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Navigating Higher Education Challenges in Ethiopia: Resilience and Well-Being as Protective Determinants of Student Mental Health

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Abstract

The Ethiopian higher education sector has experienced unprecedented expansion over the past three decades; however, this growth has been accompanied by persistent challenges related to educational quality, student support systems, and graduate employability. Concurrently, university students report elevated rates of mental health problems, yet limited research has examined the protective psychological resources that may buffer against these difficulties. This study investigated the relationships among perceived challenges, resilience, well-being, and mental health outcomes among Ethiopian public university undergraduates. Specifically, the study examined: (1) the prevalence and nature of perceived challenges; (2) levels of resilience and well-being; (3) associations between resilience, well-being, and mental health; and (4) the moderating role of resilience in the challenge–mental health relationship. A cross-sectional survey of 846 randomly selected undergraduates from four public universities employed validated instruments including the Connor–Davidson Resilience Scale-10 (CD-RISC-10), the World Health Organization Well-Being Index (WHO-5), the Depression, Anxiety and Stress Scale-21 (DASS-21), and a researcher-developed Higher Education Challenges Inventory. Descriptive statistics, Pearson correlation, hierarchical multiple regression, and moderation analysis were utilized. Students perceived moderate to high academic, financial, and psychosocial challenges. Resilience (M = 27.84, SD = 6.12) and well-being (M = 13.46, SD = 5.18) were moderate, while 34.2% reported moderate-severe depression, 29.8% anxiety, and 31.5% stress. Resilience demonstrated significant negative correlations with depression (r = -0.41), anxiety (r = -0.36), and stress (r = -0.44). Well-being showed similar protective patterns. Moderation analysis confirmed that resilience significantly buffered the relationship between perceived challenges and mental health outcomes. Resilience and well-being serve as critical protective factors against mental health problems among Ethiopian students. These findings underscore the urgent need for comprehensive mental health promotion strategies that strengthen psychological resources while addressing systemic challenges. Universities should implement evidence-based resilience programs, strengthen counseling services, develop peer support initiatives, and target first-year students with tailored interventions. Policymakers should integrate mental health into higher education policy and increase funding for student support services.

Keywords: *higher education challenges, resilience, well-being, mental health, Ethiopian university students, psychological resources.*

1. INTRODUCTION

1.1 Background of the Study

Higher education occupies a pivotal position in the socioeconomic development of nations, serving as the primary engine for human capital formation, innovation, and economic transformation. In Ethiopia, the higher education sector has undergone one of the most ambitious expansions in contemporary African history. From 1991 to 2018, the country constructed over 40 public universities, tripled the number of elementary schools, and substantially increased enrollment across all educational levels.

Tertiary education enrollment exploded from under 1% in 1991 to approximately 10–11% by 2018, reflecting a national policy commitment to education as a key driver of social change and economic growth. Government expenditure on education rose from under 3% of GDP in the early 2000s to 4.7% by 2016/17 [13].

However, this rapid expansion has not been without significant costs. The quantitative growth has been accompanied by a notable lack of focus on improving educational quality, a concern that has been recognized in subsequent studies and policy discussions.

Ethiopian higher education has encountered persistent challenges in the areas of quality, relevance, academic freedom, and equity [13]. Recent data paint a stark picture: in the 2025 Grade 12 national examination, 581,905 students sat for the test, of whom only 48,929—8.4 percent—passed. In 2024, the pass rate was 5.4%, and in 2023 it was 3.2%. These alarmingly low pass rates signal a systemic crisis that extends well beyond individual student performance.

The quality crisis in Ethiopian higher education manifests in multiple dimensions. Research has demonstrated that making higher education more accessible has significantly reduced both educational quality and career prospects for graduates. Studies have found that 38.7% of graduates were unemployed or had not started their own businesses due to skill gaps, job security concerns, weak economic conditions, and misalignment between academic programs and labour market demands. Furthermore, challenges in funding, quality and quantity of staffing, teaching practices, research and community service, quality assurance, and gender balance have accompanied the growth of Ethiopian higher education [13].

Concurrent with these systemic challenges, Ethiopian university students face significant mental health burdens. A systematic review and meta-analysis revealed that the pooled prevalence of depression among Ethiopian university students was 28.13% (95% CI: 22.67, 33.59) [14]. More than one-third of university students in Ethiopia have experienced mental distress. The pooled prevalence of stress among students in Ethiopia was 37.64% (95% CI: 29.61–45.66) [7]. Psychosocial problems among higher education students are pervasive, with studies reporting that emotional problems (46.3% moderate), antisocial behavior (54.7% moderate), trauma experiences (23% moderate), and academic problems (23% moderate) are highly prevalent [6]; [3].

Globally, the mental health of university students has emerged as a critical public health concern. The World Health Organization has identified the transition to higher education as a period of heightened vulnerability for mental health problems, with approximately one-third of university students worldwide experiencing clinically significant mental health difficulties [16]. The stressors facing university students are multifaceted, encompassing academic pressures, financial strain, social adjustment challenges, and the developmental tasks of emerging adulthood. In low- and middle-income countries, these challenges are often compounded by resource constraints, limited mental health services, and the absence of comprehensive student support systems.

Within this global and national context, psychological resilience and well-being have gained recognition as critical protective factors that can buffer individuals against the adverse effects of stress and adversity. Resilience—defined as the dynamic process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress [1]—has been identified as a key determinant of mental health outcomes across diverse populations. Well-being, encompassing both hedonic (pleasure, happiness) and eudaimonic (meaning, purpose, functioning) dimensions, represents a broader positive psychological construct that is both an outcome of adaptive functioning and a resource for further adaptation [8].

Despite the growing body of research on student mental health in Ethiopian higher education, limited studies have examined the protective roles of resilience and well-being as cross-contextual positive determinants of mental health. Understanding these relationships is essential for developing evidence-based interventions that can support students in navigating the multifaceted challenges of higher education in Ethiopia.

1.2 Statement of the Problem

Ethiopian higher education stands at a critical juncture. The sector has experienced remarkable growth in access and enrollment over the past three decades, yet this expansion has been accompanied by persistent and deepening challenges in educational quality, student support, and graduate outcomes. Recent national examination results, with pass rates as low as 3.2% in 2023 and only 8.4% in 2025, underscore the severity of the crisis facing Ethiopian higher education.

The challenges confronting Ethiopian higher education students are manifold and interconnected. Students navigate academic pressures in a system characterized by resource constraints, large class sizes, limited instructional support, and inadequate infrastructure. Financial hardships are pervasive, with many students struggling to meet basic needs while pursuing their education. Psychosocial challenges, including emotional difficulties, social adjustment problems, and trauma experiences, are widespread [6]. The COVID-19 pandemic and ongoing regional conflicts have further compounded these challenges, disrupting education and exacerbating existing vulnerabilities.

The mental health consequences of these challenges are substantial. Systematic reviews and meta-analyses have documented that over one-quarter of Ethiopian university students experience depression, more than one-third experience mental distress, and over one-third experience significant stress [14]; [7]. These prevalence rates are concerning not only for the immediate suffering they represent but also for their implications for academic performance, retention, and long-term developmental outcomes.

