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STUDENT ENGAGEMENT AND MENTAL HEALTH AMONGST SOUTH AFRICAN STUDENTS: THE ROLE OF CAMPUS DIVERSITY CLIMATE

Sean McCallaghan (PhD)[1]

[1]*Optentia Research Focus Unit, North-West University*

Abstract

University campuses reflect increasingly diverse communities and are considered important environments for preparing students to function in globalised societies. As such, universities have prioritised the promotion of positive diversity and inclusion experiences, which are often linked to student engagement in academic and co-curricular activities. However, the role of diversity-related perceptions, conceptualised as campus diversity climate, in relation to student engagement and mental well-being remains insufficiently understood, particularly within post-colonial contexts such as South Africa. This quantitative cross-sectional study examined students' perceptions of campus diversity climate, student engagement, burnout, and perceived stress. The findings indicate that student engagement was positively associated with campus diversity climate and negatively associated with student burnout and perceived stress. In addition, campus diversity climate was indirectly associated with burnout and stress through student engagement. The results suggest that while student engagement is an important factor, it may not be sufficient on its own to account for variations in student well-being. Students' perceptions of campus diversity climate appear to represent an additional contextual factor associated with psychological outcomes. These findings highlight the importance of considering both individual and institutional factors when examining student well-being in diverse higher education environments.

Keywords

Campus Diversity Climate, Diversity, Student Engagement and Student Well-Being

Introduction

Diversity and the increasing diversification of student cohorts on university campuses remain important strategic priorities for globalised higher education institutions (Starck et al., 2021). Within post-colonial university contexts, diversity is a particularly salient feature of the student experience, reflecting ongoing efforts to address historical inequalities and broaden access. However, it is not diversity itself that may be associated with negative student outcomes, but rather how diversity is experienced and perceived within institutional environments. In some cases, negative perceptions of diversity or experiences of exclusion may be associated with poorer mental well-being among students (Bantjes et al., 2019, 2021).

Student engagement is commonly defined as the extent to which students are actively involved in both academic and institutional experiences, including academic participation and broader campus involvement (Kahu, 2013; Strydom et al., 2010). Meaningful engagement, demonstrated through sustained participation in learning activities and co-curricular opportunities, is associated with stronger connections to the institution and an enhanced sense of belonging within the university environment (Kahu, 2013; Strydom et al., 2010). These experiences have been associated with improved psychological well-being and may contribute to reduced symptoms of stress and burnout (Suldo & Parker, 2022).

Although there are potential benefits, significant challenges persist for diverse university campuses aiming to improve student mental health through engagement. Students from various cultural, socio-economic, and international backgrounds may encounter university environments differently, which can affect both their engagement and mental health requirements. For instance, international students, frequently identified as minority groups in global literature, may have distinct cultural expectations and mental health needs (Sakız & Jencius, 2024). In the South African context, however, the term "minority groups" more accurately refers to historically marginalised

or previously excluded populations, who may not be numerically smaller but remain underrepresented in terms of access and institutional inclusion.

Similarly, students from diverse socio-economic backgrounds may have varying levels of awareness and understanding of mental health challenges, as well as differing levels of access to institutional support services (Broglia et al., 2021). These differences suggest that a uniform approach to student engagement and support may not adequately address the needs of all student groups within increasingly diverse campus environments.

Central to understanding these dynamics is the concept of campus diversity climate, which refers to students' perceptions of diversity-related policies, practices, and institutional behaviours (Campbell-Whatley et al., 2012; Harper & Hurtado, 2007; Vaccaro, 2014). These perceptions may shape students' sense of belonging and psychological safety, which in turn may influence their levels of engagement and overall well-being.

While previous research has suggested an association between student engagement and improved mental health outcomes, less is known about how campus diversity climate relates to this relationship, particularly within post-colonial higher education contexts. Students' perceptions of diversity may influence how they engage with their academic environment, and these engagement patterns may be associated with psychological outcomes such as stress and burnout (Kahu, 2013; Lin & Huang, 2013; Marôco et al., 2020).

Accordingly, this study considers campus diversity climate, student engagement, and student mental well-being as interconnected components of the broader student experience. The primary objective of this study was therefore to investigate the relationships between student engagement, campus diversity climate, and student mental well-being among a South African sample.

Literature Review

The following section provides a focused overview of the key study variables, including student engagement and its relevance within diverse higher education environments.

Student Engagement

Student engagement is typically defined as the degree to which students are actively involved in their academic experiences, encompassing behavioural, emotional, and cognitive dimensions (Mazer, 2012; Schaufeli et al., 2002). Behavioural engagement includes observable actions such as attendance and participation. Emotional engagement refers to students' affective responses to academic experiences. Cognitive engagement concerns the psychological investment and effort directed towards learning (Heilporn et al., 2021; Kahu, 2013; Martin & Bolliger, 2018).

Both individual and contextual factors influence student engagement. Individual characteristics, such as self-efficacy and intrinsic motivation, are significant contributors. Institutional factors, including classroom environment, university support structures, and social networks, also shape engagement experiences (Luthans et al., 2016; Martin & Bolliger, 2018). Alignment between institutional values and student expectations can foster a sense of belonging, which is associated with positive academic experiences (Yue, 2023). Furthermore, teaching practices, collaboration, and the use of technology support engagement by creating interactive and responsive learning environments (Heilporn et al., 2021; Smith et al., 2011).

In diverse university contexts, student engagement can influence interactions among different student groups. Engagement opportunities, especially those involving collaborative or co-curricular activities, facilitate interaction across varied cultural and social backgrounds (Bowman et al., 2016; Velez & Jessup-Anger, 2022). Such interactions may enhance cultural awareness and understanding, although the realization of these outcomes depends on the inclusivity and accessibility of the opportunities provided. Informal engagement platforms, such as recreational activities, further support cross-cultural interaction by offering less structured environments for engagement (Bowman et al., 2016; Williams, 2022).

Institutional commitment to diversity and inclusion also influences student engagement. Universities that provide visible and consistent support for diversity-related initiatives are often perceived as more inclusive, particularly by students from historically marginalized or underrepresented groups (Velez & Jessup-Anger, 2022). These perceptions can foster a stronger sense of belonging, which is a key factor associated with student engagement (Chattopadhyay, 2022). However, the effectiveness of institutional diversity efforts in promoting meaningful engagement experiences varies according to students' perceptions of the broader campus climate.

