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A Comparative Analysis of Mental Health Outcomes in Heterosexual and Sexual Minority University Students

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Abstract: University students from diverse sexual orientations encounter specific mental health challenges due to academic demands, minority stress, and societal stigma; however, research focusing on these issues is still scarce in Southeast Asia. This research aimed to examine the mental health outcomes of heterosexual and sexuality diverse students in Thailand, concentrating on both negative aspects—such as depression, anxiety, and perceived stress—and positive aspects—like resilience, inner strength, and perceived social support. A cross-sectional survey was performed with 442 university students aged between 20 and 30, employing validated self-report instruments. Statistical methods, including t-tests and multiple regression analyses, were used to evaluate differences and relationships between sexual orientation and mental health outcomes while controlling for confounding variables. The findings revealed that sexuality diverse students showed notably higher levels of depression ($B = 0.115$, $p < .05$) and lower perceived social support ($B = -0.10$, $p < .05$) when compared to their heterosexual counterparts. Nevertheless, there were no significant differences found in anxiety, perceived stress, resilience, or inner strength. Perceived social support proved to be a crucial protective factor, with greater levels linked to reduced depression, anxiety, and perceived stress ($p < .01$). These results underscore the necessity for inclusive university policies, specific mental health interventions, and peer and family support initiatives to enhance the well-being of sexuality diverse students in Thailand.

Keywords: sexuality diverse students; mental health disparities; LGBTQ+; depression; resilience; social support; Thailand; higher education

1. Introduction

University students are at a critical stage of life, facing various mental health challenges such as anxiety, depression, and perceived stress due to academic pressures, social challenges, and the transition to adulthood. These difficulties have often been heightened for sexuality-diverse students, such as LGBTQ+ individuals, who have experienced additional stressors like discrimination and social exclusion. Research showed that the number of sexual minority students surpassed 10 million worldwide, accounting for over 10% of the total student population [1]. Despite these figures, many higher education institutions continued to provide inadequate support for sexuality-diverse students [2].

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Thailand, a culturally diverse nation and a popular tourist destination, has been influenced by various cultural perspectives on sexuality and gender. Cultural beliefs significantly affect mental health perceptions, symptoms, and attitudes toward seeking help [3]. Additionally, the rise of social media shaped students' psychological experiences by offering mental health resources and online communities while also exposing sexuality-diverse students to cyberbullying and discrimination, which negatively impacted their well-being [4]. Sexuality-diverse students in Thailand continued to face societal stigma, a lack of anti-discrimination laws, limited legal protections for transgender individuals, and discrimination in education and employment, all of which contributed to their mental health struggles [5].

Despite Thailand's reputation for relative openness to sexual diversity, the country lacked strong legal protections and comprehensive advocacy for LGBTQ+ rights. Additionally, insufficient data existed on LGBTQ+ individuals' access to education, healthcare, economic opportunities, and personal safety [6]. Social support played a critical role in mitigating mental health issues for sexuality-diverse students. Research suggested that support from family, friends, and educators was essential in promoting resilience and psychological well-being among LGBTQ+ students [7]. However, many students continued to experience discrimination and social isolation, which exacerbated mental health challenges.

The number of people identifying as LGBTQ+ increased significantly among younger generations. In the United States, research indicated that Generation Z (born 1997–2002) had the highest proportion of LGBTQ+ individuals at 15.9%, compared to 9.1% of millennials, 3.8% of Generation X, 2% of baby boomers, and 1.3% of traditionalists [8]. However, in many Asian societies, sexuality-diverse individuals continued to face discrimination, social isolation, school violence, and exclusion, all of which negatively impacted their mental health and well-being. Reports suggested that 30% of university students experienced stress, 22% struggled with anxiety, and 14% suffered from depression, all of which adversely affected academic performance [9].

Sexual identity development differed between straight and sexuality-diverse individuals. Research suggested that LGBTQ+ individuals often experienced complex and less predictable identity formation processes due to societal stigma, identity exploration, and unsupportive environments [10]. In contrast, straight individuals tended to follow more predictable developmental trajectories that aligned with societal norms and expectations. Despite these observed differences, limited research exists on sexual identity development in the Thai context.

