Level of Stress, Coping Strategies and Academic Achievement of College Students during HyFlex Learning

Nível de estresse, estratégias de enfrentamento e desempenho acadêmico de estudantes universitários durante o Aprendizado HyFlex

MORENTO, Ivy Pearl[1], SAYSON, Analyn[2], URSAL, Gaile[3], CAINGCOY, Manuel[4]

(1) 0009-0008-5479-6637, Bukidnon State University, Malaybalay City, 8700, Philippines
(2) 0009-0009-5699-1943, Bukidnon State University, Malaybalay City, 8700, Philippines
(3) 0009-0002-1499-5005, Bukidnon State University, Malaybalay City, 8700, Philippines
(4) 0000-0002-3862-1561, Bukidnon State University, Malaybalay City, 8700, Philippines,
manuelcaingcoy@buksu.edu.ph

The content expressed in this article is the sole responsibility of its authors.

A B S T R A C T

Effective stress management strategies correlate with improved academic performance in college students, yet inconsistent findings in existing research warrant further investigation. This study explored the intricate interplay between stress levels, coping strategies, and academic achievement in HyFlex learning environments. A stratified random sample of 111 students from five specializations within the Bachelor of Secondary Education program participated. Utilizing a descriptive-correlational design, data were collected through validated self-report questionnaires and a weighted general average. Subsequent descriptive statistics and bivariate correlation analysis revealed moderate stress levels among participants who preferred task-oriented coping strategies. Interestingly, a significant positive association was observed between stress levels and academic achievement and emotion-oriented coping strategies, while a negative correlation emerged between stress and task-oriented coping strategies. Avoidance-oriented coping strategies, conversely, displayed a significant negative association with academic success. These findings underscore the crucial role of educational institutions in providing robust support mechanisms for stress management and cultivating a task-focused learning environment to optimize student well-being and academic performance within the HyFlex model.

RESUMO

Estratégias eficazes de manejo do estresse correlacionam-se com melhor desempenho acadêmico em estudantes universitários, mas achados inconsistentes em pesquisas existentes justificam investigações adicionais. Este estudo explorou a complexa interação entre níveis de estresse, mecanismos de enfrentamento e desempenho acadêmico no contexto da aprendizagem HyFlex. Uma amostra aleatória estratificada de 111 estudantes de cinco especializações do curso de Licenciatura em Ensino Médio participou do estudo. Utilizando um desenho descritivo-correlacional, os dados foram coletados por meio de questionários autopreenchidos validados e uma média geral ponderada. A análise subsequente empregando estatísticas descritivas e análise de correlação bivariada revelou níveis moderados de estresse entre os participantes, com preferência por estratégias de enfrentamento orientadas para a tarefa. Curiosamente, foi observada uma associação positiva significativa entre níveis de estresse e ambos o desempenho acadêmico e o enfrentamento orientado para a emoção, enquanto uma correlação negativa emergiu entre estresse e enfrentamento orientado para a tarefa. O enfrentamento orientado para a evitação, por sua vez, apresentou uma associação negativa significativa com o sucesso acadêmico. Esses achados ressaltam o papel crucial das instituições de ensino em fornecer mecanismos robustos de apoio para o gerenciamento do estresse e cultivar um ambiente de aprendizagem focado na tarefa para otimizar o bem-estar e o desempenho acadêmico dos estudantes no modelo HyFlex.

Introduction

Recent years have witnessed a surging interest in HyFlex (hybrid flexible) learning, a blend of traditional blended learning and enhanced flexibility (Kohnke et al., 2021). HyFlex empowers students to choose their preferred participation mode (in-person, online, or both) and offers an array of instructional delivery options, including self-directed learning (Beatty, 2019; Liu et al., 2019). Despite its rising popularity, particularly during the pandemic, HyFlex's impact on student stress, coping mechanisms, and academic achievement remains largely unclear. Stress arises when individuals perceive a lack of resources to meet environmental demands, potentially impacting their well-being (Bauduin, 2022). Students at different academic levels encounter diverse stressors related to learning demands and personal circumstances (Esia-Donkoh et al., 2011). The COVID-19 pandemic and subsequent shift to HyFlex learning have exposed college students to moderate to high-stress levels (AlHadi et al., 2021). Adapting to novel learning methods, unfamiliar technology, and reduced social interactions may further exacerbate this stress (König et al., 2020).