Campus diversity climate

Campus diversity climate refers to students' collective perceptions of psychological, behavioural, and compositional aspects of diversity within the university environment (Campbell-Whatley et al., 2012; Hurtado et al., 2012; Vaccaro, 2014). The psychological dimension addresses perceptions of inclusivity and belonging in relation to students' identities and demographic backgrounds (Hurtado et al., 1998). Positive perceptions of this dimension are associated with a stronger sense of belonging and can facilitate cross-cultural interaction within the student community (Santos et al., 2007). These perceptions are influenced by broader institutional and historical contexts, particularly in settings where exclusion and inequality persist in shaping student experiences (Yaj, 2019).

The behavioural dimension of campus diversity climate concerns interactions among students from diverse backgrounds. These interactions shape overall perceptions of inclusivity and influence whether the campus environment is perceived as cohesive or fragmented (Maramba & Museus, 2011; Pike & Kuh, 2006; Rathod, 2019). Positive interactions contribute to greater mutual understanding and a stronger sense of community, whereas negative or exclusionary interactions can foster perceptions of division or isolation, especially among historically marginalised student groups (Worthington, 2008).

Structural diversity, which refers to the compositional diversity of the student body, represents another dimension of campus diversity climate. The presence of diverse student populations may influence both psychological perceptions and behavioural interactions, although these outcomes are not guaranteed (Abrica, 2019). Studies indicate that higher levels of structural diversity are frequently associated with more positive perceptions of inclusion; however, such outcomes rely on effective institutional policies and practices that foster inclusion and meaningful engagement across groups (Griffin et al., 2012; Hurtado et al., 1998). Importantly, students' experiences are shaped not only by the presence of diversity, but also by how diversity is structured, supported, and experienced within the institutional environment. Campuses that are perceived as lacking inclusivity or failing to facilitate meaningful interaction across diverse groups are frequently associated with less favourable student experiences. In certain cases, these perceptions are linked to increased psychological strain, particularly among students from historically marginalised groups (Leath et al., 2023). These dynamics highlight the significance of campus diversity climate as a contextual factor influencing both student engagement and well-being.

Student Stress and Burnout

Student stress is defined as an emotional and physiological response to situations perceived as overwhelming or beyond an individual's coping capacity (Robotham & Julian, 2006). In higher education, students encounter stress from various sources, such as academic demands, financial pressures, social expectations, and institutional support challenges (Akpınar, 2021; Apare & Enakpoya, 2024; Govender et al., 2015; Hossain et al., 2023). The nature and intensity of these stressors differ across student populations and contexts. Prolonged exposure to such pressures is linked to persistent psychological strain, including burnout (Chaabane et al., 2021; Maymon & Hall, 2021).

Although related, stress and burnout are distinct constructs. Stress is generally a short-term response to specific pressures, while burnout is a chronic psychological condition. Student burnout is characterized by emotional and physical exhaustion, detachment or cynicism toward academic work, and reduced academic efficacy (Schaufeli et al., 2002). Additionally, burnout is associated with disengagement from academic activities and decreased motivation to fulfill academic responsibilities (Maroco & Campos, 2012).

Stress and burnout are commonly used indicators of student mental well-being, as elevated levels are linked to adverse psychological outcomes. In diverse university settings, students face various academic, social, and institutional challenges that influence their experiences of stress and burnout. For instance, the transition from secondary to tertiary education increases academic and social adjustment demands, contributing to greater psychological strain among first-year students (Akhtar & Akhtar, 2024).

Students also encounter challenges related to academic expectations, administrative procedures, and accessing institutional support systems (Baik et al., 2019; Bibi et al., 2022; Lister et al., 2023). Social and family expectations further contribute to perceived pressure, especially when students must balance academic and personal demands (Islam et al., 2022). Although these challenges are not exclusive to diverse university environments, students' perceptions and coping strategies may differ, affecting their overall psychological well-being.

South African Higher Education Context

Despite progress since the end of legally enforced segregation, significant challenges related to diversity and inclusion persist within South African higher education institutions (Ramaahlo et al., 2018). Structural inequalities continue to shape access to tertiary education, with evidence suggesting that historical patterns of exclusion still influence participation (Walton & Engelbrecht, 2024). These issues are evident in various forms of student activism, including movements such as #FeesMustFall and #RhodesMustFall, as well as protests concerning financial barriers, accommodation, and demands for curriculum transformation. Such activism has been interpreted as an expression of ongoing student concerns about the pace and extent of transformation in the higher education sector (Boboyi & Kang'ethe, 2024).

Furthermore, students may encounter exclusion due to unequal access to resources essential for academic engagement. Disparities in access to technology and reliable internet connectivity can affect students' capacity to participate fully in academic activities, especially in settings that require digital learning (Isaacs, 2020; Woldegiorgis, 2022). Physical accessibility also remains a critical concern, as students with disabilities may face barriers that restrict their full participation in academic environments (Chiwandire & Vincent, 2017).

These challenges indicate that students' experiences of inclusion and support within university environments are variable, which may influence both their engagement and overall well-being. Although student engagement is linked to positive academic and psychological outcomes, these associations may not be consistent across all student groups or institutional contexts. Notably, students' perceptions of diversity and inclusion, conceptualized as campus

diversity climate, may significantly influence the nature of engagement and its relationship to psychological outcomes such as stress and burnout.

Accordingly, rather than assuming a direct or uniform relationship between engagement and well-being, this study examines how campus diversity climate is related to student engagement and mental well-being within the context of South African higher education. The study specifically aims to investigate the relationships among student engagement, campus diversity climate, and student mental well-being in a South African sample.

Research Methods

The following section outlines the research methods applied in the present study.

Research Design and Approach

This study adopted a quantitative, cross-sectional research design. Numerical data were collected at a single point in time to capture students' perceptions of engagement, campus diversity climate, and psychological well-being, operationalised through measures of stress and burnout (Spector, 2019; Weyant, 2022). Cross-sectional designs are useful for examining relationships between variables within a specific context, although they do not permit conclusions regarding causality.