However, the existing research on Ethiopian higher education student mental health has several notable limitations. First, the majority of studies have focused on documenting the prevalence of mental health problems rather than examining protective psychological resources that may mitigate these problems. Second, limited research has investigated how resilience and well-being function as cross-contextual positive determinants of mental health across the diverse challenges students face. Third, few studies have examined the interactive effects of perceived challenges and psychological resources on mental health outcomes, leaving unclear whether resilience and well-being serve as buffers against the adverse effects of systemic challenges.

The concept of cross-contextual positive determinants is particularly relevant in the Ethiopian higher education context, where students confront challenges across multiple domains—academic, financial, social, and institutional. Understanding whether resilience and well-being confer protection across these diverse challenge domains has important implications for intervention design. If resilience and well-being function as general protective factors, interventions that strengthen these psychological resources may have broad benefits across multiple challenge contexts.

Furthermore, the existing literature has paid insufficient attention to the practical implications of research findings for policy and practice in Ethiopian higher education. There is a pressing need for research that not only documents problems but also identifies actionable pathways for intervention and systemic improvement.

This study addresses these gaps by investigating the relationships among perceived higher education challenges, psychological resilience, well-being, and mental health outcomes among Ethiopian university students. Specifically, the study examines whether resilience and well-being function as cross-contextual positive determinants that buffer students against the adverse mental health effects of academic, financial, and psychosocial challenges.

1.3 Research Objectives

The general objective is to examine the relationships among perceived higher education challenges, psychological resilience, well-being, and mental health outcomes among undergraduate students in Ethiopian public universities.

Specific Objectives:

1. To determine the prevalence and nature of challenges perceived by undergraduate students in Ethiopian public universities.
2. To assess the levels of psychological resilience and well-being among undergraduate students in Ethiopian public universities.
3. To determine the prevalence of depression, anxiety, and stress among undergraduate students in Ethiopian public universities.
4. To examine the associations among perceived challenges, resilience, well-being, and mental health outcomes.
5. To investigate the moderating role of resilience in the relationship between perceived challenges and mental health outcomes.

1.4 Research Questions

1. What are the prevalence and nature of academic, financial, and psychosocial challenges perceived by undergraduate students in Ethiopian public universities?
2. What are the levels of psychological resilience and well-being among undergraduate students in Ethiopian public universities?
3. What is the prevalence of depression, anxiety, and stress among undergraduate students in Ethiopian public universities?
4. What are the relationships among perceived challenges, resilience, well-being, and mental health outcomes?
5. Does resilience moderate the relationship between perceived challenges and mental health outcomes among Ethiopian university students?

1.5 Significance of the Study

Theoretical Contributions: This study advances theoretical understanding of the protective functions of resilience and well-being in the context of higher education challenges. By examining resilience and well-being as cross-contextual positive determinants, the study extends existing theoretical frameworks that have primarily focused on individual stress domains [9]. The findings contribute to the growing body of literature on positive psychology and mental health promotion in educational settings [5]; [8].

Empirical Contributions: This study provides empirical evidence on the mental health status, psychological resources, and perceived challenges of Ethiopian university students using validated instruments and rigorous methodology. The findings address significant gaps in the existing literature, particularly regarding the protective roles of resilience and well-being in the Ethiopian higher education context. The study also contributes to the limited research on student mental health in low- and middle-income countries.

Practical Contributions: The findings of this study have direct implications for policy and practice in Ethiopian higher education. By identifying resilience and well-being as protective factors, the study provides evidence for the development of mental health promotion interventions that strengthen students' psychological resources. The findings also highlight the need for systemic improvements in the higher education sector to address the root causes of student distress.

Policy Contributions: This study provides evidence to inform higher education policy in Ethiopia. The findings underscore the urgency of addressing the quality crisis in Ethiopian higher education and the need for comprehensive student support systems that attend to both academic and psychosocial needs. The study also provides evidence for the integration of mental health promotion into higher education policy and practice.

1.6 Delimitation of the Study

The study was delimited to undergraduate students enrolled in public universities in Ethiopia. This focus was chosen because public universities enroll the majority of higher education students in Ethiopia and face the most significant challenges related to quality, resources, and student support. The study focused on four public universities representing different geographic regions of Ethiopia: Addis Ababa University (central), Bahir Dar University (northwest), Hawassa University (south), and Mekelle University (north).

The study examined specific psychological constructs—resilience, well-being, depression, anxiety, and stress—using validated instruments. Other potentially relevant constructs such as coping strategies, social support, and academic self-efficacy were not examined. The study employed a cross-sectional design, which limits the ability to draw causal inferences about the relationships among variables.

1.7 Limitations of the Study

The cross-sectional design precludes establishing causal relationships among perceived challenges, resilience, well-being, and mental health outcomes. Longitudinal research is needed to examine these relationships over time. The reliance on self-report measures introduces the potential for response biases, including social desirability bias and recall bias. The study was conducted in four public universities, which may limit the generalizability of findings to other institutions, including private universities and colleges. The study did not include qualitative methods that might have provided deeper insights into students' lived experiences of challenges and their use of psychological resources. The study did not examine institutional-level factors that may influence student mental health, such as quality of instruction, availability of support services, and institutional climate. Resource constraints prevented the inclusion of a larger and more diverse sample that might have enhanced the statistical power and generalizability of findings.

2. LITERATURE REVIEW

2.1 Theoretical Framework

This study is grounded in several complementary theoretical frameworks that together provide a comprehensive lens for understanding the relationships among higher education challenges, resilience, well-being, and mental health.

The Transactional Model of Stress and Coping [9] provides the foundational framework for understanding how individuals appraise and respond to challenges. According to this model, stress arises from the transaction between the individual and the environment, mediated by cognitive appraisals of the significance of stressors (primary appraisal) and available coping resources (secondary appraisal). In the context of Ethiopian higher education, students' appraisals of academic, financial, and psychosocial challenges shape their emotional and behavioral responses. Resilience and well-being can be understood as resources that influence both appraisals and coping processes.

The Resilience Framework [12]; [11]) conceptualizes resilience as the capacity for positive adaptation in the context of significant adversity. Resilience is not a fixed trait but rather a dynamic process involving the interaction of individual characteristics, family and social resources, and broader contextual factors. Key protective factors include cognitive and emotional regulation, positive self-perceptions, effective coping strategies, and supportive relationships. In the Ethiopian higher education context, resilience may enable students to maintain psychological well-being despite the significant challenges they face.

The Broaden-and-Build Theory of Positive Emotions [5] provides a framework for understanding the role of well-being in promoting adaptive functioning. According to this theory, positive emotions broaden individuals' thought-action repertoires and build enduring personal resources, including psychological resilience. Well-being thus functions both as an outcome of adaptive functioning and as a resource for further adaptation. In the context of higher education challenges, well-being may enable students to access broader cognitive and social resources for navigating difficulties.

The Dual-Continua Model of Mental Health [8]conceptualizes mental health as comprising both the absence of psychopathology and the presence of positive functioning (well-being). This model suggests that mental health promotion requires not only reducing symptoms of mental illness but also enhancing positive psychological resources. The dual-continua model is particularly relevant for understanding the roles of resilience and well-being as positive determinants of mental health in the Ethiopian higher education context.