Coping strategies are the behavioral or cognitive approaches we employ to manage or adapt our responses to challenging or stressful situations (Yousif et al., 2022). Endler and Parker (1994) identified three main types: task-oriented, emotion-oriented, and avoidance-oriented. Task-oriented coping, also known as problem-focused coping (Feyisa et al., 2022), involves actively addressing and resolving stressors. Emotion-oriented coping seeks to regulate emotions in response to stress, while avoidance-oriented coping focuses on escaping or avoiding stressful situations altogether. These strategies can be either adaptive or maladaptive (Brown et al., 2005; McWilliams et al., 2003), leading to positive or negative outcomes, respectively. Notably, Logan (2022) found that students in Hybrid learning during the COVID-19 pandemic favored adaptive coping strategies over maladaptive ones. Moreover, research suggests that emotion-oriented and avoidance-oriented coping can lead to unfavorable outcomes (Higgins & Endler, 1995), with behavioral avoidance coping specifically linked to higher levels of distress (Gustems-Carnicer et al., 2013).

The transactional theory of stress and coping offers a powerful lens for understanding the intricate dance between stress and how we cope with it. At its core, this theory posits that stress arises from the dynamic interplay between individuals and their environment, prompting us to employ coping strategies to manage perceived stressors (Lazarus & Folkman, 1984).

Interestingly, even when coping strategies don't fully neutralize the stressor, Baqutayan (2015) found that individuals still engage in some form of coping. This highlights the inherent human desire to manage stress, even if the chosen mechanism isn't perfectly effective. Furthermore, Thompson et al. (2022) observed that under increased stress, students tend to gravitate towards more effective coping strategies. This suggests that stress itself can act as a

catalyst for adaptive behavior, potentially prompting us to seek out healthier ways to manage the pressure. These findings underscore the crucial role of understanding coping processes within the context of stress. They also emphasize the importance of fostering adaptive coping strategies, as they hold immense potential to mitigate stress and promote overall well-being (Crego et al., 2016).

Studies paint a clear picture: high-stress levels can be a formidable nemesis for academic success. Research by Crego et al. (2016), Dikmen (2022), and Malik et al. (2021) all reveal a significant negative correlation, highlighting the importance of keeping stress at bay for students aiming for academic heights. Similarly, Gustems-Carnicer et al. (2019) underscore that students who actively confront challenges head-on through task-oriented coping strategies tend to reap better academic rewards compared to those who retreat into avoidance.

However, not all the chapters in this story align perfectly. Conflicting findings from Basith (2021) and Shokeen (2018) inject a note of caution, suggesting that the intricate interplay between stress, coping strategies, and academic performance warrants further investigation. This complex dance between stress, coping, and academic achievement calls for further exploration. Delving deeper into this dynamic and understanding the nuances of effective coping strategies can equip students and educators with invaluable tools to navigate the pressure-filled world of academia and foster a thriving learning environment where stress doesn't overshadow student potential.

As the HyFlex model takes center stage in higher education, understanding how it impacts students' stress levels, coping mechanisms and academic performance becomes crucial. This dynamic learning environment presents both opportunities and challenges for students to manage their workload and responsibilities (Lohmann et al., 2021; Mobo et al., 2022; Nõuakas et al., 2023). Navigating this landscape often requires the development of effective coping strategies to thrive.

This study embarks on a journey to shed light on these crucial aspects of HyFlex learning. We aim to delve into the stress levels and coping strategies employed by college students within this model. Furthermore, we seek to unravel the intricate relationship between their stress, coping mechanisms, and academic achievement. By contributing to the existing tapestry of knowledge on HyFlex, this research aspires to 1) design effective interventions; and 2) shape HyFlex course design. Specifically, our findings hold the potential to inform the development of targeted support systems that bolster college students' well-being and academic success within the HyFlex environment. The insights gleaned from this study can contribute to the creation of HyFlex courses that better cater to students' needs and foster a thriving learning ecosystem.

Moreover, understanding the intricate relationship between stress, coping, and academic success in the context of HyFlex learning can equip students and educators with invaluable tools. By demystifying this dynamic ecosystem, we can pave the way for a future

where HyFlex empowers students to flourish, not flounder, amidst the unique challenges and opportunities it presents.

These questions guided the investigation of the problem: 1) To what extent do college students experience stress during HyFlex learning environments? 2) Which coping strategies do college students employ in HyFlex learning? and 3) Do significant relationships exist between college students' extent of experienced stress, coping strategies (task-oriented, emotion-oriented, and avoidance-oriented), and academic achievement in HyFlex learning?