Participants and Sampling

Data were collected using an electronic survey instrument, which was selected as a practical and cost-effective method for reaching a geographically dispersed student population (Taherdoost, 2021). A non-probability sampling approach was employed, combining convenience and snowball sampling techniques. Participants were recruited through social media platforms, where they were invited to voluntarily participate in the study.

A total of 181 responses were obtained. Data were captured, organised, and cleaned using the Statistical Package for Social Sciences (IBM Corp., 2022) and R (R Core Team, 2025). All participants confirmed that they were currently registered full-time students at a South African university and that their participation was voluntary.

The sample characteristics are summarised in Table 1 (N = 181). The average age of participants was 22.71 years. The sample was predominantly female (61.30%) and largely identified as Black African (87.30%). Most participants were enrolled in a Bachelor's degree programme (93.40%), and just over half reported living in non-university accommodation (51.40%).

Demographical variable	Result
Average Age	22.71 Years old
Gender	
Male	38.10%
Female	61.30%
Prefer not to say	0.60%
Race	
Black African	87.30%
White	8.30%
Coloured	3.90%
Indian	0.60
Study program	
Bachelor's degree	93.40%
Postgraduate degree	6.60%
Accommodation	
University residence	38.70%
Non-University accommodation	51.40%
Living with parents	9.90%

Measures

Campus Diversity Climate

Campus diversity climate was measured using the Campus Climate Diversity Survey for Students (CCDS) (Campbell-Whatley et al., 2012). The 16-item scale assesses students' perceptions of diversity-related policies and practices using a five-point Likert scale (1 = Strongly disagree to 5 = Strongly agree). A sample item includes: "Diversity among faculty is important for my educational growth" (Campbell-Whatley et al., 2012, p. 10). The CCDS has previously demonstrated acceptable levels of internal consistency, exceeding conventional Cronbach's alpha thresholds (Campbell-Whatley et al., 2012; Cohen, 1988; Field, 2013).

Student Engagement

Student engagement was measured using the Utrecht Work Engagement Scale – Student Form (UWES-SF) (Gusy et al., 2019). This nine-item scale assesses engagement across vigour, dedication, and absorption using a seven-point Likert scale (1 = Never to 7 = Always). A sample item includes: "I am enthusiastic about my studies" (Gusy et al., 2019, p. 37). The UWES-SF has demonstrated acceptable reliability in previous research (vigour $\alpha = 0.86$, dedication $\alpha = 0.83$, and absorption $\alpha = 0.70$) (Gusy et al., 2019; Taber, 2018).

Student Burnout

Student burnout was measured using the exhaustion and cynicism subscales of the Maslach Burnout Inventory – Student Survey (MBI-SS) (Schaufeli et al., 2002). A total of nine items were included, measured on a seven-point Likert scale (1 = Never to 7 = Always). A sample item includes: "I feel tired when I get up in the morning and I have to face another day at the university" (Schaufeli et al., 2002, p. 477). The MBI-SS has demonstrated acceptable levels of internal consistency and reliability in prior studies (Field, 2013; Schaufeli et al., 2002).

Perceived Student Stress

Perceived stress was measured using the Perceived Stress Scale (PSS-10), developed by Cohen et al. (1983). The 10-item scale assesses the extent to which individuals perceive situations in their lives as stressful, using a five-point Likert scale (1 = Never to 5 = Very often). A sample item includes: "Felt that you were unable to control the important things in your life" (Cohen et al., 1983, p. 394). The PSS-10 has demonstrated acceptable reliability across multiple studies and is widely used as a measure of perceived stress (Busa et al., 2024; Pallant, 2020; Siqueira Reis et al., 2010).

Statistical Analysis

Descriptive statistics, such as means and standard deviations, were computed to evaluate the central tendencies of the variables examined. Data distribution was assessed using skewness and kurtosis, with skewness values ≤ 2.00 and kurtosis values ≤ 7.00 indicating acceptable normality (West et al., 1995).

Internal consistency reliability was evaluated using Cronbach's alpha (α) and mean inter-item correlations (r), with α values ≥ 0.70 and r values between 0.15 and 0.50 deemed acceptable (Clark & Watson, 1995; Field, 2013; Pallant, 2020; Taber, 2018). Harman's single-factor test was applied to detect potential common method bias. Common method bias was considered unlikely if a single factor accounted for less than 50% of the total variance (Eichhorn, 2014).

Construct validity was assessed using confirmatory factor analysis (CFA) implemented in the Lavaan package in R (R Core Team, 2025; Rosseel, 2021), following the procedures described by Sun (2005). Model fit was evaluated using several indices. Absolute fit indices included the root mean square error of approximation (RMSEA ≤ 0.06) and the standardised root mean square residual (SRMR ≤ 0.08) (DiStefano & Hess, 2005; van de Schoot et al., 2012). Incremental fit indices included the Tucker–Lewis index (TLI ≥ 0.90) and the comparative fit index (CFI ≥ 0.90) (Wang & Wang, 2019). The chi-square statistic was interpreted cautiously due to its sensitivity to sample size; therefore, the relative chi-square ($\chi^2/df \leq 2.00$) was also considered (Tabachnick & Fidell, 2012). Factor loadings ≥ 0.40 were considered acceptable (Pallant, 2020).

Pearson correlation analysis was performed to investigate relationships among variables. Correlation coefficients (r) were evaluated for statistical and practical significance, with effect sizes classified as small ($r = 0.10$), medium ($r = 0.30$), and large ($r = 0.50$) (Ellis & Steyn, 2003).

Mediation analysis was conducted using Model 4 of the PROCESS macro to estimate standardised regression coefficients (direct effects) and indirect effects (Hayes, 2017). Indirect effects were assessed using bootstrapped confidence intervals based on 10,000 samples. An indirect effect was deemed statistically significant if the lower-level confidence interval (LLCI) and upper-level confidence interval (ULCI) did not include zero (Shrout & Bolger, 2002; Zhao et al., 2010).

Results

The results are organized into three sections. The first section reports descriptive statistics, including means, standard deviations, reliability coefficients, and indicators of normality. The second section presents the outcomes of Harman's single-factor test and confirmatory factor analysis to evaluate common method bias and construct validity. The third section details the findings from the correlation analysis and simple mediation models, which examine the relationships among the study variables.