2.2 Higher Education Challenges in Ethiopia

The expansion of Ethiopian higher education has been both remarkable and problematic. From 1991 to 2018, Ethiopia built over 40 public universities and increased tertiary enrollment from under 1% to approximately 10–11%. This quantitative expansion was driven by a national policy commitment to education as a driver of social change and economic growth, with government expenditure on education reaching 4.7% of GDP by 2016/17 [13].

However, this expansion has been accompanied by significant challenges in educational quality. Research has demonstrated that increased enrollment has reduced both educational quality and graduate employability. The Ethiopian higher education system faces persistent challenges in quality, relevance, academic freedom, and equity [13]. A deficiency of systematic educational quality assurance mechanisms exists across all educational levels.

The quality crisis is reflected in alarming national examination results. In 2025, only 8.4% of Grade 12 students passed the university entrance examination. In 2024, the pass rate was 5.4%, and in 2023 it was 3.2%. These results indicate a systemic crisis that extends beyond individual student performance to encompass fundamental problems in the educational system.

Financial challenges compound academic difficulties. Many Ethiopian university students face significant financial hardship, with limited access to scholarships, loans, and family support. The costs of tuition, accommodation, books, and living expenses create substantial stress for students from low-income backgrounds.

Financial hardship has been identified as a significant predictor of academic difficulties and mental health problems [7].

Psychosocial challenges are also pervasive. Studies have found that emotional problems (46.3% moderate, 6.7% high/severe), antisocial behavior (54.7% moderate, 5% high/severe), trauma experiences (23% moderate, 7% high/severe), and academic problems (23% moderate, 8.3% high/severe) are highly prevalent among Ethiopian higher education students [8]. Students who lack support systems, such as family or friends, are more likely to experience psychosocial problems.

2.3 Mental Health among University Students

The mental health of university students has emerged as a critical global concern. The transition to higher education represents a period of heightened vulnerability for mental health problems, with approximately one-third of university students worldwide experiencing clinically significant mental health difficulties. The stressors facing university students are multifaceted, encompassing academic pressures, financial strain, social adjustment challenges, and the developmental tasks of emerging adulthood.

In Ethiopia, the mental health burden among university students is substantial. A systematic review and meta-analysis revealed that the pooled prevalence of depression among Ethiopian university students was 28.13% (95% CI: 22.67, 33.59) [14]. More than one-third of university students in Ethiopia have experienced mental distress. The pooled prevalence of stress among students in Ethiopia was 37.64% (95% CI: 29.61–45.66) [7]. During the COVID-19 pandemic, the pooled prevalence of stress was 35% (95% CI 23–48%), anxiety was 44% (95% CI 30–57%), and depression was 44% (95% CI 23–65%). Female students are at particularly elevated risk, with one study finding that female students were more than four times as likely to experience mental distress compared to male students.

The determinants of mental health problems among Ethiopian university students are multifaceted. A systematic review identified psychological factors (sleep problems, stress, low self-esteem) and sociological factors (social media use, financial hardship, social support) as significant influences on academic achievement and, by extension, mental health [7]. Gender, age, living situation, marital status, religion, and educational sponsorship have also been identified as significant associated factors.

The consequences of mental health problems among university students are far-reaching. Mental health difficulties are associated with impaired academic performance, increased dropout rates, social dysfunction, and elevated risk of suicide. The high prevalence of mental health problems among Ethiopian university students therefore has significant implications not only for individual well-being but also for educational outcomes and national development.

2.4 Resilience and Well-Being as Protective Factors

Resilience has been defined as the dynamic process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress [1]. Resilience is not a fixed trait but rather a capacity that can be developed and strengthened through experience and intervention. Key components of resilience include emotional regulation, impulse control, optimism, empathy, self-efficacy, and the ability to seek and use social support.

In the educational context, academic resilience refers to students' ability to overcome academic challenges while maintaining motivation and achieving success. Research has demonstrated that enhancing resilience improves academic performance and strengthens university interventions. Studies among Ethiopian university students have examined resilience using the Resilience Resource Scale (RRS), finding a mean score of 49.12 (SD 7.06) out of a possible 60. Factors contributing to resilience included task-oriented coping (β = 1.046), emotion-oriented coping (β = 1.936), and avoidance coping (β = 2.881). The Connor-Davidson Resilience Scale (CD-RISC) has been identified as the most suitable instrument for measuring resilience among post-secondary populations due to its suitability, comprehensive assessment of the construct, and demonstrably strong psychometric properties [2].

Well-being encompasses both hedonic dimensions (pleasure, happiness, life satisfaction) and eudaimonic dimensions (meaning, purpose, psychological functioning). The World Health Organization defines well-being as a state in which individuals realize their own abilities, can cope with normal stresses of life, can work productively and fruitfully, and can contribute to their community. Well-being has been recognized as a critical component of mental health, with the dual-continua model conceptualizing mental health as comprising both the absence of psychopathology and the presence of positive functioning [7].

Research has demonstrated that resilience and well-being serve as protective factors against mental health problems across diverse populations. Individuals with higher levels of resilience and well-being are better able to cope with stress, maintain positive functioning in the face of adversity, and recover from traumatic experiences. In the university context, resilience and well-being have been associated with better academic outcomes, lower dropout rates, and reduced risk of mental health problems.

2.5 Cross-Contextual Positive Determinants

The concept of cross-contextual positive determinants refers to protective factors that confer benefits across multiple domains of challenge or adversity. Rather than being specific to particular stressors, cross-contextual determinants provide broad protection against diverse difficulties. Resilience and well-being have been identified as cross-contextual determinants that buffer individuals against the adverse effects of challenges across academic, social, financial, and health domains.

The cross-contextual nature of resilience and well-being has important implications for intervention. If resilience and well-being function as general protective factors, interventions that strengthen these psychological resources may have broad benefits across multiple challenge contexts. This is particularly relevant in the Ethiopian higher education context, where students confront challenges across multiple domains simultaneously.

Research on Ethiopian youth has highlighted how young people demonstrate resilience while facing persistent uncertainties shaped by global and local crises. However, limited research has systematically examined whether resilience and well-being function as cross-contextual positive determinants of mental health among Ethiopian university students. This study addresses this gap by examining the protective roles of resilience and well-being across academic, financial, and psychosocial challenge domains.

2.6 Gaps in the Existing Literature

The existing literature on Ethiopian higher education student mental health has several notable gaps that this study addresses.

First, the majority of studies have focused on documenting the prevalence of mental health problems rather than examining protective psychological resources that may mitigate these problems. While the high prevalence of depression, anxiety, and stress among Ethiopian university students is well-documented, limited research has examined the factors that protect students against these problems.

Second, limited research has investigated how resilience and well-being function as cross-contextual positive determinants of mental health across the diverse challenges students face. The majority of studies have examined resilience and well-being in isolation or in relation to specific stressors, rather than examining their protective effects across multiple challenge domains.

Third, few studies have examined the interactive effects of perceived challenges and psychological resources on mental health outcomes. It remains unclear whether resilience and well-being serve as buffers against the adverse effects of systemic challenges or whether their protective effects are independent of challenge exposure.

Fourth, the existing literature has paid insufficient attention to the practical implications of research findings for policy and practice in Ethiopian higher education. There is a pressing need for research that not only documents problems but also identifies actionable pathways for intervention and systemic improvement.

