helps to pay student bills – may enhance students' mental health and facilitate career readiness. Everett and Bischoff (2021) describe using campus libraries as an extension of the classroom to provide workplace experiential learning opportunities for skill development and team-based learning. Raska and Weisenbach Keller (2021) successfully provided experiential learning business opportunities that integrated marketing classrooms with a student organization to develop career-related skills valued by future employers. The success of this program was reflected by student improvements in career-ready

competencies and self-reported scores on all of Gallup's "Big Six" college experiences. These experiences enable students to enhance their capacity to adapt and build resilience resources through the development of valuable career skills such as the ability to problem-solve, build confidence, and develop a feeling of control over their careers (Duffy, 2010). Given the benefits of experiential learning on mental health and on strengthening the association between resilience and college wellbeing, opportunities to foster such experiences should be prioritized.

In the current study, first generation status was the only demographic factor significantly associated with symptoms of anxiety. Thus, first generation college students may particularly benefit from supportive faculty and positive experiential learning experiences. A recent Gallup-Purdue Index using a nationally representative sample showed that first generation college students rated faculty as less supportive and less caring and were less likely to identify supportive mentoring relationships (Raposa et al., 2021). First generation students' average rating on Gallup's "Big Six" (20.84, SD = 3.44) in the current study was between 3 *(neutral)* and 4 *(agree)*, indicating modest endorsement of positive campus experiences. Scholars have focused on interventions that empower first-generation students to cultivate on-campus connections, and results indicated that participating students had improved attitudes, enhanced relationships with instructors, and higher academic performance during their first year in college (Schwartz et al., 2018). Additional research is needed to determine whether such programs also exert benefits on the mental health of first-generation students.

Results of this study should be considered within the context of several limitations. First, the causal inference and directionality between the variables cannot be determined due to the cross-sectional design of this study. It is possible that other variables may account for some of the observed associations or that anxiety symptoms reciprocally contribute to positive college experiences and resilience. For example, personality traits such as extraversion have demonstrated a positive association with resilience among university students in the U.S. (Campbell-Sills et al., 2006) and China (Shen et al., 2021). Additionally, intolerance of uncertainty (Nekić & Mamić, 2023), alcohol consumption (Ramón-Arbués et al., 2020), academic performance, pressure to succeed, finances, and family and friend relationships (Beiter et al., 2015) are all associated with anxiety and likely influence students' college experiences and resilience. Future research using prospective designs and examining additional possible determinants should further examine the nature of the predictive associations among resilience, positive college experiences, and anxiety across time. Second, participants were attending a large public university in the southwestern U.S., so the study findings may not generalize to underrepresented college students from other types of institutions or locations. Third, we failed to ask about sexual minority status among our sample of underrepresented students. Given that sexual minority college students are disproportionally affected by poor mental health outcomes, it is critical that future studies inquire about sexual minority status when focused on mental health in the college population. We did, however, provide information about the Gender and Sexuality Center (GSC) on campus in students'

confidential personal feedback profile. The GSC provides opportunities for all students to explore issues of gender and sexuality and promotes learning around issues of gender and sexuality. Finally, the use of self-reported survey data has inherent limitations, such as the potential for inaccurate or untruthful responses.

Implications for Health Behavior Research

Although more positive campus experiences (i.e., institutional support and experiential learning) moderated the association between resilience and anxiety symptoms, future research should consider additional moderators that influence the association between resilience and anxiety. For example, varying levels of family support, academic and social integration, and college readiness and assimilation all have the capacity to influence mental health. Further, in addition to counseling programs, a proactive model that promotes heightened resilience, campus support, and experiential learning as part of the campus routine and culture may help institutions address the high prevalence of mental health concerns more effectively.

Future research should additionally use longitudinal designs to examine the effects of educational programs designed to enhance resilience and positive college experiences on the mental health of underrepresented college students. Somewhat contrary to findings of the current study, Mcdermott and colleagues (2020) found that the indirect association of resilience with academic distress *via reductions in depression* was stronger in the context of an unsupportive campus climate. This finding suggests that resilience may be most important in environments that are unsupportive of mental health. This model differs from ours in several key ways: 1) It tested moderation of a specific mediational pathway rather than a direct association of resilience with an outcome; 2) The specific path being moderated was between depression and academic distress; the associations between resilience and depression and resilience and academic distress were not moderated; 3) Academic distress is a conceptually distinct outcome than anxiety; 4) Mcdermott operationalized campus climate as perceptions of support for student mental health and well-being, while the current study measured positive campus climate as student experiences of institutional support and experiential learning (e.g., "my teachers care about me"). However, like the current study, the Mcdermott et al. (2020) study involved a cross-sectional research design. Longitudinal research is needed to better understand the role of positive college experiences on the association between resilience and mental health.

Although numerous mentoring networks are available to support the success of underrepresented students, advocates have rightly cautioned that mentoring is not a panacea, and by itself "cannot surmount structural inequality entrenched in educational and social institutions" (Hagler et al., 2021, p. 24). Structural changes are needed that require institutions and faculty to implement evidence-based solutions that are inclusive for all students and yield positive psychological outcomes (Thiem & Dasgupta, 2022). Further, few studies have employed a multi-dimensional approach with interventions across multiple levels of the ecological framework (Kezar & Kitchen, 2020). In addition to individual and interpersonal level interventions to build student resilience and increase experiential

learning, activities at the community and institutional levels to build relationships in the research laboratory, provide educational and research opportunities in the community, and design required curricula that fosters experiential learning through multilevel interventions would further strengthen the positive impact of resilience on mental health.

Discussion Question

Campus resources play an integral role in underrepresented students' success and mental health. What are some strategies to enhance positive college experiences of institutional support and experiential learning tailored to the specific needs of underrepresented students? Additionally, what are the barriers to providing these resources, and strategies to overcome these barriers?

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