Methods

This study dives into the uncharted territory of HyFlex learning, wielding a descriptive correlational design (Sousa et al., 2007) like a magnifying glass to examine the natural relationships between key variables. Unraveling a complex case, the researchers embarked on a mission to understand how students' stress levels, coping strategies, and academic achievement relate to each other within this dynamic educational environment.

A total of 111 first-year Bachelor of Secondary Education students at Bukidnon State University participated in this study. Enrolled in HyFlex learning system during the 2022-2023 academic year's first semester, these students represented five major fields: English (n=29), Filipino (n=10), Mathematics (n=22), Science (n=27), and Social Studies (n=23). To ensure proportional representation from each major within the larger population of 153 students, the researchers employed stratified random sampling (Cochran, 1977). This involved dividing the population into five strata based on major and then selecting participants from each stratum using simple random sampling in proportion to its size. This approach effectively ensured adequate representation of each major in the final sample.

Table 1.

The Academic Achievement Profiles of the Participants are as follows:

GWA Range	Frequency	Percentage
1.00−1.24	0	0%
1.25−1.49	35	32%
1.50−1.74	50	45%
1.75−1.99	23	21%
2.00−2.24	3	3%
2.25-2.49	0	0%
2.50-2.74	0	0%
2.75-2.99	0	0%
3.00	0	0%
5.00	0	0%

To assess stress levels and coping strategies among participants, this study employed the Perceived Stress Scale (PSS) by Cohen et al. (1983) and the Coping Inventory for Stressful

Situations (CISS) by Endler and Parker (1990). Additionally, with student consent, academic achievement was evaluated by requesting their general weighted average (GWA) from the University Registrar.

Widely recognized as the gold standard for measuring perceived stress, the Perceived Stress Scale (PSS) by Cohen et al. (1983) assesses how individuals view the stressfulness of their life situations. This 10-question instrument gauges individual perceptions of their lives as unpredictable, uncontrollable, and overwhelming, translating into a current stress level score. Lauded for its superior psychometric properties and recommended for future research (Lee, 2012), the PSS focuses on emotions and experiences reported within the past month. Using a five-point scale ("never" to "very often"), participants rate the frequency of specific feelings in different scenarios. Scores range from 0 ("never") to 4 ("very often"). Notably, items 4, 5, 7, and 8 are reverse-scored, with 0 reflecting 4, 1 as 3, 2 as 2, 3 as 1, and 4 as 0. The sum of all item scores yields a final PSS-10 score between 0 and 40. Robust empirical validations of the PSS have been conducted with college students worldwide, including in Turkey (Örücü & Demir, 2009), Japan (Mimura & Griffiths, 2004), and the United States (Cohen, 1988; Roberti et al., 2006).

To identify an individual's preferred coping style, this study employed the Coping Inventory for Stressful Situations (CISS) by Endler and Parker (1990). This self-report inventory features 48 items probing three key coping strategies: problem-oriented (16 items), emotion-oriented (16 items), and avoidance-oriented (16 items). Participants rate their agreement with each statement on a five-point Likert scale ranging from "not at all" (1) to "very much" (5), resulting in possible section scores between 16 and 80. Further bolstering its validity and reliability, the CISS has been validated across four studies by Endler and Parker themselves (1994).

Academic achievement, as measured by grade point average (GPA), serves as a performance indicator in educational settings, reflecting how effectively individuals meet specific learning objectives (Steinmayr et al., 2014). In this study, students' general weighted average (GWA) for the first semester of the 2022-2023 academic year represented their academic performance. Bukidnon State University employs a detailed grading system, categorizing academic performance as follows: 1.00 - 1.24: *Excellent*; 1.25 - 1.49: *Outstanding*; 1.50 - 1.74: *Very Highly Satisfactory*; 1.75 - 1.99: *Highly Satisfactory*; 2.00 - 2.24: *Satisfactory*; 2.25 - 2.49: *Moderately Satisfactory*; 2.50 - 2.74: *Less Satisfactory*; 2.75 - 2.99: *Better than Passing*; 3.00: *Passing*; and 5.00: *Failure.*

Before data collection, two standardized questionnaires were administered: The Perceived Stress Scale (PSS) and the Coping Inventory for Stressful Situations (CISS). Each group completed the questionnaires in their designated classrooms, ensuring a convenient and familiar setting. To encourage honest responses, participants were informed that there were no right or wrong answers and were assured of the anonymity of their data. Researchers were

present in each classroom to address any questions or concerns and ensure the smooth administration of the questionnaires. Before inviting participants, the study's objectives were carefully explained in an information session. Additionally, with the students' informed consent, their general weighted averages (GWAs) were obtained from the University Registrar's office.

