The Impact of Perceived Academic Stress on Subjective Well-Being at Hangzhou City University*

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Abstract

This study examined the relationship between perceived academic stress and subjective well-being among 398 undergraduate students at Hangzhou City University. Using a quantitative correlational predictive design, data were collected through the Perceived Stress Scale (PSS-10), Satisfaction with Life Scale (SWLS), and Positive and Negative Affect Schedule (PANAS).

Results showed that students reported low levels of perceived academic stress and very high life satisfaction. Perceived academic stress dimensions—Negative Stress Appraisal (NSA) and Positive Coping (PC)—were significantly correlated with all components of subjective well-being ($p < .001$). Hierarchical regression analyses controlling for gender and grade level revealed that NSA and PC significantly predicted life satisfaction ($R^2 = 0.479$), positive affect ($R^2 = 0.435$), and negative affect ($R^2 = 0.517$). NSA was the strongest predictor of negative affect ($\beta = 0.548$), whereas PC was the strongest predictor of positive affect ($\beta = 0.449$).

The findings confirm that perceived academic stress is a significant predictor of subjective well-being among university students. The results highlight the importance of reducing negative stress appraisal and strengthening positive coping capacities through early screening, targeted interventions, and institutional support systems that promote student well-being.

Keywords: perceived academic stress, subjective well-being, university students, educational administration

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Introduction

This study investigated the relationship between perceived academic stress and subjective well-being among 398 undergraduate students at Hangzhou City University. Academic stress, arising from demanding coursework and competitive educational environments, has become a growing concern for university students (Mulaudzi, 2023; Tom, 2022). Subjective Well-being, comprising life satisfaction, positive affect, and low negative affect, is a key indicator of mental health (Busseri, 2018). In China, enhancing university students' well-being has been prioritized in national educational policy (Poo, 2021).

Despite the growing body of research on stress and well-being in Western contexts, there is a lack of empirical studies focusing on Chinese university students. Understanding the relationship between academic stress and subjective well-being can provide valuable insights for developing interventions that help students cope effectively with academic demands and maintain psychological well-being. Such evidence may also assist universities in strengthening student support services and promoting a healthier learning environment. Therefore, this study aims to investigate the relationship between perceived academic stress and subjective well-being among undergraduate students at Hangzhou City University.

Objectives

1. To examine the levels of perceived academic stress, including its two dimensions—Negative Stress Appraisal (NSA) and Positive Coping (PC), and subjective well-being across its three components: life satisfaction (SWLS), positive affect (PA), and negative affect (NA) among undergraduate students.

2. To examine the relationships between perceived academic stress dimensions (NSA and PC) and each component of subjective well-being (SWLS, PA, and NA).

3. To analyze the predictive effects of perceived academic stress dimensions (NSA and PC) on each component of subjective well-being (SWLS, PA, and NA) using multiple regression analysis.

4. To propose practical recommendations for educational administrators in developing student support systems, adjusting academic workload policies, and enhancing well-being services.

Literature Review

1. Transactional Model: Explains academic stress as a result of perceived imbalance between academic demands and coping resources. Stress is shaped by cognitive appraisal, including evaluation of threats and coping abilities. The model highlights the subjective nature of stress and the role of coping strategies in influencing students' well-being (Lazarus & Folkman, 1984).

2. Conservation of Resources Theory: Views stress as arising from actual or threatened loss of valued resources, such as time, energy, academic achievement, and social support. Students maintain well-being by conserving and acquiring resources, while psychological resources can help buffer the negative effects of academic stress (Hobfoll, 1989).

3. Perceived Academic Stress: Refers to students' evaluation of academic demands as exceeding their coping capacities. It is associated with anxiety, depression, burnout, and reduced well-being, particularly in highly competitive educational contexts. The PSS-10 assesses stress through negative appraisal and positive coping dimensions (Bedewy & Gabriel, 2015; Cohen & Williamson, 1988; Lee, 2012).