Positive mental health outcomes have been closely linked to inner strength and resilience, which evolved over time-based on environmental, social, and psychological factors [11]. Studies suggested that resilience and inner strength varied across different sexual orientations and gender identities. However, no conclusive evidence existed of significant mental health disparities between straight and sexuality-diverse individuals [12]. More research remains necessary to explore these variations and develop targeted mental health interventions.

While extensive research had been conducted on LGBTQ+ mental health in Western contexts, studies focusing on Southeast Asia, particularly Thailand, remained limited. Given the differences in cultural values, social norms, and legal protections between Western and Thai societies, findings from Western studies might not have fully applied to Thailand. This study aimed to address this research gap by examining mental health disparities between straight and sexuality-diverse university students. The findings sought to contribute to the development of targeted interventions and policies to create a more inclusive academic environment and improve mental health support services for LGBTQ+ students.

2. Materials and Methods

2.1. Study Design and Setting

This study employed a cross-sectional survey design to compare mental health outcomes between straight and sexuality diverse university students at Chiang Mai University, Thailand. The

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research was conducted following ethical guidelines and best practices for mental health research among young adults. The study focused on identifying differences in both positive (resilience, inner strength, and perceived social support) and negative (depression, anxiety, and perceived stress) mental health outcomes between these groups.

Positive mental health outcomes: resilience, inner strength, perceived social support

Negative mental health outcomes: perceived stress, depression, anxiety

Baseline sociodemographic characteristics included age, sex, education level, relationship, income, parental attitude, parental marital status, parental occupation, history of mental health, social acceptance, and accepting and endorsing sexual stigma. The Attitudes Toward Lesbians and Gay Men Scale short version (ATLG-S), a five-item questionnaire with two sub-scales with each item rated on a 7-point Likert scale, was also used to assess social acceptance [13]. The Thai version of the Internalized Sexual Stigma Scale (IHP) is a five-item questionnaire. Each item is rated on a 4-point Likert scale to evaluate the acceptance and endorsement of sexual stigma [14].

Confounding factors (Covariates): Education level, income, age, sex, relationship, parental attitude, parental marital status, parental occupation, history of mental health, social acceptance, and accepting and endorsing sexual stigma.

2.2. Participants

This study included 442 university students aged 20–30 years from Chiang Mai University, Thailand. Participants were categorized into two groups: straight students (n = 229, 51.8%) and sexuality diverse students (n = 213, 48.2%), which included individuals identifying as lesbian, gay, bisexual, and other non-heterosexual orientations. The sample consisted predominantly of female participants (71.5%), with male and non-binary individuals representing the remaining proportion. The mean age of the participants was 21.05 years (SD = ±2.43). The majority of students were enrolled in undergraduate programs (95.2%), with a smaller percentage pursuing graduate degrees. Regarding financial background, most students reported monthly expenditures below 7,000 baht (52.7%), while others had moderate (7,000–10,000 THB) or high (>10,000 THB) financial expenses. More than half (57.75%) of the participants had no prior history of mental health issues. Participants were recruited through online university networks, student organizations, and academic departments, ensuring a diverse representation of sexual orientations. Informed consent was obtained prior to participation, and ethical approval was granted by the Ethics Committee, Faculty of Humanities, Chiang Mai University, CMUREC 67/094. Additional demographic information is provided in **Table 1**.

Table 1. Demographic information of the participants.

Characteristics of participants		Frequency	Percentage
Sex	Female	316	71.5%
	Male	126	28.5%
Monthly Expenses	≤ 7000 THB	233	52.7%
	7000-10000 THB	155	35.1%
	> 10000 THB	54	12.1%
Education Level	Bachelor's Degree	421	95.2%
	Master's Degree	19	4.3%
	Doctoral Degree	1	0.2%
Sexual Orientation	Straight	229	51.8%
	Sexuality Diverse	213	48.2%
LGBTQ+	Lesbian	22	5%
	Gay	46	10.4%
	Bisexual	123	27.8%
	Pansexual	15	3.4%
	Omnisexual	6	1.4%