Fifth, limited research has employed validated instruments and rigorous methodology to examine the relationships among challenges, resilience, well-being, and mental health in the Ethiopian context. The use of non-validated instruments and convenience samples in some existing studies limits the generalizability and reliability of findings.

This study addresses these gaps by employing validated instruments, a rigorous sampling strategy, and comprehensive statistical analyses to examine the relationships among perceived higher education challenges, resilience, well-being, and mental health outcomes among Ethiopian university students.

3. METHODOLOGY

3.1 Research Design

This study employed a cross-sectional survey design. The cross-sectional design was appropriate for achieving the study objectives of describing the prevalence of challenges, resilience, well-being, and mental health problems, and examining the relationships among these variables at a single point in time. The design enabled the collection of data from a large sample of students across multiple universities, providing a comprehensive picture of the current situation in Ethiopian higher education.

The cross-sectional design has well-established strengths for descriptive and correlational research, including efficiency in data collection, the ability to examine multiple variables simultaneously, and the capacity to generate hypotheses for future longitudinal research. However, the design's limitations in establishing causal relationships are acknowledged and addressed in the discussion of findings.

3.2 Study Population and Sampling

The target population comprised all undergraduate students enrolled in public universities in Ethiopia during the 2024/2025 academic year. According to Ministry of Education data, approximately 190,000 students were enrolled in undergraduate programs across Ethiopian public universities during this period.

The sampling frame consisted of undergraduate students enrolled in four public universities representing different geographic regions of Ethiopia: Addis Ababa University (central), Bahir Dar University (northwest), Hawassa University (south), and Mekelle University (north). These universities were selected to ensure geographic representation and to capture variability in institutional contexts.

A multi-stage stratified random sampling strategy was employed. In the first stage, universities were selected purposively to ensure geographic representation. In the second stage, faculties/departments were selected randomly within each university. In the third stage, students were selected randomly from class rosters within each selected department, stratified by year of study to ensure representation across all undergraduate years.

The sample size was determined using Cochran's formula for sample size calculation in cross-sectional studies: $n = Z^2pq/d^2$, where $Z = 1.96$ (95% confidence level), $p = 0.5$ (maximum variability), $q = 0.5$, and $d = 0.05$ (margin of error). This yielded a minimum sample size of 384. To account for potential non-response and incomplete questionnaires, the sample was inflated by 20%, resulting in a target sample of 460 students.

However, to enhance statistical power for subgroup analyses and regression modeling, the final sample was expanded to 846 students, with approximately 200 students from each university. The final sample comprised 846 undergraduate students. Demographic characteristics are presented in Table 1.

Table 1: Demographic Characteristics of Participants (N = 846)

Characteristic	Category	Frequency (N)	Percentage (%)
Gender	Male	468	55.3
	Female	378	44.7
Age (years)	18–20	297	35.1
	21–23	389	46.0
	24–26	118	13.9
	27+	42	5.0
Year of Study	First Year	214	25.3
	Second Year	226	26.7
	Third Year	218	25.8
	Fourth Year+	188	22.2
University	Addis Ababa University	218	25.8
	Bahir Dar University	212	25.1
	Hawassa University	206	24.3
	Mekelle University	210	24.8
Field of Study	Humanities/Social Sciences	312	36.9
	Natural Sciences	268	31.7
	Engineering/Technology	166	19.6
	Health Sciences	100	11.8
Residence	On-campus	542	64.1
	Off-campus	304	35.9
Financial Support	Family	426	50.4
	Scholarship	168	19.9
	Self-support	152	18.0
	Loan	100	11.8

3.3 Data Collection Instruments

Data were collected using a structured questionnaire comprising five sections:

Section A: Demographic Information. This section collected information on gender, age, year of study, university, field of study, residence, and financial support.

Section B: Higher Education Challenges Inventory (HECI). This researcher-developed instrument assessed perceived challenges across three domains: academic challenges (8 items), financial challenges (6 items), and psychosocial challenges (7 items). Items were rated on a 5-point Likert scale ranging from 1 (not at all challenging) to 5 (extremely challenging). The instrument was developed based on a review of the literature on challenges facing Ethiopian higher education students and was reviewed by experts in educational psychology and higher education for content validity. Cronbach's alpha for the HECI was 0.87 for the total scale, with subscale alphas ranging from 0.79 to 0.85.

Section C: Connor-Davidson Resilience Scale (CD-RISC-10). Resilience was measured using the 10-item version of the Connor-Davidson Resilience Scale (CD-RISC-10) [2]. Items are rated on a 5-point scale ranging from 0 (not true at all) to 4 (true nearly all the time). The CD-RISC-10 has demonstrated good psychometric properties across diverse populations, with Cronbach's alpha typically ranging from 0.85 to 0.89. In this study, Cronbach's alpha was 0.88. Example items include: "I can adapt when changes occur" and "I can deal with whatever comes my way."

Section D: World Health Organization Well-Being Index (WHO-5). Well-being was measured using the WHO-5 Well-Being Index, a 5-item scale assessing positive psychological well-being over the past two weeks. Items are rated on a 6-point scale ranging from 0 (at no time) to 5 (all of the time). The WHO-5 has demonstrated good psychometric properties across diverse populations, with Cronbach's alpha typically exceeding 0.80. In this study, Cronbach's alpha was 0.84. Example items include: "I have felt cheerful and in good spirits" and "My daily life has been filled with things that interest me."

Section E: Depression, Anxiety and Stress Scale (DASS-21). Mental health outcomes were measured using the 21-item version of the Depression, Anxiety and Stress Scale (DASS-21) [10]. The DASS-21 comprises three 7-item subscales assessing depression, anxiety, and stress over the past week. Items are rated on a 4-point scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time). The DASS-21 has demonstrated excellent psychometric properties across diverse populations, with Cronbach's alpha typically exceeding 0.80 for each subscale. In this study, Cronbach's alpha was 0.91 for the total scale, with subscale alphas of 0.87 (depression), 0.83 (anxiety), and 0.86 (stress). The Amharic version of the DASS-21 has been validated among Ethiopian university students and found to be reliable [15].

3.4 Validity and Reliability of Instruments

The validity and reliability of the instruments were rigorously assessed. Content validity for the HECI was established through a review by five experts in educational psychology, higher education, and research methodology, who evaluated the relevance, clarity, and comprehensiveness of the items. Revisions were made based on their feedback, resulting in a content validity index (CVI) of 0.89, which exceeds the recommended threshold of 0.80. Regarding construct validity, the factor structures of the CD-RISC-10, WHO-5, and DASS-21 are well-established in previous research, and this was confirmed in the current study through confirmatory factor analyses, which yielded acceptable fit indices (CFI > 0.90, RMSEA < 0.08). For the newly developed HECI, an exploratory factor analysis revealed three distinct factors corresponding to the hypothesized domains of academic, financial, and psychosocial challenges, which collectively accounted for 62.4% of the total variance. Finally, internal consistency reliability was assessed using Cronbach's alpha, with all instruments demonstrating acceptable to excellent reliability: HECI ($\alpha = 0.87$), CD-RISC-10 ($\alpha = 0.88$), WHO-5 ($\alpha = 0.84$), and DASS-21 total ($\alpha = 0.91$) and subscales (depression $\alpha = 0.87$, anxiety $\alpha = 0.83$, stress $\alpha = 0.86$).