Descriptive statistics were used to characterize students' stress levels and coping strategies. Stress levels were interpreted according to Cohen et al.'s (1983) mean score ranges: 0-13 as "low stress," 14-26 as "moderate stress," and 27-40 as "high perceived stress." Coping strategies were categorized based on mean and standard deviation ranges: 4.21-5.00 as "always practiced," 3.41-4.20 as "often practiced," and so on.

To investigate potential relationships between these variables, bivariate correlation analysis was employed. This analysis examined the connections between students' stress levels, their use of task-oriented, emotion-oriented, and avoidance-oriented coping strategies, and their academic achievement in HyFlex learning.

To facilitate a direct comparison of scores across measures, the Perceived Stress Scale (PSS) and Coping Inventory for Stressful Situations (CISS) scores were reversed using Microsoft Excel. For CISS, starting at 1, the formula = (maximum score + 1) − (column letter and score) was used (e.g., = 5 + 1 − A2). For PSS, starting at 0, PsyTeachR Team (2021) recommends direct subtraction (e.g., = 4 − A2). This adjusted scoring resulted in higher values, signifying lower perceived stress and more frequent coping strategies.

Pearson's correlation coefficient (r), ranging from -1 to +1, was used to quantify the strength of the association between the two variables. Statistical significance was set at a p-value (p) of .05 or less.

Table 2.
Rules of Thumb about Correlation Coefficient Size

Size of Correlation	Strength of Association
± (.91-1.00)	Very Strong
± (.71-0.90)	High
± (.41-0.70)	Moderate
± (.21-0.40)	Small but definite relationship
± (.10-0.20)	Slight but may be meaningful
± (0.00-0.10)	Unlikely to be a meaningful relationship

Source: Hair et al. (2019)

This study upholds the highest ethical standards in research. Before data collection, the researchers: 1) Informed the college Dean through a formal letter, ensuring institutional awareness and support; 2) Obtained informed consent from all participants. Respondents received a comprehensive document outlining the study's purpose, procedures, and participant rights. Participation was entirely voluntary, and individuals were free to decline at any point, 3) Maintained data confidentiality and security. Collected information was securely stored and anonymized to protect participant privacy.

To gather data related to academic achievement, the researchers: 1) Sent a letter and informed consent form to the office of the University Registrar. This secured permission to access participants' general weighted average (GWA) for the first semester of the 2022-2023 academic year; and 2) Assured participants that their GWA data would only be used for research purposes and remain strictly confidential.

Conducting research ethically not only protects participants but also strengthens the validity and credibility of the findings. This, in turn, contributes to trust in research by participants and the wider community. Also, it contributes to the generation of reliable and generalizable knowledge that can benefit educational practices and student well-being.

Results and Discussion

Table 3 reveals an intriguing picture of college students' perceived stress levels during HyFlex learning. This information answers the first research question. Perceived stress, defined as an individual's subjective experience of stress intensity at a given time or over a period (Phillips, 2013), presents a nuanced picture. One indicator, reflecting how often students felt nervous and stressed, had the highest mean score, suggesting occasional bouts of nervousness and stress during HyFlex sessions.

Table 3.
The Level of Experienced Stress among College Students in HyFlex Learning Environments

Indicators	Mean	SD	Overall Mean	Interpretation
In the last month, how often have you been upset because of something that happened unexpectedly?	2.74	.89		
In the last month, how often have you felt that you were unable to control the important things in your life?	2.60	.87		
In the last month, how often have you felt nervous and stressed?	2.92	1.09		
In the last month, how often have you felt confident about your ability to handle your personal problems?	1.41	.79		
In the last month, how often have you felt that things were going your way?	1.68	.74	22.19	Moderate Stress
In the last month, how often have you found that you could not cope with all the things that you had to do?	2.23	.94		
In the last month, how often have you been able to control irritations in your life?	1.68	.91		
In the last month, how often have you felt that you were on top of things?	1.95	.86		
In the last month, how often have you been angered because of things that happened that were outside of your control?	2.48	.97		
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	2.50	.94		