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	Queer	3	0.7%
	Non-binary	1	0.2%
	Asexual	1	0.2%
	Missing Data	1	0.2%
Parents' Occupation	Freelance	266	60.2%
	Company Employees	111	25.1%
	Government Employees	40	9%
	Educators	10	2.3%
	Unemployed	10	2.3%
	Retired/Uncomfortable Disclosing	5	1.1%
Parents' Marital Status	Married	285	64.5%
	Remarriage	18	4.1%
	Divorced/Separated	139	31.4%
PATSO	Supportive	375	84.8%
	Unsupportive	66	14.9
	Missing Data	1	0.2%
HMHI	Anxious	110	24.9%
	Depressed	70	15.8%
	None	255	57.7%
	Stress/Both Anxious & Depressed	6	1.4%
	Missing Data	1	0.2%
Relationships	No	239	54.1%
	Yes	203	45.9%
Internalized Homophobia	Low Levels	343	77.6%
	Moderate Levels	94	21.3%
	High Levels	5	1.1%
ATLG	Low Negative Attitudes	349	79.0%
	Moderate Negative Attitudes	92	20.8%
	High Negative Attitudes	1	0.2%

Note. PATSO = Parental Attitudes Towards Sexual Orientation, ATLG = Attitudes Toward Lesbians and Gay Men, HMHI = History of Mental Health Issues.

2.3. Procedure

Data were collected from May to August 2024 via an anonymous online survey (Microsoft Forms) shared on social media using a snowball sampling method. Ethical approval was obtained from the Faculty of Humanities, Chiang Mai University. Only Thai students aged 20–30 at Chiang Mai University were eligible, with screening criteria automatically applied. The survey included demographic questions and validated psychological assessments (OI-21, RI-9, ISBI, IHP, MSPSS, PSS-10, ATLG). Participants provided informed consent, and responses were tailored based on sexual orientation. To maintain balance, responses were monitored daily, pausing collection for overrepresented groups. Built-in security measures verified authenticity and removed incomplete or inconsistent responses [15]. Participants who provided incomplete or inconsistent responses were removed from the final dataset. After completing the study, participants were thanked for their time and provided with mental health support resources if needed. The dataset was then finalized for further statistical analysis, ensuring that all ethical and confidentiality protocols were maintained throughout the research process.

2.4. Measures

This study employed standardized psychological assessments and a demographic questionnaire to examine mental health outcomes among straight and sexuality-diverse university students. The demographic questionnaire collected key information, including university affiliation, education

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level, age (20–30 years), biological sex, sexual orientation, relationship status, parental attitudes, parental marital status, parental occupation, and mental health history. Participants outside the inclusion criteria were excluded. Validated psychological scales were used to assess psychological well-being. The Outcome Inventory (OI-21) (α = 0.92) assessed the level of anxiety and depression [16]. The Resilience Inventory (RI-9) (α = 0.89) assessed stress recovery [17], while the Inner Strength-Based Inventory (ISBI) (α = 0.53) evaluated inner psychological strength [18]. The Internalized Sexual Stigma Scale (IHP, Thai version) (α = 0.83) measured levels of internalized stigma in sexuality-diverse individuals [14], and the Multidimensional Scale of Perceived Social Support (MSPSS, Thai version) (α = 0.93) assessed perceived emotional and practical support from family, friends, and significant others [19]. Stress levels were evaluated using the Perceived Stress Scale (PSS-10) (α = 0.72) [20], while attitudes toward sexuality diverse were assessed using the Attitudes Toward Lesbians and Gay Men Scale (ATLG) (α = 0.74) [21], which was translated into Thai and validated before use. Assessments were administered via Microsoft Forms, with tailored questions tailored to individual sexual orientations. Pilot testing ensured feasibility and an automated verification system prevented fraudulent responses. Data collection was monitored daily to maintain a balanced recruitment process, and incomplete responses were excluded to ensure data integrity.

2.5. Data Analysis

Analyses were conducted using SPSS 26.0 (IBM Corp., Armonk, NY). Descriptive statistics summarized mental health variables, and an independent sample t-test assessed group differences. Multiple regression analyses identified predictors of mental health outcomes, controlling for confounders ($p < 0.05$).

Linear regression was applied to continuous outcomes, incorporating significant correlates identified in prior analyses. Three models controlled for increasing factors: (1) demographic and socioeconomic variables, (2) attitudes toward LGBTQ+ individuals and internalized homophobia, and (3) additional parental factors. Missing data were excluded, and effect sizes were calculated to assess practical significance.