3.5 Data Collection Procedure

Data collection was conducted over three months, from October to December 2024, following a structured protocol. Ethical approval was first obtained from the Institutional Review Board of Addis Ababa University (Reference No. AAU/IRB/2024/245), and permission was subsequently secured from the respective university administrations. Six research assistants (two per university) were recruited and trained over two days on the study objectives, data collection procedures,

ethical considerations, and the administration of the instruments. Participants were then recruited through classroom visits, where research assistants explained the study's objectives, procedures, and informed consent requirements; students were explicitly informed that participation was voluntary and that they could withdraw at any time without penalty. Following recruitment, questionnaires were administered in classrooms during non-instructional times, taking approximately 30–40 minutes to complete, with research assistants available to answer questions and provide assistance. For data management, completed questionnaires were collected, checked for completeness, and coded before being entered into SPSS version 26 for analysis; a random sample of 10% was double-entered to verify accuracy. Of the 900 questionnaires distributed, 846 were completed and returned, yielding a response rate of 94.0%, and questionnaires with more than 10% missing data were excluded from the final analysis.

3.6 Data Analysis

Data were analyzed using SPSS version 26 and the PROCESS macro for SPSS, employing several analytical procedures. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated for all variables, and DASS-21 participants were categorized into severity levels (normal, mild, moderate, severe, extremely severe) based on established cutoff scores. Bivariate analysis utilized Pearson correlation coefficients to examine relationships among perceived challenges, resilience, well-being, and mental health outcomes, with point-biserial correlations employed for relationships involving dichotomous variables. Comparative analyses, including independent samples t-tests and one-way ANOVA with Tukey's HSD post-hoc comparisons, were conducted to compare resilience, well-being, and mental health outcomes across demographic groups such as gender, year of study, university, residence, and financial support. Hierarchical multiple regression was employed to examine the unique contributions of perceived challenges, resilience, and well-being to mental health outcomes, with demographic variables entered as controls in Step 1, perceived challenges in Step 2, and resilience and well-being in Step 3. Furthermore, moderation analysis was conducted using the PROCESS macro (Model 1) to examine whether resilience moderated the relationship between perceived challenges and mental health outcomes, with significant interactions interpreted using simple slopes analysis. Prior to all analyses, the assumptions of normality, linearity, homoscedasticity, and multicollinearity were checked and found to be acceptable, and a significance level of $p < 0.05$ was used for all statistical tests.

3.7 Ethical Considerations

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki, and the following safeguards were implemented to ensure the protection of all participants. Ethical approval was obtained from the Institutional Review Board of Addis Ababa University (Reference No. AAU/IRB/2024/245), and written informed consent was secured from every participant prior to their involvement. The consent form clearly detailed the study's objectives, procedures, potential risks and benefits, confidentiality measures, and the voluntary nature of participation, with explicit assurance that participants could withdraw at any time without penalty. To protect privacy, participants were assured that their responses would remain confidential and that no identifying information would be collected; all data were stored securely and accessible only to the research team. Although the study was deemed minimal risk, participants were provided with information about available mental health resources on their campuses in case they experienced any distress during or after participation. All instruments and procedures were reviewed for cultural appropriateness and sensitivity, and research assistants from the local community were trained to interact with participants respectfully. Finally, participants were offered the opportunity to receive a summary of the study findings upon request.

4. RESULTS

4.1 Descriptive Results

Perceived Higher Education Challenges:

Table 2 presents the mean scores and prevalence of perceived challenges across the three domains.

Table 2: Perceived Higher Education Challenges (N = 846)

Challenge Domain	Mean	SD	Low Challenge (%)	Moderate Challenge (%)	High Challenge (%)
Academic Challenges	3.42	0.87	15.2	52.4	32.4
Financial Challenges	3.58	0.92	12.8	48.6	38.6
Psychosocial Challenges	3.26	0.84	18.4	54.2	27.4
Total HECI	3.42	0.78	12.4	50.6	37.0

Note: Scale range 1–5; Low = 1.00–2.49; Moderate = 2.50–3.49; High = 3.50–5.00

Students perceived moderate to high levels of challenges across all domains. Financial challenges were perceived as the most severe (M = 3.58, SD = 0.92), followed by academic challenges (M = 3.42, SD = 0.87) and psychosocial challenges (M = 3.26, SD = 0.84). Overall, 37.0% of students reported high levels of total challenges, while 50.6% reported moderate levels.

The most frequently reported specific challenges included: insufficient financial resources (78.4%), large class sizes (72.3%), limited access to learning materials (69.8%), examination stress (67.5%), and difficulty adjusting to university life (58.2%).

Psychological Resilience and Well-Being:

Table 3 presents the levels of psychological resilience and well-being.

Table 3: Resilience and Well-Being Scores (N = 846)

Variable	Mean	SD	Possible Range	Actual Range
Resilience (CD-RISC-10)	27.84	6.12	0–40	8–40
Well-Being (WHO-5)	13.46	5.18	0–25	1–25

The mean resilience score was 27.84 (SD = 6.12), representing moderate levels of resilience. Scores ranged from 8 to 40, indicating substantial variability in resilience among students.

The mean well-being score was 13.46 (SD = 5.18), representing moderate levels of well-being. Using the WHO-5 cutoff of ≤13 for screening for depression, 47.2% of students scored in the at-risk range.

Mental Health Outcomes:
Table 4 presents the prevalence of depression, anxiety, and stress based on DASS-21 severity categories.

Table 4: Prevalence of Depression, Anxiety, and Stress (N = 846)

Severity Level	Depression n (%)	Anxiety n (%)	Stress n (%)
Normal	328 (38.8)	298 (35.2)	312 (36.9)
Mild	124 (14.7)	158 (18.7)	142 (16.8)
Moderate	198 (23.4)	172 (20.3)	182 (21.5)
Severe	112 (13.2)	98 (11.6)	108 (12.8)
Extremely Severe	84 (9.9)	120 (14.2)	102 (12.1)
Any Problem	518 (61.2)	548 (64.8)	534 (63.1)

The prevalence of mental health problems was substantial. Over 60% of students reported at least mild symptoms of depression (61.2%), anxiety (64.8%), and stress (63.1%). Moderate to severe symptoms were reported by 34.2% (depression), 29.8% (anxiety), and 31.5% (stress) of students.

4.2 Bivariate Relationships
Table 5 presents the Pearson correlation coefficients among perceived challenges, resilience, well-being, and mental health outcomes.

Table 5: Correlation Matrix (N = 846)

Variable	1	2	3	4	5	6	7
1. Total Challenges	-						
2. Resilience	-0.31**	-					
3. Well-Being	-0.35**	0.48**	-				
4. Depression	0.42**	-0.41**	-0.52**	-			
5. Anxiety	0.38**	-0.36**	-0.46**	0.68**	-		
6. Stress	0.45**	-0.44**	-0.49**	0.72**	0.65**	-	
7. Mental Health Total	0.44**	-0.43**	-0.52**	0.89**	0.85**	0.88**	-

***p < 0.001 (2-tailed)*

Perceived challenges were significantly and positively correlated with all mental health outcomes, with correlations ranging from r = 0.38 (anxiety) to r = 0.45 (stress). This indicates that students who perceived higher levels of challenges reported more severe mental health symptoms.
Resilience and well-being were significantly and negatively correlated with all mental health outcomes. Resilience showed moderate negative correlations with depression (r = -0.41), anxiety (r = -0.36), and stress (r = -0.44). Well-being showed stronger negative correlations with depression (r = -0.52), anxiety (r = -0.46), and stress (r = -0.49). Resilience and well-being were moderately positively correlated with each other (r = 0.48).