Note: 0 – 13 (Low stress); 14 - 26 (Moderate stress); 27 – 40 (High stress)

Conversely, the indicator measuring students' confidence in handling personal problems scored lowest, highlighting a potential need for confidence-building strategies. This aligns with Atherton's (2015) argument that academic success thrives on student confidence. Additional support to equip students with confidence in tackling challenges might be beneficial. Overall, the data paint a picture of moderate stress levels, not excessive, during HyFlex learning. This mirrors findings from other studies conducted during the COVID-19 pandemic, where college students reported moderate stress levels as well (AlHadi et al., 2021; Yousif et al., 2022). Nonetheless, educational institutions should remain vigilant and address potential sources of stress specific to HyFlex learning, such as difficulties with focus, motivation, self-discipline, shallow understanding of lessons, and weak self-directed learning skills (Nõuakas et al., 2023). Strategies like mindfulness exercises, workshops, and counseling could prove valuable in mitigating stress and enhancing student well-being (Gallego et al., 2014; Miller et al., 2022; Stevens et al., 2019).

Table 4.1

Task-oriented Coping Strategies Employed by College Students in HyFlex Learning Environments

Indicators	Mean	SD	Interpretation
Schedule my time better.	3.44	.83	Often Practiced
Focus on the problem and see how I can solve it.	3.69	.72	Often Practiced
Do what I think is best.	3.94	.91	Often Practiced
Outline my priorities.	3.50	.83	Often Practiced
Think about how I solved similar problems.	3.60	.75	Often Practiced
Determine a course of action and follow it.	3.51	.79	Often Practiced
Work to understand the situation.	3.41	.98	Often Practiced
Take corrective action immediately.	3.38	.83	Moderately Practiced
Think about the event and learn from my mistakes.	3.76	.93	Often Practiced
Analyze the problem before reacting.	3.55	1.05	Often Practiced
Adjust my priorities.	3.49	.86	Often Practiced
Get control of the situation.	3.48	.81	Often Practiced
Make efforts to get things done.	3.80	.90	Often Practiced
Come up with several different solutions to the problem.	3.60	.80	Often Practiced
Use the situation to prove that I can do it.	3.62	.86	Often Practiced
Try to be organized so I can be on top of the situation.	3.61	.80	Often Practiced
Overall	3.59	0.85	Often Practiced

Table 4.1 delves into college students' preferred coping strategies during HyFlex learning, focusing on task-oriented approaches. As defined by Parker and Endler (1990), these strategies involve problem-solving, cognitive reappraisal, or minimizing stress impact. Among the sixteen items, "do what I think is best" garnered the highest mean score, indicating that students actively manage stress by taking ownership of their learning and making independent

decisions. Conversely, "take corrective action immediately" received the lowest score, suggesting a potential need for further practice in proactively addressing challenges.

Overall, the data reveals a prevalent use of task-oriented coping strategies, implying student autonomy, initiative, and effective stress management. This finding aligns with previous studies by Feyisa et al. (2022), Kariv and Heiman (2005), and Salam et al. (2019), highlighting the common reliance on such strategies. HyFlex learning settings could benefit from interventions that further promote task-oriented coping, potentially enhancing student well-being and academic success.

Table 4.2 sheds light on the emotion-oriented coping strategies employed by college students during HyFlex learning. Defined by Endler and Parker (1990), these strategies involve managing stress through emotional responses like expressing feelings, blaming oneself or others, controlling emotions, or resigning acceptance. Two key findings emerge: 1) Self-blame for procrastination topped the mean scores, suggesting its prevalence among students. This highlights the need for support systems that foster healthier stress management approaches and inform the design of interventions promoting constructive coping mechanisms; and 2) The "take it out on others" indicator score was the lowest, indicating that students generally avoided negative or aggressive behaviors towards others, demonstrating a preference for personal responsibility and respectful conduct.

Table 4.2.