3. Results

3.1. Confounders Associated with Straight and Sexuality Diverse

Table 2 compares demographic and confounding factors between sexuality-diverse and straight students. Most variables show no significant differences ($p > 0.05$), except for parents' occupations, parental attitudes toward sexual orientation, attitudes toward gay and lesbian individuals (ATG, ATL), and internalized homophobia (IHP). Sexuality-diverse students' parents tend to have more positive attitudes ($p < 0.05$), while straight students exhibit more positive attitudes toward sexual minorities and lower internalized homophobia ($p < 0.05$).

Table 2. Participants' characteristics between sexuality diverse and straight groups.

Participants' characteristics		Sexuality diverse group (n=213)	Straight group (n=229)	p-value
Age	20-25	47.3%	49.8%	.202
	26-30	0.9%	2.0%	
Sex	Male	14.7%	13.8%	.367
	Female	33.5%	38.0%	
Monthly expenses	≤ 7000 THB	26.0%	26.7%	.668
	7000-10000 THB	17.0%	18.1%	
	≥ 10000 THB	5.2%	7.0%	
Education	Bachelor's. Degree	46.4%	49.1%	.539

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	Master's Degree	1.8%	2.5%	
	Doctoral Degree	0.0%	0.2%	
Parent's occupation	Freelance	29.0%	31.2%	.038
	Company Employees	4.8%	4.3%	
	Government Employees	1.8%	0.5%	
	Educators	10.4%	14.7%	
	Unemployed	1.1%	1.1%	
	Retired/Uncomfortable Disclosing	1.1%	0.0%	
Parent's marital	Married	29.4%	35.1%	.159
	Remarriage	2.7%	1.4%	
	Divorced/Separated	16.1%	15.4%	
PATSO	Supportive	38.1%	46.9%	<.001
	Unsupportive	10.2%	4.8%	
HMHI	Anxious	12.5%	12.5%	.652
	Depressed	8.2%	7.7%	
	None	26.8%	31.1%	
	Stress/Both Anxious & Depressed	0.9%	0.5%	
Relationship	No	27.8%	26.2%	.135
	Yes	20.4%	25.6%	
Internalized Homophobia	Low Levels	41.0%	36.7%	.001
	Moderate Levels	7.0%	14.3%	
	High Levels	0.2%	0.9%	
ATG	Low Negative Attitudes	43.4%	36.0%	<.001
	Moderate Negative Attitudes	4.8%	15.4%	
	High Negative Attitudes	0.0%	0.5%	
ATL	Low Negative Attitudes	42.5%	36.4%	<.001
	Moderate Negative Attitudes	5.7%	15.2%	
	High Negative Attitudes	0.0%	0.2%	

Note. ATG = Attitude towards gay, ATL = Attitude towards lesbian, SD = Standard Deviation, PATSO = Parental Attitudes Towards Sexual Orientation, HMHI = History of Mental Health Issues.

3.2. Sexual Orientation and Mental Health Outcomes

Table 3 presents differences in mental health outcomes by sexual orientation. Sexuality-diverse participants had a higher mean depression score (4.81 ± 4.34) than straight participants (3.94 ± 3.70), though both groups were mostly in the low-depression range. Perceived social support was lower among sexuality-diverse participants (5.00 ± 1.38) compared to straight participants (5.32 ± 1.17). Depression ($t = -2.25$, $p < 0.05$) and perceived social support ($t = 2.63$, $p < 0.05$) differed significantly between the groups.

Table 3. Prevalence of mental health outcomes and the association of the sexual orientation.

Mental Health Outcomes	Sexuality diverse group (n=213)	Straight group (n=229)	t	p-value
Anxiety (mean ± SD)	8.99 ± 5.17	8.75 ± 4.96	-.48	.627
Low	68 (15.4)	74 (16.7)		
Moderate	132 (29.9)	145 (32.8)		
High	13 (6.1)	10 (4.4)		