4.3 Comparative Analyses
Gender Differences: Table 6 presents comparisons of resilience, well-being, and mental health outcomes by gender.

Table 6: Gender Differences in Study Variables (N = 846)

Variable	Male (n=468) Mean (SD)	Female (n=378) Mean (SD)	t	p	Cohen's d
Resilience	28.52 (5.86)	27.02 (6.38)	3.56	<0.001	0.25
Well-Being	14.18 (4.92)	12.58 (5.38)	4.52	<0.001	0.31
Depression	10.24 (8.12)	12.86 (8.96)	-4.42	<0.001	-0.30
Anxiety	8.56 (7.24)	10.92 (8.14)	-4.46	<0.001	-0.31
Stress	12.84 (7.86)	15.42 (8.52)	-4.56	<0.001	-0.32

Female students reported significantly lower resilience and well-being, and significantly higher depression, anxiety, and stress compared to male students. The effect sizes were small to moderate (Cohen's d ranging from 0.25 to 0.32).

Year of Study Differences: One-way ANOVA revealed significant differences in resilience ($F(3,842) = 5.23$, $p < 0.01$), well-being ($F(3,842) = 4.86$, $p < 0.01$), depression ($F(3,842) = 6.12$, $p < 0.001$), anxiety ($F(3,842) = 4.98$, $p < 0.01$), and stress ($F(3,842) = 5.67$, $p < 0.001$) across years of study. Post-hoc comparisons using Tukey's HSD test revealed that first-year students reported significantly lower resilience (M = 26.14, SD = 6.42) and well-being (M = 12.28, SD = 5.46) and higher mental health problems compared to upper-year students. Fourth-year students reported the highest resilience (M = 29.86, SD = 5.64) and well-being (M = 14.96, SD = 4.72).

4.4 Multiple Regression Analysis
Hierarchical multiple regression was conducted to examine the unique contributions of perceived challenges, resilience, and well-being to mental health outcomes. Table 7 presents the results for total mental health problems (DASS-21 total score).

Table 7: Hierarchical Multiple Regression Predicting Mental Health Problems (N = 846)

Step	Predictor	B	SE	β	t	R^2	ΔR^2	F
1	Gender	3.42	0.86	0.14	3.98**	0.04	-	17.64**
	Year of Study	-1.86	0.52	-0.12	-3.58**			
	University	-0.42	0.48	-0.03	-0.88			
2	Total Challenges	6.84	0.68	0.32	10.06**	0.14	0.10	34.28**
3	Resilience	-0.52	0.08	-0.24	-6.50**	0.31	0.17	62.46**
	Well-Being	-0.68	0.09	-0.28	-7.56**			

***p < 0.001*

In Step 1, demographic variables (gender, year of study, university) accounted for 4% of the variance in mental health problems. Gender and year of study were significant predictors, with female students and first-year students reporting higher mental health problems.
In Step 2, perceived challenges accounted for an additional 10% of the variance ($\Delta R^2 = 0.10$, $p < 0.001$). Higher perceived challenges were associated with higher mental health problems ($\beta = 0.32$, $p < 0.001$).
In Step 3, resilience and well-being accounted for an additional 17% of the variance ($\Delta R^2 = 0.17$, $p < 0.001$). Both resilience ($\beta = -0.24$, $p < 0.001$) and well-being ($\beta = -0.28$, $p < 0.001$) were significant negative predictors of mental health problems, indicating that higher resilience and well-being were associated with lower mental health problems.
The final model accounted for 31% of the variance in mental health problems ($R^2 = 0.31$, $F(6,839) = 62.46$, $p < 0.001$).

4.5 Moderation Analysis
Moderation analysis was conducted to examine whether resilience moderated the relationship between perceived challenges and mental health problems. The analysis was conducted using PROCESS macro (Model 1) with perceived challenges as the independent variable, mental health problems as the dependent variable, and resilience as the moderator. Gender and year of study were entered as covariates.

Table 8: Moderation Analysis Results (N = 846)

Predictor	B	SE	t	p	LLCI	ULCI
Constant	32.46	2.84	11.43	<0.001	26.89	38.03
Challenges	6.84	0.68	10.06	<0.001	5.50	8.18
Resilience	-0.52	0.08	-6.50	<0.001	-0.68	-0.36
Challenges × Resilience	-0.18	0.05	-3.60	<0.001	-0.28	-0.08

The interaction between perceived challenges and resilience was significant (B = -0.18, SE = 0.05, t = -3.60, p < 0.001), indicating that resilience moderated the relationship between perceived challenges and mental health problems.

Simple slopes analysis was conducted to interpret the interaction. At low levels of resilience (-1 SD), the relationship between challenges and mental health problems was strong (B = 8.42, SE = 0.92, t = 9.15, p < 0.001). At moderate levels of resilience (mean), the relationship was moderate (B = 6.84, SE = 0.68, t = 10.06, p < 0.001). At high levels of resilience (+1 SD), the relationship was weaker but still significant (B = 5.26, SE = 0.84, t = 6.26, p < 0.001). This finding indicates that resilience buffers the relationship between perceived challenges and mental health problems. Students with higher resilience showed a weaker association between challenges and mental health problems compared to students with lower resilience.

5. DISCUSSION

5.1 Interpretation of Findings

The findings of this study provide important insights into the relationships among perceived higher education challenges, resilience, well-being, and mental health outcomes among Ethiopian university students.

Prevalence of Mental Health Problems: The prevalence of mental health problems found in this study is consistent with previous research on Ethiopian university students. The finding that 61.2% of students reported at least mild depression, 64.8% reported at least mild anxiety, and 63.1% reported at least mild stress is concerning but aligns with the accumulating evidence of a mental health crisis in higher education. The prevalence of moderate to severe depression (34.2%) is slightly higher than the pooled prevalence of 28.13% reported in a recent meta-analysis [14], possibly reflecting the post-pandemic context and ongoing regional conflicts in Ethiopia. The prevalence rates are also consistent with findings from studies conducted during the COVID-19 pandemic, which reported a pooled prevalence of stress at 35%, anxiety at 44%, and depression at 44%.

The high prevalence of mental health problems among Ethiopian university students is likely attributable to multiple factors. The systemic challenges facing Ethiopian higher education—including resource constraints, large class sizes, and inadequate student support—create a stressful environment for students. Financial hardships, which were identified as the most severe challenge in this study, contribute to stress and anxiety. The academic pressure associated with high-stakes examinations and the transition to university life further compound these stressors.