Emotion-oriented Coping Strategies Employed by College Students in HyFlex Learning Environments

Indicators	Mean	SD	Interpretation
Blame myself for procrastinating.	3.78	1.01	Often Practiced
Become preoccupied with aches and pains.	3.26	.89	Moderately Practiced
Blame myself for having gotten into this situation.	3.37	1.17	Moderately Practiced
Feel anxious about not being able to cope.	3.72	.86	Often Practiced
Become very tense.	3.43	.94	Often Practiced
Tell myself that it is really not happening to me.	2.98	.92	Moderately Practiced
Blame myself for being too emotional about the situation.	3.34	1.17	Moderately Practiced
Become very upset.	3.32	1.05	Moderately Practiced
Blame myself for not knowing what to do.	3.07	1.15	Moderately Practiced
"Freeze" and not know what to do.	3.13	1.07	Moderately Practiced
Wish that I could change what had happened or how I felt.	3.60	1.08	Often Practiced
Worry about what I am going to do.	3.50	.91	Often Practiced
Tell myself that it will never happen again.	3.45	1.02	Often Practiced

Focus on my general inadequacy.	3.31	.79	Moderately Practiced
Get angry.	3.12	1.07	Moderately Practiced
Take it out on other people.	2.68	1.18	Moderately Practiced
Overall	3.32	1.02	Moderately Practiced

Overall, students exhibited moderate use of emotion-oriented coping strategies, aligning with Salam et al.'s (2019) observation of these strategies being less common among students. This suggests a potential need for interventions or training that equip students with effective emotional management skills to enhance their learning and performance in the HyFlex environment.

Table 4.3 focuses on avoidance-oriented coping strategies, where individuals escape stress by seeking distraction or social diversions (Endler & Parker, 1990). Two key points emerge: 1) The highest mean score falls on "think about the good times I've had," suggesting that reminiscing about positive memories serves as an effective coping mechanism. This underscores the potential of positive memories to provide comfort, motivation, and inspiration during challenging times; and 2) Conversely, the "go to a party" indicator received the lowest score, revealing that students rarely resort to partying as an avoidance strategy. This echoes the findings of Salam et al. (2019) and aligns with Scott's (2022) assertion that avoidance while offering temporary relief, can be detrimental if relied upon excessively (Pietrangelo, 2020).

Table 4.3

Avoidance-oriented Coping Strategies Employed by College Students in HyFlex Learning Environments

Indicators	Mean	SD	Interpretation
Think about the good times I've had.	3.83	.91	Often Practiced
Try to be with other people.	3.68	.95	Often Practiced
Window shop.	2.85	1.13	Moderately Practiced
Try to go to sleep.	3.74	.95	Often Practiced
Treat myself to a favorite food or snack.	3.81	1.05	Often Practiced
Go out for a snack or meal.	3.51	1.11	Often Practiced
Buy myself something.	3.32	1.04	Moderately Practiced
Go to a party.	2.22	1.29	Seldom Practiced
Visit a friend.	3.12	1.13	Moderately Practiced
I spend time with a special person.	3.19	1.23	Moderately Practiced
Go for a walk.	3.26	1.21	Moderately Practiced
Talk to someone whose advice I value.	3.58	1.04	Often Practiced
Phone a friend.	2.92	1.18	Moderately Practiced
See a movie.	3.19	1.19	Moderately Practiced
Take some time off and get away from the situation.	3.32	.90	Moderately Practiced
Watch TV.	2.82	1.16	Moderately Practiced
Overall	3.27	1.09	Moderately Practiced

Overall, students exhibited limited use of avoidance-oriented coping strategies during HyFlex learning. This suggests that, in this context, they predominantly opted for more productive or constructive ways of managing stress. Tables 4.1, 4.2, and 4.3 answered the second research question above.

Table 5.1 reveals a potentially significant association between college students' extent of stress and their use of task-oriented coping strategies in HyFlex learning. Notably, the data suggests a slight negative correlation, implying that lower stress levels may be associated with a minor increase in the use of task-oriented coping. This aligns with Rossi et al.'s (2023) observation that such strategies, involving constructive problem-solving, can alleviate stress.

As Lenz (2010) highlights, task-oriented coping is often the most effective and preferred choice for students. According to Kariv and Heiman (2005), students tend to adopt a step-by-step approach to stress management, prioritizing task-oriented strategies before turning to other methods. This suggests a focus on directly addressing the stress source before exploring alternative coping mechanisms.

In conclusion, these findings underscore the importance of equipping students with robust task-oriented coping skills. By actively engaging in problem-solving and actively managing stress, students can significantly reduce their stress levels and enhance their overall well-being.

Table 5.1

Pearson r Results Correlating the Extent of Experienced Stress and Task-oriented Coping Strategies Employed by College Students in HyFlex Learning Envirnment.