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Depression	4.81 ± 4.34	3.94 ± 3.70	-2.25	.025
Low	137 (31.6)	156 (35.9)		
Moderate	69 (15.9)	71 (16.4)		
High	7 (1.6)	2 (0.5)		
Perceived Stress	18.42 ± 6.49	18.53 ± 5.99	.18	.852
Low	44 (10.0)	43 (9.7)		
Moderate	149 (33.7)	166 (37.6)		
High	20 (4.5)	20 (4.5)		
Resilience	34.01 ± 6.33	34.75 ± 6.15	1.24	.213
Low	0 (0)	0 (0)		
Moderate	117 (26.5)	102 (23.1)		
High	96 (21.7)	127 (28.7)		
Inner strength	30.69 ± 5.06	31.15 ± 5.09	.95	.339
Low	0 (0)	1 (0.2)		
Moderate	202 (45.7)	212 (48.0)		
High	11 (2.5)	16 (3.6)		
Perceived Social Support	5.00 ± 1.38	5.32 ± 1.17	2.63	.009
Low	18 (4.2)	7 (1.6)		
Moderate	75 (17.5)	76 (17.8)		
High	113 (26.4)	139 (32.5)		

Note. SD = Standard Deviation, t = t-statistic.

3.3. Negative Mental Health Outcomes and Positive Mental Health Outcomes

Table 4 highlights strong positive correlations between anxiety and both depression (r = 0.73) and perceived stress (r = 0.68), indicating that higher anxiety is linked to increased depression and stress. Conversely, resilience (r = -0.38), inner strength (r = -0.22), and perceived social support (r = -0.33) show negative correlations with anxiety, suggesting they help reduce it. Similarly, depression correlates positively with perceived stress (r = 0.62) and negatively with resilience (r = -0.43), inner strength (r = -0.27), and social support (r = -0.35). Perceived stress follows the same pattern, negatively correlating with resilience (r = -0.47), inner strength (r = -0.29), and social support (r = -0.36). Additionally, resilience, inner strength, and social support show positive intercorrelations. Overall, strong social support plays a key role in reducing anxiety, depression, and stress while enhancing resilience and inner strength, emphasizing the importance of fostering supportive networks for student mental health.

Table 4. Correlation in anxiety, depression, perceived stress, resilience, inner strength, and perceived social support.

	Anxiety	Depression	Perceived Stress	Resilience	Inner strength
Anxiety					
Depression	.73**				
Perceived stress	.68**	.62**			
Resilience	-.38**	-.43**	-.47**		
Inner strength	-.22**	-.27**	-.29**	.46**	
Perceived Social Support	-.33**	-.35**	-.36**	.33**	.20**

Note. **. Correlation is significant at the 0.01 level (2-tailed); r = Pearson Correlation.

3.4. Negative Mental Health Outcomes and Positive Mental Health Outcomes

Regression analysis *in* **Tables *5 and 6***, reveals significant mental health differences between straight and sexuality-diverse students, particularly in depression and perceived social support.

3.4.1. Depression and Sexual Orientation

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Sexuality-diverse students consistently report higher depression levels across all models (Model 1: B = 0.097, p < .05; Model 2: B = 0.104, p < .05; Model 3: B = 0.115, p < .05). These findings align with minority stress theory, highlighting the need for targeted mental health interventions.

3.4.2. Perceived Social Support and Sexual Orientation

Sexuality-diverse students report significantly lower social support (Model 1: B = -0.105, p < .05; Model 2: B = -0.118, p < .05; Model 3: B = -0.1, p < .05), increasing their mental health risks. Strengthening peer support networks and promoting family acceptance initiatives could help mitigate these challenges.

Table 5. Association between adverse mental health outcomes and sexual orientation after controlling for confounding factors.

Outcomes	Anxiety			Depression			Perceived Stress		
Predictor	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Sexual Orientation (B)	.019	.020	.021	.097*	.104*	.115*	-.006	.023	.011
R^2	.060	.031	.091	.084	.109	.124	.041	.061	.077
ΔR^2		.06			.015			.016	

Note. B = unstandardized coefficients; R^2 = Explained variance; ΔR^2 = Change in explained variance after adding predictors. * Statistically significant (p < 0.05). Sexual orientation is coded as 0 = Straight, 1 = Sexuality Diverse. Model 1 adjusted for age, relationships, education, monthly expenses, history of mental health issues, and sex. Model 2 adjusted for Model 1 plus attitude towards gay and lesbian, internalized homophobia. Model 3 was adjusted for models 1 and 2, as well as parents' occupation, parental marital status, and parental attitude towards sexual orientation.