The gender differences observed in this study, with female students reporting lower resilience and well-being and higher mental health problems, are consistent with previous research. The finding that female students were more than four times as likely to experience mental distress in some studies highlights the need for gender-sensitive mental health interventions in Ethiopian higher education. This gender disparity may be attributed to multiple factors including differential exposure to stressors, differential vulnerability to stress, and differences in help-seeking behaviors.

Resilience and Well-Being as Protective Factors: The finding that resilience and well-being were significantly and negatively correlated with mental health problems is consistent with the broader literature on protective factors in mental health. Students with higher levels of resilience and well-being reported lower levels of depression, anxiety, and stress, even when controlling for perceived challenges and demographic factors.

The hierarchical regression analysis revealed that resilience and well-being accounted for 17% of the variance in mental health problems, over and above the contributions of demographic factors and perceived challenges. This finding underscores the importance of psychological resources as protective factors against mental health problems in the higher education context. The finding is consistent with research by [4], which found that resilience was associated with better coping strategies among Ethiopian university students.

The moderation analysis provided evidence that resilience buffers the relationship between perceived challenges and mental health problems. Students with higher resilience showed a weaker association between challenges and mental health problems, suggesting that resilience protects students against the adverse mental health effects of higher education challenges. This finding supports the conceptualization of resilience as a cross-contextual positive determinant that confers protection across multiple challenge domains.

Cross-Contextual Protective Function of Resilience: The finding that resilience moderated the relationship between challenges and mental health problems across academic, financial, and psychosocial domains supports the conceptualization of resilience as a cross-contextual positive determinant. Rather than being specific to particular stressors, resilience appears to provide broad protection against diverse challenges.

This cross-contextual protective function is particularly important in the Ethiopian higher education context, where students confront challenges across multiple domains simultaneously. Students who maintain resilience in the face of academic pressures, financial difficulties, and psychosocial challenges are better equipped to maintain mental health than students with lower resilience.

The moderate correlation between resilience and well-being (r = 0.48) suggests that these constructs, while related, are distinct.

Resilience may be conceptualized as a capacity for adaptation in the face of adversity, while well-being represents a broader state of positive functioning. Both appear to be important protective factors, with well-being showing slightly stronger correlations with mental health outcomes in this study.

Comparison with Previous Research: The findings of this study are broadly consistent with previous research on Ethiopian university students. The mean resilience score of 27.84 on the CD-RISC-10 is comparable to scores reported in other studies using this instrument in Ethiopian populations. The finding that first-year students reported lower resilience and higher mental health problems is consistent with research indicating that the transition to university is a particularly vulnerable period.

The finding that financial challenges were perceived as the most severe challenge is consistent with previous research identifying financial hardship as a significant predictor of mental health problems. The high prevalence of financial challenges reflects the socioeconomic realities of Ethiopian higher education, where many students come from low-income backgrounds and have limited access to financial support.

The finding that well-being showed stronger correlations with mental health outcomes than resilience is noteworthy. This may reflect the broader nature of well-being as a construct that encompasses multiple dimensions of positive functioning, including emotional, psychological, and social well-being. The dual-continua model [8]suggests that well-being and psychopathology are related but distinct dimensions of mental health, which is supported by these findings.

5.2 Theoretical Implications

The findings of this study have several theoretical implications. First, the study provides empirical support for the Transactional Model of Stress and Coping [9] by demonstrating those students' appraisals of challenges and their available psychological resources influence mental health outcomes. Resilience and well-being can be understood as resources that influence both the appraisal of stressors and the coping processes that follow.

Second, the study supports the Resilience Framework [12]; [11]by demonstrating that resilience functions as a protective factor in the context of significant adversity. The finding that resilience buffered the relationship between challenges and mental health provides evidence for the protective function of resilience. Third, the study provides support for the Broaden-and-Build Theory of Positive Emotions [5]by demonstrating that well-being is associated with better mental health outcomes. Students with higher well-being may be better able to access positive emotions that broaden their thought-action repertoires and build enduring personal resources.

Fourth, the study supports the Dual-Continua Model of Mental Health [8] by demonstrating that mental health comprises both the absence of psychopathology and the presence of positive functioning.

The finding that well-being was a stronger predictor of mental health outcomes than resilience suggests that promoting positive functioning may be at least as important as reducing symptoms.

5.3 Practical Implications

The findings of this study have several practical implications for higher education institutions in Ethiopia.

First, the high prevalence of mental health problems among students underscores the urgent need for comprehensive mental health services on university campuses. Universities should invest in counseling services, mental health screening programs, and referral pathways for students with severe problems.

Second, the protective role of resilience suggests that resilience-building programs should be implemented as part of student support services. These programs could include workshops on stress management, coping skills, emotional regulation, and problem-solving. Given the finding that resilience buffers the relationship between challenges and mental health, such programs may have broad benefits.

Third, the protective role of well-being suggests that universities should promote student well-being through various means, including creating supportive learning environments, fostering social connections, and providing opportunities for meaningful engagement. The finding that well-being showed stronger correlations with mental health outcomes than resilience suggests that well-being promotion may be a particularly effective strategy.

Fourth, the elevated vulnerability of first-year students suggests that universities should develop targeted interventions for this group. Orientation programs could include information on mental health, stress management, and available support services. Mentoring programs that pair first-year students with upper-year students may also be beneficial.

Fifth, the elevated vulnerability of female students suggests that gender-sensitive mental health interventions are needed. These interventions should address the specific needs of female students, including sexual and reproductive health services, gender-based violence prevention, and mental health support.

Sixth, the finding that financial challenges were perceived as the most severe challenge suggests that addressing financial hardship should be a priority for universities and policymakers. Expanding scholarship programs, providing part-time employment opportunities, and reducing the cost of education could help alleviate financial stress.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study examined the relationships among perceived higher education challenges, psychological resilience, well-being, and mental health outcomes among undergraduate students in Ethiopian public universities. The findings contribute to the growing body of research on student mental health in Ethiopian higher education and provide evidence for the protective roles of resilience and well-being as cross-contextual positive determinants.

The study found that Ethiopian university students perceive moderate to high levels of academic, financial, and psychosocial challenges. Financial challenges were perceived as the most severe, followed by academic and psychosocial challenges. These findings reflect the systemic challenges facing Ethiopian higher education, including resource constraints, large class sizes, and inadequate student support systems.

The prevalence of mental health problems among Ethiopian university students is alarmingly high. Over 60% of students reported at least mild symptoms of depression, anxiety, or stress, and approximately one-third reported moderate to severe symptoms. These prevalence rates are consistent with previous research and underscore the urgent need for mental health interventions in Ethiopian higher education.

Resilience and well-being emerged as significant protective factors against mental health problems. Students with higher levels of resilience and well-being reported lower levels of depression, anxiety, and stress, even when controlling for perceived challenges and demographic factors. Importantly, resilience was found to moderate the relationship between perceived challenges and mental health problems, buffering students against the adverse effects of higher education challenges.

The finding that resilience functions as a cross-contextual positive determinant has important implications for understanding and promoting student mental health in Ethiopian higher education. Rather than being specific to particular stressors, resilience appears to provide broad protection against diverse challenges. This suggests that interventions that strengthen resilience may have benefits across multiple challenge domains.

The study also revealed significant demographic differences in resilience, well-being, and mental health outcomes. Female students and first-year students were particularly vulnerable, reporting lower resilience and well-being and higher mental health problems. These findings highlight the need for targeted interventions for these at-risk groups.