4. Subjective Well-being (SWB): Refers to individuals' cognitive and affective evaluations of life, comprising life satisfaction, positive affect, and negative affect. As a key indicator of psychological health, SWB is influenced by personal and environmental factors and reflects students' adjustment to academic demands and university life (Diener & Seligman, 2002; Steel et al., 2008).

5. Academic stress is negatively associated with subjective well-being. According to the Transactional Model, students who perceive academic demands as exceeding their coping abilities are more likely to experience lower life satisfaction, reduced positive affect, and greater emotional distress (Lazarus & Folkman, 1984). Effective coping and institutional support can mitigate these effects and promote student well-being (Cheng & Lin, 2023; Zhang & Zhao, 2022).

From an educational administration perspective, universities can influence this relationship through academic policies, workload management, counseling services, and student support systems. Understanding how perceived academic stress affects subjective well-being may therefore provide useful evidence to inform the development of strategies that promote students' mental health and overall well-being.

Research Hypotheses

This study aims to examine the relationship between perceived academic stress and subjective well-being among students. Based on the theoretical foundations and empirical evidence reviewed in the previous sections, the following hypotheses are proposed:

H1: Perceived academic stress is significantly and negatively associated with subjective well-being among students at Hangzhou City University.

H2: Perceived academic stress significantly predicts subjective well-being among students at Hangzhou City University.

Although subjective well-being comprises three dimensions—life satisfaction, positive affect, and negative affect—this study conceptualizes subjective well-being as a unified multidimensional construct. This approach is consistent with Diener's (1984) theoretical framework, which views subjective well-being as an overall evaluation of individuals' cognitive and affective experiences rather than as three completely independent outcomes.

Accordingly, the present study focuses on examining the overall relationship and predictive effect of perceived academic stress on subjective well-being as a broader psychological outcome. The individual dimensions are reported and analyzed descriptively to provide a more detailed interpretation of the findings; however, the hypotheses are formulated at the construct level in order to maintain consistency with the conceptual framework and the primary objective of the study.

Research Framework

The conceptual framework was developed from the literature on perceived academic stress, subjective well-being, and their theoretical and

empirical relationships, positioning perceived academic stress as the predictor and subjective well-being as the outcome variable.

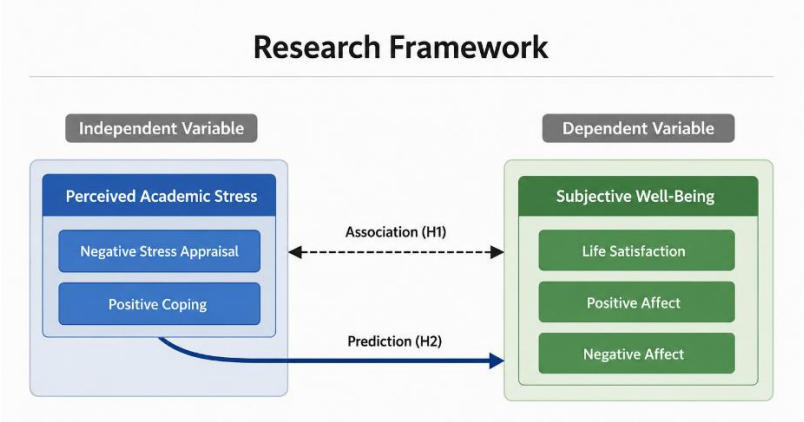


Figure 1 : Conceptual Framework

Methodology

1. Research Design: This study employs a quantitative correlational predictive research design. This design is appropriate for examining the statistical relationship and predictive influence of perceived academic stress on students' subjective well-being without manipulating any variables. The selected research methods aim to provide empirical evidence for education administrators in designing student support policies and workload management systems.

2. Population: The target population consists of full-time undergraduate students from Hangzhou City University. A stratified random sampling method was adopted based on gender (male or female) and grade level (freshmen to seniors). The inclusion criteria include: 1) full-time undergraduate enrollment in Hangzhou City University, 2) willingness to provide informed consent. The exclusion criteria in this study include: (1) exchange students, (2) part-time students, (3) graduate students, (4) students with incomplete enrollment information, and (5) students currently receiving treatment for severe psychiatric conditions. These inclusion and exclusion criteria were established to ensure that the sample accurately represented full-time undergraduate students at Hangzhou City University and aligned with the objectives of the present study.