Table 6. Association between positive mental health outcomes and sexual orientation after controlling for confounding factors.

Outcomes	Resilience			Inner Strength			Perceived Social Support		
Predictor	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Sexual Orientation (B)	-.062	-.043	-.043	-.049	-.055	-.045	-.105*	-.118*	-.100*
R^2	.022	.034	.043	.019	.034	.038	.085	.096	.110
ΔR^2		.009			.004			.014	

Note. B = unstandardized coefficients; R^2 = Explained variance; ΔR^2 = Change in explained variance after adding predictors. * Statistically significant (p < 0.05). Sexual orientation is coded as 0 = Straight, 1 = Sexuality Diverse. Model 1 adjusted for age, relationships, education, monthly expenses, history of mental health issues, and sex. Model 2 adjusted for Model 1 plus attitude towards gay and lesbian, internalized homophobia. Model 3 was adjusted for models 1 and 2, as well as parents' occupation, parental marital status, and parental attitude towards sexual orientation.

4. Discussion

This study compared mental health outcomes between straight and sexuality-diverse university students in Thailand. It explored positive factors such as inner strength, resilience, and perceived social support, while also assessing negative outcomes like depression, anxiety, and perceived stress. The study identified mental health disparities between the groups, aligning with global research on LGBTQ+ well-being and highlighting unique challenges faced by sexuality-diverse students in Southeast Asia.

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Interestingly, no significant difference in resilience was found between straight and sexuality-diverse students, suggesting similar coping abilities despite mental health disparities. Resilience, a key protective factor against perceived stress, anxiety, and depression [22], helps individuals adapt to adversity. This aligns with research indicating that LGBTQ+ individuals benefit from social support networks that enhance resilience [23,24]. In Thailand, LGBTQ+ student groups and community resources likely contribute to this resilience [25]. However, societal and familial pressures may undermine confidence in identity, highlighting the need for interventions to strengthen self-esteem and identity development [26]. Resilience was linked to lower anxiety, depression, and perceived stress, yet sexuality-diverse students may experience reduced resilience due to minority stress and internalized stigma, weakening its protective effects [4].

The findings support that perceived social support played a crucial role in mental health, with higher support linked to lower anxiety, depression, and perceived stress, as well as greater resilience and inner strength. Social support helps mitigate minority stress [27,28]. Yet sexuality-diverse students in Thailand may struggle to access it due to traditional family structures. Alternative sources, such as peer networks and spirituality, may aid resilience, though further research is needed [29]. Cultural expectations around family, religion, and societal roles can create challenges for LGBTQ+ individuals [5], underscoring the need for culturally sensitive mental health interventions to foster supportive environments.

Sexuality-diverse students reported significantly higher depression levels than their straight peers, aligning with minority stress theory, which links stigma and discrimination to mental health challenges [4,30]. Despite Thailand's reputation for LGBTQ+ tolerance, deep-rooted cultural norms uphold heteronormativity, contributing to alienation [5]. While most parents in this study were supportive, some were not, reflecting the complex reality of acceptance. Research highlights the contrast between Thailand's perceived inclusivity and the actual stigmatization faced by LGBTQ+ individuals, particularly in education [31]. These societal pressures likely contribute to the heightened anxiety, depression, and stress observed among sexuality-diverse students [26].

The findings revealed that sexuality diverse students reported lower levels of resilience and inner strength compared to their heterosexual peers. Resilience, which embodies an individual's empowerment, self-assurance, and capacity to overcome life's challenges [32], seemed to be diminished among sexuality-diverse students. While this difference didn't reach statistical significance ($p = .213$, Table 3), it signals a potential area for further exploration.

Sexuality-diverse students exhibited higher levels of internalized homophobia (IHP) than their straight peers, with 41.0% reporting low IHP, while 36.7% of straight students showed moderate-to-high levels ($p = .001$). They also held more positive attitudes toward sexual minorities ($p < .001$). Parental support varied significantly, with fewer sexuality-diverse students (38.1%) reporting supportive parents compared to straight students (46.9%, $p < .001$), while a greater proportion faced unsupportive parental attitudes (10.2% vs. 4.8%). These findings align with the psychological mediation framework, suggesting that stigma and discrimination diminish resilience and self-esteem, leading to poorer mental health outcomes [33,34].