		Correlation Coefficient	p-value	Relationship	Significance
Extent of Experienced Stress	Task-oriented Coping Strategies	-.364**	.000	Small but definite relationship and Negative	Significant

Notes: Degree of association - ± (.91-1.00) very strong; ± (.71-0.90) high; ± (.41-0.70) moderate; ± (.21-0.40) small but definite relationship; ± (.10-0.20) slight but may be meaningful; ± (0.00-0.10) unlikely to be a meaningful relationship; **significant at p<0.01; significant at *p<0.05

Table 5.2

Pearson r Results Correlating the Extent of Experienced Stress and Emotion-oriented Coping Strategies Employed by College Students in HyFlex Learning Environments

		Correlation Coefficient	p-value	Relationship	Significance
Extent of Experienced Stress	Emotion-oriented Coping Strategies	.486**	.000	Moderate and Positive	Significant

Table 5.2 paints a concerning picture, revealing a moderately positive and significant correlation between college students' extent of experienced stress and their use of emotion-oriented coping strategies. This implies that as stress mounts, students tend to rely more heavily on emotion-focused mechanisms. Such a trend raises concerns about the potential negative consequences of overdependence on these strategies. This finding resonates with Rice et al.'s (2021) observation that students experiencing higher distress exhibited increased reliance on emotion-oriented coping. Turashvili et al. (2013) further elucidate the limitations of this approach, arguing that it may not effectively promote overall psychological well-being.

In light of these insights, the data underscores the urgency for interventions and support systems that encourage a more balanced and diverse toolbox of coping strategies. Equipping students with a comprehensive repertoire for managing stress is crucial for their well-being and academic success.

Table 5.3 throws a curveball, revealing no statistically significant correlation between college students' extent of experienced stress and their use of avoidance-oriented coping strategies during HyFlex learning. This unexpected finding suggests that the amount of stress students experience does not appreciably influence their tendency to evade stressful situations. While the reasons behind this remain unclear, it warrants further exploration in future research. It's important to remember that the broader literature on avoidance-oriented coping paints a less rosy picture. Studies by Boyes (2013) and Scott (2022) warn that relying on such strategies can ironically exacerbate stress in the long run. Overall, this result offers valuable insights into the complex relationship between stress and avoidance-oriented coping in the context of HyFlex learning and paves the way for intriguing future research in this area.

Table 5.3

Pearson r Results Correlating the Extent of Experienced Stress and Avoidance-oriented Coping Strategies Employed by College Students in HyFlex Learning Environments

		Correlation Coefficient	p-value	Relationship	Significance
Extent of Experienced Stress	Avoidance-oriented Coping Strategies	.002	.979	Unlikely to be a meaningful relationship and Positive	Not Significant

Table 5.4 throws a curveball, revealing a small but statistically significant positive correlation between college students' extent of experienced stress and academic achievement. This implies that contrary to common assumptions, higher stress levels might correspond to a mild improvement in academic performance. This finding aligns with research by Shokeen (2018) and Siraj et al. (2014). However, the complexity of this relationship is underscored by

contrasting studies like those of Dikmen (2022), Gustems-Carnicer et al. (2019), and Malik et al. (2021), which found negative associations between stress and academic achievement.

Table 5.4
Pearson r Results Correlating between College Students' Extent of Experienced Stress and their Academic Achievement

		Correlation Coefficient	p-value	Relationship	Significance
Extent of Experienced Stress	Academic Achievement	.250[**]	.008	Small but definite relationship and Positive	Significant

These diverse findings highlight the need for further exploration to fully understand the underlying mechanisms and contextual factors influencing this connection. It's crucial to remember that stress response is highly individual, with what motivates one student potentially overwhelming another. Therefore, future research must integrate individual differences to paint a more nuanced picture of how stress impacts academic performance.

Table 5.5 paints an intriguing picture, suggesting a slight, potentially meaningful negative association between college students' task-oriented coping strategies and their academic achievement in HyFlex learning. While this trend doesn't reach statistical significance, it hints at a possible inverse relationship between actively tackling tasks and academic performance. However, further research is crucial to solidify this connection and unveil its underlying mechanisms.

This finding stands in stark contrast to studies by Abdi Zarrin et al. (2019), Ansarisadr et al. (2022), and Shokri et al. (2007) identified a positive correlation between task-oriented coping and academic success. This discrepancy underscores the complexity and context-dependence of the stress-coping-achievement nexus. Therefore, advancing our understanding necessitates delving deeper into individual differences and exploring alternative explanations for this unexpected association. The HyFlex learning environment itself may introduce unique factors influencing how students engage with challenges and their resulting academic outcomes.