Descriptive Statistics and Reliability

Table 2 presents the descriptive statistics, including means and standard deviations, alongside reliability coefficients and assessments of normality for the study variables.

Table 2: Descriptive, reliability and normality results

Variable	Mean (*M*)	Standard deviation (*SD*)	Kurtosis	Skewness	Cronbach's alpha (α)	Inter-item correlation (*r*)
Campus diversity climate	3.78	0.54	4.92	-0.75	0.87	0.30
Student engagement	5.06	0.83	0.57	-0.23	0.82	0.35
Student burnout	3.21	1.12	2.07	0.93	0.86	0.39
Perceived student stress	3.09	0.72	4.54	1.37	0.78	0.27

The results presented in Table 2 indicate that participants reported moderately positive perceptions of the campus diversity climate (M = 3.78; SD = 0.54) and relatively high levels of student engagement (M = 5.06; SD = 0.83). Student burnout scores were within the lower-to-moderate range of the scale (M = 3.21; SD = 1.12), while perceived student stress was reported at a moderate level (M = 3.09; SD = 0.72).

Skewness and kurtosis values were within acceptable thresholds, indicating no substantial deviations from normality, although some variables demonstrated mild kurtosis (West et al., 1995). Internal consistency reliability was satisfactory across all variables, with Cronbach's alpha coefficients exceeding the recommended threshold of 0.70. The reliability coefficients were as follows: campus diversity climate (α = 0.87; *r* = 0.30), student engagement (α = 0.82; *r* = 0.35), student burnout (α = 0.86; *r* = 0.39), and perceived student stress (α = 0.78; *r* = 0.27), indicating acceptable to strong internal consistency (Cohen, 1988; Field, 2013; Pallant, 2020; Taber, 2018).

Common method bias and validity

The results of Harman's single-factor test indicated that a single factor accounted for 24.06% of the total variance when all items were loaded onto an exploratory factor. As this value is below the 50% threshold, common method bias is unlikely to be a significant concern in the present study (Eichhorn, 2014).

Construct validity was assessed using confirmatory factor analysis (CFA) with a maximum likelihood estimator (Kyriazos, 2018; Schermelleh-Engel et al., 2003). The model demonstrated acceptable fit to the data based on established criteria. The fit indices were as follows: $\chi^2 = 708.01$; $df = 438$; $\chi^2/df = 1.62$; CFI = 0.91; TLI = 0.90; RMSEA = 0.06; SRMR = 0.07 (Sun, 2005).

Correlation analysis

Table 3 illustrates the results obtained from the correlation computations.

Table 3: Correlation analysis

	Variable	1	2	3	4	5	6
1	Campus diversity climate	1					
2	Student engagement	0.36*	1				
3	Student burnout	-0.42*	-0.65*	1			
4	Perceived student stress	-0.26*	-0.39*	0.47*	1		

Notes: *$p < .01$. Practical significance thresholds: 0.10 = small effect; 0.30 = medium effect; and 0.50 = large effect (Cohen, 1988; Ellis & Steyn, 2003).

The results indicate that campus diversity climate was positively associated with student engagement ($r = 0.36$, $p < .01$), reflecting a medium effect size. Campus diversity climate was negatively associated with student burnout ($r = -0.42$, $p < .01$), indicating a medium effect, and with perceived student stress ($r = -0.26$, $p < .01$), reflecting a small effect. Student engagement was negatively associated with student burnout ($r = -0.65$, $p < .01$), representing a large effect, and with perceived student stress ($r = -0.39$, $p < .01$), indicating a medium effect. Finally, student burnout and perceived student stress were positively associated ($r = 0.47$, $p < .01$), reflecting a medium effect size.

Standardized regression coefficients

Table 4 below depicts the standardized regression coefficient results obtained from the simple mediation modelling in PROCESS (Hayes, 2017).

Table 4: Standardized regression coefficients, student engagement, campus diversity climate, student burnout and perceived student stress.

			Bootstrapping BC 95% CI	
Variable	**Estimate**	**SE**	**Lower**	**Upper**
Student engagement → Campus diversity climate	0.24*	0.05	0.15	0.33
Student engagement → Student burnout	-0.78*	0.08	-0.94	-0.62
Student engagement → Perceived student stress	-0.29*	0.10	-0.42	-0.17
Campus diversity climate → Student burnout	-0.43*	0.12	-0.67	-0.19
Campus diversity climate → Perceived student stress	-0.18	0.06	-0.42	-0.17
Student engagement → Campus diversity climate → Student burnout**	-0.10	0.03	-0.18	-0.04
Student engagement → Campus diversity climate → Perceived student stress**	-0.04	0.02	-0.08	-0.01

Notes: * The standardised regression coefficient was significant at the $p < 0.05$ level.
**Indirect effects were significant when zero was not included between LLIC and ULCI (Zhao et al., 2010).

The results of the mediation analysis indicated that student engagement was positively associated with campus diversity climate ($\beta = 0.24$). In addition, student engagement was negatively associated with student burnout ($\beta = -0.78$) and perceived student stress ($\beta = -0.29$). Campus diversity climate was also negatively associated with student burnout ($\beta = -0.43$) and perceived student stress ($\beta = -0.18$).

The indirect effect of student engagement on student burnout via campus diversity climate was statistically significant ($B = -0.10$, $SE = 0.03$, 95% CI [-0.18, -0.04]). Similarly, the indirect effect of student engagement on perceived student stress via campus diversity climate was statistically significant ($B = -0.04$, $SE = 0.02$, 95% CI [-0.08, -0.01]). As the bootstrapped confidence intervals for both indirect effects did not include zero, these indirect effects were considered statistically significant (Zhao et al., 2010).

Discussion

The primary objective of this study was to investigate the role of campus diversity climate in the relationship between student engagement and student mental well-being within the context of a South African university.

Firstly, the results demonstrate that student engagement is significantly associated with indicators of student mental well-being, specifically lower levels of perceived stress and burnout. This observation is consistent with previous research indicating that students who are actively engaged in academic and co-curricular activities tend to report more favourable psychological outcomes (Campbell et al., 2022). Engaged students are more likely to participate in social and academic interactions, which can contribute to the development of support networks (Marôco et al., 2020). These networks may, in turn, facilitate greater awareness of available support services and coping strategies (Suldo & Parker, 2022). It is important to interpret these findings as associative rather than causal due to the cross-sectional design of the study.