3. Sample: As the most recent data indicates, the total number of undergraduate students in the university is 10,000. Using G*Power software, the minimum required sample size is 385 participants (effect size $f^2 = 0.15$, $\alpha = 0.05$,

statistical power = 0.95) (Kang, 2021). Considering potential attrition and incomplete responses, the final sample size is set of 420 participants.

The student population was first classified into strata based on gender and academic year (freshman, sophomore, junior, and senior). The proportion of students in each stratum was determined according to university enrollment records. Participants were then randomly selected from each stratum using proportional stratified random sampling to ensure adequate representation across gender and grade levels.

4. The research instrument. Established Chinese versions of PSS-10, SWLS, and PANAS were employed. Content validity was confirmed by three experts (IOC = .67–1.00), and reliability coefficients ranged from .875 to .936.

Although the instruments demonstrated satisfactory validity and reliability, all variables in this study were measured using self-report questionnaires. Therefore, responses may have been influenced by social desirability bias and individual differences in subjective interpretation. These potential limitations should be considered when interpreting the findings.

5. Data Collection: The study received ethical approval from the university's ethics review committee to ensure compliance with research ethics and data safety. Participants provided voluntary informed consent and had the right to withdraw at any time. No personal data was collected, and no incentives were offered. Data were collected via Wenjuanxing, a widely used and reputable online survey platform in China, and disseminated through WeChat, QQ, email, and other social media channels. To enhance data quality, the online questionnaire was configured to allow only one submission per participant account, required completion of all mandatory items before submission, and automatically screened for incomplete responses. Questionnaires with substantial missing data or obvious response patterns indicating inattentive responding were excluded from the final analysis.

6. Data Analysis: Data were analyzed using statistical software for baseline data of respondents, and descriptive statistics were used to summarize demographic information and assess perceived academic stress levels. Negative stress assessment (NSA) and positive coping (PC) and mental well-being, including life satisfaction (SWLS), positive mood (PA), and negative mood (NA), were

evaluated. Pearson correlation analysis (r) was used to examine the relationship between NSA and PC with SWLS, PA, and NA (H1). To test predictive effects (H2), multiple strata regression analysis was used. Control variables (gender and strata) were entered in Model 1, followed by NSA and PC in Model 2. Separate models were analyzed for SWLS, PA, and NA. Results were interpreted using R^2, ΔR^2, F-statistics, and standardized regression coefficients (β). The research findings were synthesized to develop practical recommendations for educational administrators.

Results

1. Analysis of Respondent Data: A total of 420 questionnaires were distributed, and 398 were correctly completed. The final sample size exceeded the minimum requirement of 385 people, as analyzed using G*Power software. The sample consisted of 398 undergraduate students, with a balanced distribution across academic years. The proportion of first-year students (22.6%), second-year students (26.4%), third-year students (26.1%), and fourth-year students (24.9%) was almost equal. In terms of gender, 62% of participants were female, and 37.9% were male. Overall, the sample reflected a balanced representation in terms of educational level, although there were more women than men, consistent with demographic characteristics. Furthermore, Pearson correlation coefficients and multiple regression analysis (α = 0.05) revealed that students had low levels of perceived academic stress, both in negative stress assessments (NSA) and positive coping (PC). Conversely, life satisfaction (SWLS) was very high, while positive mood (PA) and negative mood (NA) were at moderate levels. This indicates that students generally enjoy good health despite their high academic workload.

2. Correlation Analysis (H1)

To examine Hypothesis 1, Pearson correlation analysis was conducted to determine the relationships between perceived academic stress dimensions and components of subjective well-being. The results are presented in Table 1.