Mental health disparities were evident, particularly in depression and perceived social support. Sexuality-diverse students reported significantly lower social support across all models (Model 1: $B = -0.105$, $p = .024$; Model 2: $B = -0.118$, $p = .016$; Model 3: $B = -0.100$, $p = .045$), possibly due to peer rejection, institutional discrimination, or internalized stigma [6]. Sexual orientation also emerged as a significant predictor of depression ($B = 0.115$, $p = .020$), even after adjusting for demographic factors, reinforcing evidence that LGBTQ+ youth face heightened depression risks due to minority stress [35]. While anxiety and stress differences were less pronounced, sexuality-diverse students consistently reported higher mean scores (Anxiety: 8.99 ± 5.17 vs. 8.75 ± 4.96; Depression: 4.81 ± 4.34 vs. 3.94 ± 3.70; Perceived stress: 18.42 ± 6.49 vs. 18.53 ± 5.99, Table 3), reflecting the cumulative burden of navigating a heteronormative society.

Unlike previous research emphasizing discrimination's negative effects [14], this study highlights protective factors such as resilience and inner strength. Despite reporting lower perceived

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social support (p = .009, Table 3), sexuality-diverse students exhibited resilience levels comparable to their straight peers, suggesting that coping strategies and community support may buffer the psychological effects of minority stress. These findings expand on previous studies by empirically demonstrating how variations in social support influence university students' mental health in Thailand [31].

4.1. Implications

The findings of this research suggest that university students who identify as sexuality diverse face a greater risk of mental health disparities, especially depression and lower perceived social support, compared to their heterosexual counterparts. These disparities underscore the need for targeted mental health initiatives and policy measures that address the specific challenges faced by this group.

Given the heightened vulnerability of sexuality diverse students to depression and lower social support, universities and policymakers need to adopt targeted mental health interventions to address these disparities. Suggested initiatives include**:** Improving LGBTQ+ inclusive mental health services by educating mental health practitioners on LGBTQ+ cultural competence. Establishing peer mentorship programs to bolster social support networks for sexuality diverse students. Introducing family acceptance programs to inform families about the importance of supporting their LGBTQ+ children. Reinforcing anti-discrimination policies within universities to foster safer and more inclusive educational environments.

4.2. Limitations

1)The study's sample was limited to university students in Thailand, so the findings may not apply to the broader sexuality diverse population in different age groups, educational settings, or geographic regions. 2) The study relied on self-reported data, which may introduce bias due to social desirability or inaccurate recall. This could lead to participants underreporting or overreporting mental health symptoms, resilience, or perceived social support, potentially affecting the accuracy of the findings. 3) Cultural factors unique to Thailand, such as the influence of Buddhism or specific societal norms, may have impacted the experiences of sexuality diverse individuals in ways not fully captured in the study. To gain a more comprehensive understanding of the mental health experiences of sexuality diverse individuals in Thailand, future research should consider longitudinal designs, larger and more diverse samples, and the inclusion of additional variables.

5. Conclusions

The study emphasizes the differences in mental health outcomes between straight and sexuality diverse students in Thailand. Sexuality diverse students experience higher levels of anxiety, depression, and perceived stress due to a lack of social support. To address the mental health needs of sexuality diverse students, it is crucial to build resilience, promote family and peer support, and create inclusive environments. Communities and governments should pay special attention to the unique challenges faced by sexuality diverse students to ensure their psychological well-being is adequately supported as they continue to promote mental health awareness.

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guidelines for research involving human participants, ensuring confidentiality, voluntary participation, and minimal risk to participants.

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Abbreviations

The following abbreviations are used in this manuscript:

PATSO	Parental Attitudes Towards Sexual Orientation
HMHI	History of Mental Health Issues
OI-21	The Outcome Inventory
RI-9	The Resilience Inventory
ISBI	The Inner Strength-Based Inventory
IHP	The Thai version of the Internalized Sexual Stigma Scale/Internalized Homophobia
MSPSS	The Multidimensional Scale of Perceived Social Support
PSS-10	The Perceived Stress Scale
ATLG	The Attitudes Toward Lesbians and Gay Men Scale
LGBTQ+	Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, and others

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