Secondly, student engagement was negatively associated with both student burnout and perceived stress. This finding aligns with prior research demonstrating that higher levels of engagement are linked to lower psychological strain among students (Kadiyono & Liyani, 2019; Olson et al., 2023). Engagement has also been associated with increased motivation, academic resilience, and a stronger sense of belonging (Cazan, 2015; Romeo et al., 2024; Sun & Liu, 2023). These factors may contribute to more positive academic experiences, which are associated with lower levels of stress and burnout. However, these relationships do not indicate that engagement directly reduces stress or burnout; rather, these constructs co-occur in meaningful ways.

Thirdly, campus diversity climate was associated with both student burnout and perceived stress. Specifically, more positive perceptions of the campus diversity climate were associated with lower levels of burnout and stress. This result is consistent with previous studies indicating that inclusive and supportive campus environments are linked to improved student well-being, particularly among students from historically underrepresented groups (Hardeman et al., 2016; Koo, 2021; Williams-York et al., 2024). In contrast, students who perceive the campus climate as exclusionary or unsupportive may experience increased psychological strain when managing academic demands (Cecil et al., 2014). These findings indicate that the broader institutional environment is an important contextual factor in student well-being. Campus diversity climate was indirectly associated with student burnout and perceived stress through student engagement. This suggests that the relationship between diversity climate and student well-being may operate, in part, through levels of student engagement. In other words, a more positive diversity climate may be associated with higher engagement, which, in turn, is associated with lower stress and burnout. These findings provide a potential explanation for how these constructs are related, although causal inferences cannot be made.

From a practical perspective, these findings underscore the importance of fostering both student engagement and a supportive campus diversity climate. Previous research has demonstrated that students' experiences of inclusion

and belonging influence psychological well-being and academic functioning (Woodford et al., 2015). Universities that implement inclusive policies and practices may create environments that facilitate engagement and access to social and academic support systems (Seo et al., 2015; Zhang et al., 2020). Such support structures may help mitigate stress and burnout, particularly among students who experience marginalisation.

At the same time, it is important to note that engagement alone may not be sufficient to support student well-being without a supportive institutional climate. Students who are engaged but operate in environments perceived as exclusionary may still experience elevated stress and burnout (Aljadani et al., 2021; Seo et al., 2015). This underscores the need for universities to adopt a holistic approach that addresses both individual engagement and institutional climate factors. The value of assessing campus diversity climate as part of institutional strategy. Understanding how different student groups perceive diversity-related policies and practices can help develop targeted interventions. For example, previous research suggests that certain student groups, such as first-year students and female students, may be more vulnerable to burnout and could benefit from tailored support initiatives (Altannir et al., 2019; Qashqary et al., 2022). Interventions aimed at strengthening resilience and improving access to support services may help students better manage academic demands and reduce psychological strain (Gong et al., 2023; Lin & Huang, 2013).

Promoting mental health awareness and ensuring accessible support structures remain critical. Initiatives that integrate co-curricular engagement with mental health support may enhance both student engagement and well-being outcomes (Paloș et al., 2019; Zhang, 2023; Zhang et al., 2020). A comprehensive institutional approach that supports diverse student identities and promotes engagement is likely to be most effective in fostering positive student experiences and well-being.

References

Abrica, E. J. (2019). Leveraging a physiosocial ecological critique of the campus climate heuristic in higher education research. https://doi.org/10.3102/1446147

Akpınar, E. (2021). The effect of online learning on tertiary level students' mental health during the COVID-19 lockdown. *The European Journal of Social & Behavioural Sciences, 30*(1). https://doi.org/10.15405/ejsbs.288

Aljadani, A., Alsolami, A., Almehmadi, S., Alhuwaydi, A. M., & Fathuldeen, A. (2021). Epidemiology of burnout and its association with academic performance among medical students at Hail University, Saudi Arabia. *Sultan Qaboos University Medical Journal, 21*(2), e231–e236. https://doi.org/10.18295/squmj.2021.21.02.011

Altannir, Y., Al-Najjar, W., Ahmad, S. O., Altannir, M., Yousuf, F., Obeidat, A., & Al-Tannir, M. (2019). Assessment of burnout in medical undergraduate students in Riyadh, Saudi Arabia. *BMC Medical Education, 19*(1). https://doi.org/10.1186/s12909-019-1468-3

Apare, J., & Enakpoya, E. (2024). Substance use, peer social comparison, academic stress and psychological well-being of students in tertiary institution in Delta South Senatorial District. *Asian Research Journal of Arts & Social Sciences, 22*(3), 1–17. https://doi.org/10.9734/arjass/2024/v22i3518

Baik, C., Larcombe, W., & Brooker, A. (2019). How universities can enhance student mental wellbeing: The student perspective. *Higher Education Research & Development, 38*(4). https://doi.org/10.1080/07294360.2019.1576596

Bantjes, J., Lochner, C., Saal, W., Roos, J., Taljaard, L., Page, D., Auerbach, R. P., Mortier, P., Bruffaerts, R., Kessler, R. C., & Stein, D. J. (2019). Prevalence and sociodemographic correlates of common mental disorders among first-year university students in post-apartheid South Africa: Implications for a public mental health approach to student wellness. *BMC Public Health, 19*(1). https://doi.org/10.1186/s12889-019-7218-y

Bantjes, J., Saal, W., Gericke, F., Lochner, C., Roos, J., Auerbach, R. P., Mortier, P., Bruffaerts, R., Kessler, R. C., & Stein, D. (2021). Mental health and academic failure among first-year university students in South Africa. *South African Journal of Psychology, 51*(3). https://doi.org/10.1177/0081246320963204

Bibi, Z., Alvi, S. M., & Noor, Z. (2022). Relationship of stress with academic performance among university students. *Journal of Management Practices, Humanities and Social Sciences, 6*(5). https://doi.org/10.33152/jmphss-6.5.10

Boboyi, A., & Kang'ethe, S. M. (2024). Unpacking challenges within South African institutions of higher learning in addressing student grievances: A literature review. *Journal of Culture and Values in Education, 7*(2), 215–229. https://doi.org/10.46303/jcve.2024.20