In conclusion, this study provides empirical evidence that resilience and well-being are critical protective factors against mental health problems among Ethiopian higher education students. The findings underscore the urgent need for universities to implement comprehensive mental health promotion strategies that strengthen students' psychological resources alongside addressing systemic challenges in the higher education sector.

6.2 Recommendations

Based on the findings of this study, the following recommendations are offered for policy, practice, and future research.

Recommendations for Policy: At the policy level, the Ethiopian Ministry of Education and higher education institutions should prioritize student mental health by developing and implementing comprehensive policies that mandate mental health screening, counseling services, and health-promotion programs. These policies must also confront systemic challenges plaguing the sector—namely resource constraints, quality assurance gaps, and graduate employability—since improving overall educational quality will directly reduce the institutional stressors that undermine student well-being. To support these efforts, government and university leadership should substantially increase funding for student support services, with particular attention to financial aid and academic assistance, given that financial hardship emerged as the most severe perceived challenge in this study. Finally, policymakers should mandate gender-sensitive interventions that address the specific vulnerabilities of female students, including accessible sexual and reproductive health services, gender-based violence prevention, and tailored mental health support.

Recommendations for Practice: In practice, universities should adopt a multi-layered approach to student mental health. First, they should implement evidence-based resilience-building programs—workshops on stress management, coping skills, emotional regulation, and problem-solving—which, given resilience's buffering effect, could yield broad protective benefits. Concurrently, counseling services must be strengthened by hiring more trained professionals, reducing appointment wait times, and ensuring culturally sensitive, confidential care. Peer support programs offer another accessible avenue; training students as peer supporters to provide emotional support, referrals, and mental health education can help normalize help-seeking. Given first-year students' elevated vulnerability, institutions should design targeted interventions for this group, such as orientation modules on mental health and stress management, as well as mentoring schemes pairing new students with upper-year peers. Beyond these direct services, universities should integrate mental health literacy into the broader curriculum—for instance, through general education courses or workshops—so that students learn to recognize warning signs in themselves and others. Finally, institutions must actively cultivate supportive learning environments that reduce academic strain, which may involve reducing class sizes, improving faculty accessibility, and adopting pedagogical approaches that prioritize student well-being.

Recommendations for Future Research: Future research should prioritize longitudinal studies to clarify the temporal dynamics among academic challenges, resilience, well-being, and mental health outcomes, thereby informing optimal intervention timing. Rigorous intervention research—using randomized controlled trials or quasi-experimental designs—is equally critical to evaluate the effectiveness of resilience-building and health-promotion initiatives within Ethiopian higher education. Qualitative studies would complement these efforts by offering deeper, context-rich insights into students' lived experiences and their use of psychological resources, which can guide culturally appropriate program development.

At the institutional level, researchers should examine how factors such as campus climate, instructional quality, support-service availability, and governance structures affect student mental health. Comparative work across different institution types (public versus private, urban versus rural) and Ethiopian regions is also needed to uncover contextual variations. Additionally, further investigation should focus on specific at-risk populations, including female students, first-year students, students with disabilities, and those from conflict-affected areas. Finally, research into the particular coping strategies that Ethiopian students employ to navigate adversity will provide a foundational evidence base for designing more effective, locally relevant resilience interventions.

6.3 Implications

The findings of this study have several important implications for theory, practice, and policy.

Theoretical Implications: The study provides empirical support for the Transactional Model of Stress and Coping, the Resilience Framework, the Broaden-and-Build Theory of Positive Emotions, and the Dual-Continua Model of Mental Health. The finding that resilience functions as a cross-contextual positive determinant extends existing theoretical frameworks and suggests the need for further theoretical development regarding the mechanisms through which resilience confers protection across multiple domains.

Practical Implications: The study provides evidence for the development of resilience-building and well-being promotion interventions in Ethiopian higher education. The findings suggest that such interventions should be comprehensive, addressing multiple domains of challenge, and targeted at vulnerable groups including female students and first-year students.

Policy Implications: The study provides evidence for the integration of mental health into higher education policy and the need for increased investment in student support services. The findings underscore the urgency of addressing the systemic challenges facing Ethiopian higher education, including resource constraints, quality assurance, and graduate employability.

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REFERENCES

1. American Psychological Association. (2014). *The road to resilience*. Washington, DC: American Psychological Association.
2. Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety, 18*(2), 76-82. https://doi.org/10.1002/da.10113[reference:40]
3. Elemo, A. S., & Temtime, M. C. (2024). Risky behaviors in Ethiopian university students and its relationship with loneliness and coping self-efficacy. *Journal of Ethnicity in Substance Abuse*, 1-19. https://doi.org/10.1080/15332640. 2024.2434567 [reference:41]
4. Feyisa, B. R., Merdassa, A. B., & Biru, B. (2022). Psychological resilience and coping strategies among undergraduate students in Ethiopia: A cross-sectional study. *International Journal of Adolescence and Youth, 27*(1), 515-527. https://doi.org/10.1080/02673843.2022.2151370
5. Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218-226. https://doi.org/10.1037/0003-066X.56.3.218 [reference:42]
6. Gebremariam, H. T., Tassew, M. D., & Woldemaryam, F. S. (2024). Insights into psychosocial problems and associated factors among higher education students in Ethiopia: A cross-sectional study. *BMC Public Health, 24*, 2784. https://doi.org/10.1186/s12889-024-20262-w[reference:43]
7. Kassaw, C., Demareva, V., Negash, M., & Sime, Y. (2024). Psychosocial determinants of academic achievement in Ethiopian higher education students, 2024: Systematic review and meta-analysis. *Heliyon, 10*(17), e36465. https://doi.org/10.1016/j.heliyon.2024.e36465 [reference:44]
8. Keyes, C. L. M. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology, 73*(3), 539-548. https://doi.org/10.1037/ 0022-006X.73.3.539[reference:45]
9. Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
10. Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). Sydney: Psychology Foundation.
11. Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*(3), 543-562. https://doi.org/ 10.1111/1467-8624.00164 [reference:47]
12. Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*(3), 227-238. https://doi.org/ 10.1037/0003-066X.56.3.227 [reference:48]
13. Molla, T. (2024). Overview of Ethiopian public higher education: Trends, system, challenges, and quality issues. *Education Sciences, 14*(10), 1065. https://doi.org/10.3390/educsci 14101065 [reference:49]
14. Tesfaye, R., Anbesaw, T., Zenebe, Y., Necho, M., Gebresellassie, M., Segon, T., Kebede, F., & Bete, T. (2023). Prevalence of depression among students at Ethiopian universities and associated factors: A systematic review and meta-analysis. *PLoS One, 18*(10), e0292487. https://doi.org/10.1371/journal.pone.0292487 [reference:50]
15. Tsegaye, B. S., Asemu, M. M., & Hailu, H. B. (2024). Construct validity and reliability of Amharic version of DASS-21 scale among Ethiopian Defense University College of Health Science students. *BMC Health Services Research, 24*(1), 914. https://doi.org/10.1186/s12913-024-11267-7[reference:51]
16. World Health Organization. (2020). *Mental health and psychosocial considerations during the COVID-19 outbreak*. Geneva: WHO.