Table 1 Pearson Correlation Coefficients between Perceived Academic Stress Dimensions and Subjective Well-Being Components

Perceived Academic Stress Dimensions	SWLS	PA	NA
Negative Stress Appraisal (NSA)	-0.586***	-0.507***	0.666***
Positive Coping (PC)	0.540***	0.578***	-0.477***

Note ： SWLS = Satisfaction with Life Scale; PA = Positive Affect; NA = Negative Affect. ***p* < .001.

NSA was negatively associated with SWLS and PA but positively associated with NA. PC showed the opposite pattern. All correlations were statistically significant ($p < .001$).

3. Regression Analysis (H2)

To examine Hypothesis 2, hierarchical multiple regression analysis was performed to assess the predictive effects of perceived academic stress on subjective well-being after controlling for demographic variables. Gender and grade level were entered as control variables in Model 1, followed by the perceived academic stress dimensions in Model 2. This procedure enabled the assessment of the additional variance explained (ΔR^2) by the main predictors. The results of Model 1 are presented in Table 2, while the full hierarchical regression model is reported in Table 3. Table 4 summarizes the standardized regression coefficients of the predictors, and Table 5 presents the incremental variance explained by the hierarchical models.

Table 2 Regression Results of Control Variables on Components of Subjective Well-Being (Model 1)

Dependent Variable	**R^2**	**F**	**Sig.**	**Predictor**	**B**	**β**	**t**	**Sig.**
SWLS	0.061	12.809	.000	Gender	-2.582	-0.170	-3.496	.001
				Grade level	-1.202	-0.179	-3.670	.000
PA	0.025	5.017	.007	Gender	-1.127	-0.058	-1.175	.241
				Grade level	-1.251	-0.146	-2.945	.003

NA	0.060	12.613	.000	Gender	3.420	0.171	3.504	.001
				Grade level	1.561	0.176	3.608	.000

Gender and grade level explained only a small proportion of variance in well-being outcomes.

Table 3 Hierarchical Multiple Regression Results of Perceived Academic Stress on Subjective Well-Being (Model 2)

Dependent Variable	R^2	ΔR^2	F	Sig.	Predictor	B	β	t	Sig.
SWLS	0.479	0.418	90.240	.000	Gender	-1.522	-0.100	-2.739	.006
					Grade level	-0.521	-0.078	-2.103	.036
					NSA	-0.503	-0.426	-10.729	.000
					PC	0.617	0.367	9.341	.000
PA	0.435	0.411	75.781	.000	Gender	0.104	0.005	0.141	.888
					Grade level	-0.427	-0.050	-1.301	.194
					NSA	-0.500	-0.333	-8.053	.000
					PC	0.962	0.449	10.981	.000
NA	0.517	0.457	105.107	.000	Gender	1.857	0.093	2.629	.009
					Grade level	0.603	0.068	1.914	.056
					NSA	0.854	0.548	14.333	.000
					PC	-0.578	-0.260	-6.880	.000

Both NSA and PC significantly predicted all well-being dimensions. The model explained 43.5–51.7% of variance.

Conclusion: The findings confirm that perceived academic stress significantly influences subjective well-being. Importantly, the dual dimensions

of stress highlight the importance of reducing negative appraisal and strengthening coping capacity to promote student well-being in higher education contexts.

Discussion

1. Perceived Academic Stress Among Students (RQ1) The findings revealed that undergraduate students experienced a moderate level of perceived academic stress. This result is consistent with previous studies indicating that academic stress is a common experience among university students and is often associated with academic demands, performance expectations, and future career concerns (Misra & McKean, 2000; Bedewy & Gabriel, 2015). The moderate stress level observed in the present study suggests that although students encounter considerable academic challenges, they may possess sufficient coping resources to manage these demands effectively.

The findings also support the Transactional Model of Stress proposed by Lazarus and Folkman (1984), which emphasizes that stress is influenced not only by external demands but also by individuals' cognitive appraisal and coping processes. Compared with findings reported in some highly competitive academic environments, the stress levels observed in this study were relatively moderate. This difference may reflect variations in institutional support systems, learning environments, and student access to academic and psychological support services. Such contextual factors may contribute to students' ability to perceive academic demands as manageable rather than overwhelming.