Bowman, N. A., Denson, N., & Park, J. J. (2016). Racial/cultural awareness workshops and post-college civic engagement: A propensity score matching approach. *American Educational Research Journal, 53*(6). https://doi.org/10.3102/0002831216670510

Broglia, E., Millings, A., & Barkham, M. (2021). Student mental health profiles and barriers to help seeking: When and why students seek help for a mental health concern. *Counselling and Psychotherapy Research, 21*(4). https://doi.org/10.1002/capr.12462

Busa, F., Csima, M. P., Márton, J. A., Rozmann, N., Pandur, A. A., Ferkai, L. A., Deutsch, K., Kovács, Á., & Sipos, D. (2024). Sleep quality and perceived stress among health science students during online education—A single institution study. *Healthcare, 12*(1). https://doi.org/10.3390/healthcare12010075

Campbell, F., Blank, L., Cantrell, A., Baxter, S., Blackmore, C., Dixon, J., & Goyder, E. (2022). Factors that influence mental health of university and college students in the UK: A systematic review. *BMC Public Health, 22*(1), 1778. https://doi.org/10.1186/s12889-022-13943-x

Campbell-Whatley, G. D., Lee, J. A., Tome, O., & Wang, C. (2012). Student perceptions of diversity and campus climate: When students speak. *New Waves: Educational Research & Development, 15*(1), 3–22.

Cazan, A.-M. (2015). Learning motivation, engagement and burnout among university students. *Procedia - Social and Behavioral Sciences, 187*, 413–417. https://doi.org/10.1016/j.sbspro.2015.03.077

Cecil, J. E., McHale, C., Hart, J., & Laidlaw, A. (2014). Behaviour and burnout in medical students. *Medical Education Online, 19*(1), 25209. https://doi.org/10.3402/meo.v19.25209

Chaabane, S., Chaabna, K., Bhagat, S., Abraham, A., Doraiswamy, S., Mamtani, R., & Cheema, S. (2021). Perceived stress, stressors, and coping strategies among nursing students in the Middle East and North Africa: An overview of systematic reviews. *Systematic Reviews, 10*(1). https://doi.org/10.1186/s13643-021-01691-9

Chattopadhyay, D. (2022). Exploring effects of institutional, interpersonal, and individual communication on university students' attitudes about diversity and institutional belongingness. *Intercultural Communication Education, 5*(2). https://doi.org/10.29140/ice.v5n2.627

Chiwandire, D., & Vincent, L. (2017). Wheelchair users, access and exclusion in South African higher education. *African Journal of Disability, 6*. https://doi.org/10.4102/ajod.v6i0.353

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*(3), 309–319. https://doi.org/10.1037/1040-3590.7.3.309

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385–396.

DiStefano, C., & Hess, B. (2005). Using confirmatory factor analysis for construct validation: An empirical review. *Journal of Psychoeducational Assessment, 23*(3), 225–241. https://doi.org/10.1177/073428290502300303

Eichhorn, B. R. (2014). Common method variance techniques. *Midwest SAS Users Group.*

Ellis, S. M., & Steyn, H. S. (2003). Practical significance (effect sizes) versus or in combination with statistical significance (p-values). *Management Dynamics, 12*(4), 51–53.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics.* Sage.

Gong, Z. Z., Wang, H., Zhong, M., & Shao, Y. (2023). College students' learning stress, psychological resilience and learning burnout: Status quo and coping strategies. *BMC Psychiatry, 23*(1). https://doi.org/10.1186/s12888-023-04783-z

Govender, P., Mkhabela, S., Hlongwane, M., Jalim, K., & Jetha, C. (2015). OT students' experiences of stress and coping. *South African Journal of Occupational Therapy, 45*(3). https://doi.org/10.17159/2310-3833/2015/v45n3/a7

Griffin, K. A., Muñiz, M. M., & Espinosa, L. (2012). The influence of campus racial climate on diversity in graduate education. *The Review of Higher Education, 35*(4). https://doi.org/10.1353/rhe.2012.0031

Gusy, B., Lesener, T., & Wolter, C. (2019). Measuring well-being with the Utrecht Work Engagement Scale–Student Form. *European Journal of Health Psychology, 26*(2), 31–38. https://doi.org/10.1027/2512-8442/a000027

Hardeman, R. R., Przedworski, J., & Przedworski, M. (2016). Association between perceived medical school diversity climate and change in depressive symptoms among medical students: A report from the Medical Student CHANGE Study. *Journal of the National Medical Association, 108*(4), 225–235. https://doi.org/10.1016/j.jnma.2016.08.005

Harper, S. R., & Hurtado, S. (2007). Nine themes in campus racial climates and implications for institutional transformation. *New Directions for Student Services, 2007*(120), 7–24. https://doi.org/10.1002/ss.254

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.

Heilporn, G., Lakhal, S., & Bélisle, M. (2021). An examination of teachers' strategies to foster student engagement in blended learning in higher education. *International Journal of Educational Technology in Higher Education, 18*(1). https://doi.org/10.1186/s41239-021-00260-3

Hossain, M. K., Mahfuz, T., Latif, S., & Hossain, M. E. (2023). Determinants of financial stress among university students and its impact on their performance. *Journal of Applied Research in Higher Education, 15*(1). https://doi.org/10.1108/JARHE-02-2021-0082

Hurtado, S., Carter, D. F., & Kardia, D. (1998). The climate for diversity: Key issues for institutional self-study. *New Directions for Institutional Research, 1998*(98), 53–63. https://doi.org/10.1002/ir.9804

Hurtado, S., Ruiz Alvarado, A., & Guillermo-Wann, C. (2012). *Inclusive learning environments: Modeling a relationship between validation, campus climate for diversity, and sense of belonging.* Annual Conference of the Association for the Study of Higher Education. [verify source details]

IBM Corp. (2022). *IBM SPSS Statistics for Windows* (Version 28.0) [Computer software]. IBM Corp.

Isaacs, D. (2020). "I don't have time for this": Stuttering and the politics of university time. *Scandinavian Journal of Disability Research, 22*(1). https://doi.org/10.16993/sjdr.601

Islam, S., Akter, R., Sikder, T., & Griffiths, M. D. (2022). Prevalence and factors associated with depression and anxiety among first-year university students in Bangladesh: A cross-sectional study. *International Journal of Mental Health and Addiction, 20*(3). https://doi.org/10.1007/s11469-020-00242-y

Kadiyono, A. L., & Liyani, A. N. (2019). Finding the gap: Student stress and student engagement of first-year undergraduate student from overseas. In *Proceedings of the 1st Sampoerna University–AFBE International Conference (SU-AFBE 2018).* https://doi.org/10.4108/eai.6-12-2018.2286291

Kahu, E. R. (2013). Framing student engagement in higher education. *Studies in Higher Education, 38*(5), 758–773. https://doi.org/10.1080/03075079.2011.598505

Koo, K. K. (2021). Am I welcome here? Campus climate and psychological well-being among students of color. *Journal of Student Affairs Research and Practice, 58*(2), 196–213. https://doi.org/10.1080/19496591.2020.1853557

Kyriazos, T. A. (2018). Applied psychometrics: Sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology, 9*(8), 2207–2230. https://doi.org/10.4236/psych.2018.98126

Leath, S., Butler-Barnes, S., Jones, M. K., & Ball, P. J. (2023). Linked fate among underrepresented groups: Investigating the relationships between Black college students' perceptions of institutional diversity climate and mental health. *Journal of American College Health, 71*(4). https://doi.org/10.1080/07448481.2021.1924724

Lin, S.-H., & Huang, Y. (2013). Life stress and academic burnout. *Active Learning in Higher Education, 15*(1), 77–90. https://doi.org/10.1177/1469787413514651

Lister, K., Seale, J., & Douce, C. (2023). Mental health in distance learning: A taxonomy of barriers and enablers to student mental wellbeing. *Open Learning, 38*(2). https://doi.org/10.1080/02680513.2021.1899907

Luthans, K. W., Luthans, B. C., & Palmer, N. F. (2016). A positive approach to management education. *Journal of Management Development, 35*(9), 1098–1118. https://doi.org/10.1108/JMD-06-2015-0091

Maramba, D. C., & Museus, S. D. (2011). The utility of using mixed-methods and intersectionality approaches in conducting research on Filipino American students' experiences with the campus climate and on sense of belonging. *New Directions for Institutional Research, 2011*(151), 93–101. https://doi.org/10.1002/ir.401

Marôco, J., Assunção, H., Harju-Luukkainen, H., Lin, S. W., Sit, P. S., Cheung, K. C., Maloa, B., Ilic, I. S., Smith, T. J., & Campos, J. A. D. B. (2020). Predictors of academic efficacy and dropout intention in university students: Can engagement suppress burnout? *PLOS ONE, 15*(10), e0239816. https://doi.org/10.1371/journal.pone.0239816

Maroco, J., & Campos, J. A. D. B. (2012). Defining the student burnout construct: A structural analysis from three burnout inventories. *Psychological Reports, 111*(3). https://doi.org/10.2466/14.10.20.PR0.111.6.814-830

Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning, 22*(1). https://doi.org/10.24059/olj.v22i1.1092

Maymon, R., & Hall, N. C. (2021). A review of first-year student stress and social support. *Social Sciences, 10*(12). https://doi.org/10.3390/socsci10120472

Mazer, J. P. (2012). Development and validation of the Student Interest and Engagement Scales. *Communication Methods and Measures, 6*(2), 99–125. https://doi.org/10.1080/19312458.2012.679244

Olson, N., Oberhoffer-Fritz, R., Reiner, B., & Schulz, T. (2023). Study-related factors associated with study engagement and student burnout among German university students. *Frontiers in Public Health, 11*, 1168264. https://doi.org/10.3389/fpubh.2023.1168264

Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). Routledge. https://doi.org/10.4324/9781003117452

Paloș, R., Maricuţoiu, L. P., & Costea, I. (2019). Relations between academic performance, student engagement and student burnout: A cross-lagged analysis of a two-wave study. *Studies in Educational Evaluation, 60*, 199–204. https://doi.org/10.1016/j.stueduc.2019.01.005

Pike, G. R., & Kuh, G. D. (2006). Relationships among structural diversity, informal peer interactions and perceptions of the campus environment. *The Review of Higher Education, 29*(4), 425–450. https://doi.org/10.1353/rhe.2006.0037

Qashqary, M. E., Alqahtani, A., Alotaibi, A., Alghamdi, Z., & Alattas, H. (2022). Prevalence and degree of burnout among medical students in Jeddah University using Maslach Burnout Inventory (MBI). *Medical Science, 26*(125), 1–8. https://doi.org/10.54905/disssi/v26i125/ms319e2290

R Core Team. (2025). *R: A language and environment for statistical computing* [Computer software]. R Foundation for Statistical Computing.

Ramaahlo, M., Tönsing, K. M., & Bornman, J. (2018). Inclusive education policy provision in South African research universities. *Disability & Society, 33*(3). https://doi.org/10.1080/09687599.2018.1423954

Rathod, B. (2019). Caste conflicts on campuses: Examining diversity research to transform Indian universities into inclusive learning spaces. *Journal of Social Inclusion Studies, 5*(2), 129–146. https://doi.org/10.1177/2394481119900838

Robotham, D., & Julian, C. (2006). Stress and the higher education student: A critical review of the literature. *Journal of Further and Higher Education, 30*(2). https://doi.org/10.1080/03098770600617513

Romeo, I., Stanislaw, H., McCreary, J., & Hawley, M. (2024). The importance of belonging for well-being in college students. *PLOS Mental Health, 1*(1), e0000057. https://doi.org/10.1371/journal.pmen.0000057

Rosseel, Y. (2021). *The lavaan tutorial.* http://cran.r-project.org/

Sakız, H., & Jencius, M. (2024). Inclusive mental health support for international students: Unveiling delivery components in higher education. *Cambridge Prisms: Global Mental Health, 11*. https://doi.org/10.1017/gmh.2024.1

Santos, S. J., Ortiz, A. M., Hernández-Morales, A., & Rosales, M. (2007). The relationship between campus diversity, students' ethnic identity and college adjustment: A qualitative study. *Cultural Diversity and Ethnic Minority Psychology, 13*(2), 104–114. https://doi.org/10.1037/1099-9809.13.2.104

Schaufeli, W. B., Martínez, I. M., Pinto, A. M., Salanova, M., & Barker, A. B. (2002). Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology, 33*(5). https://doi.org/10.1177/0022022102033005003

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online, 8*, 23–74.