2. Relationship between Academic Stress and Subjective Well-Being (H1) The results demonstrated significant relationships between perceived academic stress and all components of subjective well-being. Negative Stress Appraisal (NSA) was associated with lower life satisfaction and positive affect, and higher negative affect, whereas Positive Coping (PC) was associated with the opposite pattern. These findings support Hypothesis 1 and are consistent with previous research indicating that academic stress is negatively associated with students' well-being (Diener et al., 1999; Cheng & Lin, 2023).

The findings further extend previous evidence by demonstrating that both the cognitive component of well-being (life satisfaction) and the affective

components of well-being (positive and negative affect) are associated with stress-related processes. In particular, the stronger association between NSA and negative affect suggests that students' interpretations of academic demands may play an important role in shaping their emotional experiences. This observation is consistent with the Transactional Model of Stress, which proposes that psychological outcomes are influenced by individuals' appraisal of stressful situations rather than by objective demands alone (Lazarus & Folkman, 1984).

Compared with some previous studies that reported relatively modest associations between academic stress and well-being, the relationships observed in the present study were comparatively strong. One possible explanation is that Chinese university students often face intense academic competition and high expectations regarding future employment, which may increase the psychological significance of academic stress and strengthen its association with subjective well-being.

3. Predictive Effects of Academic Stress on Subjective Well-Being (H2)

The hierarchical regression analyses revealed that perceived academic stress significantly predicted all components of subjective well-being after controlling for demographic variables. The inclusion of academic stress dimensions substantially increased the explained variance across the outcome variables (ΔR^2 = 0.411–0.457), indicating that academic stress contributed meaningfully to the prediction of students' well-being. These findings support Hypothesis 2 and are consistent with previous studies emphasizing the important roles of stress appraisal and coping processes in psychological adjustment (Folkman & Moskowitz, 2004; Park, 2004).

The results further suggest that Negative Stress Appraisal (NSA) functions as a risk factor, particularly for negative affect, whereas Positive Coping (PC) operates as a protective factor that promotes life satisfaction and positive affect. These findings are consistent with theoretical perspectives that emphasize the dual influence of cognitive appraisal and coping resources on psychological outcomes. Importantly, the relatively large increases in explained variance observed in this study indicate that perceived academic stress may be a particularly influential factor in understanding students' subjective well-being within the present context.

While the findings are generally consistent with previous research, the predictive power observed in this study appears somewhat stronger than that reported in several earlier investigations. This difference may reflect contextual characteristics of the study population, including academic competition, performance expectations, and career-related pressures commonly experienced by university students in China. Such factors may intensify the impact of academic stress on well-being outcomes and help explain the substantial proportion of variance accounted for by the regression models.

Recommendation

1. Recommendations for Practice

Based on the findings, universities should prioritize the early identification of students experiencing high levels of academic stress. Regular screening and monitoring systems should be established to assess both academic stress and subjective well-being, enabling timely support for students who may be at risk of psychological difficulties.

Second, universities should implement targeted intervention programs aimed at strengthening students' coping capacities. Given the significant protective role of Positive Coping (PC) identified in this study, structured programs focusing on stress management, cognitive reappraisal, emotional regulation, time management, and resilience development are recommended. Such interventions may be delivered through workshops, counseling-based group programs, or integrated well-being courses.

Third, universities should strengthen institutional support systems by reviewing academic workload policies, enhancing academic advising services, and expanding access to counseling resources. Flexible learning arrangements and proactive faculty support may further contribute to reducing students' negative stress appraisal and promoting psychological well-being.

2. Recommendations for Future Research

Future research should investigate additional factors that may influence students' subjective well-being, including social support, personality characteristics, academic engagement, and learning environment variables. Longitudinal research designs are recommended to examine causal relationships

and changes in stress and well-being over time. Furthermore, qualitative studies using interviews or focus groups may provide deeper insights into how students perceive academic stress and develop coping strategies within different educational contexts.

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