Seo, J., Kim, H. J., Kim, B., Lee, S.-J., & Bae, H. (2015). Educational and relational stressors associated with burnout in Korean medical students. *Psychiatry Investigation, 12*(4), 451–458. https://doi.org/10.4306/pi.2015.12.4.451

Akhtar, S., & Akhtar, N. (2024). Issues and challenges of academic stress among first-year university students: An investigative study. *International Journal of Social Science & Entrepreneurship, 4*(1). https://doi.org/10.58661/ijsse.v4i1.250

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7*(4), 422–445. https://doi.org/10.1037/1082-989X.7.4.422

Siqueira Reis, R., Ferreira Hino, A. A., & Rodríguez-Añez, C. R. (2010). Perceived stress scale: Reliability and validity study in Brazil. *Journal of Health Psychology, 15*(1). https://doi.org/10.1177/1359105309346343

Smith, M. K., Wood, W. B., Krauter, K., & Knight, J. (2011). Combining peer discussion with instructor explanation increases student learning from in-class concept questions. *CBE—Life Sciences Education, 10*(1), 55–63. https://doi.org/10.1187/cbe.10-08-0101

Spector, P. E. (2019). Do not cross me: Optimizing the use of cross-sectional designs. *Journal of Business and Psychology, 34*(2), 125–137. https://doi.org/10.1007/s10869-018-09613-8

Starck, J. G., Sinclair, S., & Shelton, J. N. (2021). How university diversity rationales inform student preferences and outcomes. *Proceedings of the National Academy of Sciences of the United States of America, 118*(16). https://doi.org/10.1073/pnas.2013833118

Suldo, S. M., & Parker, J. (2022). Relationships between student engagement and mental health as conceptualized from a dual-factor model. In *Handbook of research on student engagement* (2nd ed.). https://doi.org/10.1007/978-3-031-07853-8_11 [verify chapter page range/editors]

Sun, J. (2005). Assessing goodness of fit in confirmatory factor analysis. *Measurement and Evaluation in Counseling and Development, 37*(4), 240–256. https://doi.org/10.1080/07481756.2005.11909764

Sun, Y., & Liu, L. (2023). Structural equation modeling of university students' academic resilience, academic well-being, personality and educational attainment in online classes with Tencent Meeting application in China: Investigating the role of student engagement. *BMC Psychology, 11*(1), 347. https://doi.org/10.1186/s40359-023-01366-1

Tabachnick, B. G., & Fidell, L. S. (2012). *Using multivariate statistics* (6th ed.). Pearson.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education, 48*(6), 1273–1296. https://doi.org/10.1007/s11165-016-9602-2

Taherdoost, H. (2021). Data collection methods and tools for research: A step-by-step guide to choose data collection technique for academic and business research projects. *International Journal of Academic Research in Management, 10*(1).

Vaccaro, A. (2014). Campus climate for diversity: Current realities and suggestions for the future. In *Creating campus cultures: Fostering success among racially diverse student populations* (pp. 129–137). https://doi.org/10.15781/T2F18SK8G

van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology, 9*(4), 486–492. https://doi.org/10.1080/17405629.2012.686740

Velez, G., & Jessup-Anger, J. (2022). Messaging and action around race and inclusion at a predominantly White institution: Perceived dissonance of Black, Indigenous, and people of color students. *Emerging Adulthood, 10*(4). https://doi.org/10.1177/21676968221094489

Walton, E., & Engelbrecht, P. (2024). Inclusive education in South Africa: Path dependencies and emergences. *International Journal of Inclusive Education, 28*(10). https://doi.org/10.1080/13603116.2022.2061608

Wang, J., & Wang, X. (2019). *Structural equation modeling: Applications using Mplus.* Wiley. https://doi.org/10.1002/9781119422730

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 56–75). Sage.

Weyant, E. (2022). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). *Journal of Electronic Resources in Medical Libraries, 19*(1–2). https://doi.org/10.1080/15424065.2022.2046231

Williams, N. (2022). Exploring outdoor recreation activities as a facilitator for college student diversity experiences. *Recreational Sports Journal, 46*(1). https://doi.org/10.1177/15588661211047595

Williams-York, B., Guenther, G. A., Patterson, D. G., Mohammed, S. A., Kett, P. M., Dahal, A., & Frogner, B. K. (2024). Burnout, exhaustion, experiences of discrimination, and stress among underrepresented and first-generation college students in graduate health profession education. *Physical Therapy, 104*(9). https://doi.org/10.1093/ptj/pzae095

Woldegiorgis, E. T. (2022). Mitigating the digital divide in the South African higher education system in the face of the COVID-19 pandemic. *Perspectives in Education, 40*(3). https://doi.org/10.18820/2519593X/pie.v40.i3.13

Woodford, M. R., Kulick, A., & Atteberry-Ash, B. (2015). Protective factors, campus climate, and health outcomes among sexual minority college students. *Journal of Diversity in Higher Education, 8*(2), 73–87. https://doi.org/10.1037/a0038552

Worthington, R. L. (2008). Measurement and assessment in campus climate research: A scientific imperative. *Journal of Diversity in Higher Education, 1*(4), 201–203. https://doi.org/10.1037/a0014406

Yaj, J. (2019). The invisible labor of UCLA Southeast Asian student organizations: Investigating the work that goes behind enacting diversity. *Aleph UCLA Undergraduate Research Journal for the Humanities and Social Sciences, 16*. https://doi.org/10.5070/l6161045558

Yue, C. (2023). A meta-analysis based study of the factors influencing students' engagement in classroom learning (pp. 772–777). https://doi.org/10.2991/978-94-6463-040-4_117 [verify source title]

Zhang, H. (2023). Psychological wellbeing in Chinese university students: Insights into the influences of academic self-concept, teacher support, and student engagement. *Frontiers in Psychology, 14*, 1336682. https://doi.org/10.3389/fpsyg.2023.1336682

Zhang, J., Shu, T., Xiang, M., & Feng, Z. (2020). Learning burnout: Evaluating the role of social support in medical students. https://doi.org/10.21203/rs.3.rs-53416/v2

Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research, 37*(2), 197–206. https://doi.org/10.1086/651257