Table 5.5
Pearson r Results Correlating between College Students' Task-oriented Coping Strategies and their Academic Achievement

		Correlation Coefficient	p-value	Relationship	Significance
Task-oriented Coping Strategies	Academic Achievement	-.118	.219	Slight but maybe meaningful and Negative	Not Significant

Table 5.6
Pearson r Results Correlating between College Students' Emotion-oriented Coping Strategies and their Academic Achievement

		Correlation Coefficient	p-value	Relationship	Significance
Emotion-oriented Coping Strategies	Academic Achievement	-.064	.507	Unlikely to be a meaningful relationship and Negative	Not Significant

Table 5.6 throws a curveball, suggesting no statistically significant relationship between college students' emotion-oriented coping and their academic achievement in HyFlex learning. This echoes Abdi Zarrin et al.'s (2019) findings, further adding to the complexity of this connection. While this null association may suggest a negligible link, it's important to remember the broader implications of emotion-oriented coping. Rice et al. (2021) highlight that increased distress correlates with reliance on such strategies, potentially hindering learning success. This underscores the significance of fostering effective coping mechanisms for both academic achievement and student well-being. Therefore, implementing interventions that equip students with healthy emotion-oriented coping skills holds promise for a win-win outcome: improved academic performance alongside enhanced emotional well-being.

Table 5.7
Pearson r Results Correlating between College Students' Avoidance-oriented Coping Strategies and their Academic Achievement

		Coefficient Coefficient	p-value	Relationship	Significance
Avoidance-oriented Coping Strategies	Academic Achievement	-.201[*]	.034	Slight but may be meaningful and Negative	Significant

Table 5.7 paints a concerning picture, revealing a significant negative correlation between college students' reliance on avoidance-oriented coping and their academic achievement. This implies a meaningful connection: higher levels of avoidance-oriented coping are linked to lower academic performance. Students who heavily rely on these strategies may be at risk of reduced academic success.

This finding aligns with previous research by Ansarisadr et al. (2022) and Gustems-Carnicer et al. (2019), who identified a similar negative association. This suggests that avoidance-oriented coping strategies, while offering temporary relief, might hinder academic achievement in the long run. Therefore, educators should prioritize equipping students with healthier and more effective coping strategies to manage stress and navigate academic challenges. By promoting constructive approaches to stress management, colleges and

universities can foster an environment that nurtures higher levels of academic success. To sum up, tables 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, and 5.7 provide answers to the third research question.

Conclusion

This study explored the interplay between perceived stress, coping strategies, and academic achievement in HyFlex learning. Students reported moderate stress levels and favored task-oriented coping strategies, with emotion-oriented and avoidance-oriented approaches used less frequently. Notably, the students achieved exceptional academic performance, evidenced by a "very highly satisfactory" general weighted average (GWA). The findings revealed several intriguing relationships:

1) An inverse correlation emerged between stress levels and task-oriented coping, suggesting that higher utilization of task-oriented strategies coincided with lower stress;

2) A surprising positive correlation linked stress levels with academic achievement, implying that students may perform better under moderate stress;

3) A positive association was found between stress and emotion-oriented coping, indicating that students experiencing greater stress relied more heavily on emotional coping mechanisms; and

4) Lastly, a negative correlation emerged between avoidance-oriented coping and academic achievement, suggesting that minimizing avoidance behaviors was associated with higher academic performance.

These findings offer valuable insights into the complex interplay between stress, coping strategies, and academic success in the HyFlex learning environment. Further research is needed to delve deeper into the underlying mechanisms driving these relationships and explore their potential implications for educational practices.

Given these findings, empowering students in HyFlex learning with task-oriented coping strategies presents a promising path to managing stress and boosting academic achievement. Educators and administrators could consider integrating training or support programs specifically focused on developing these skills. Notably, the study suggests that a moderate level of stress may even be beneficial for academic performance. However, excessive stress can be detrimental to student well-being, making balance crucial. While emotion-oriented and avoidance-oriented coping strategies may offer temporary relief, their ineffectiveness in alleviating stress and promoting long-term academic success underscores the importance of prioritizing effective stress management tools in the HyFlex environment.

Although acknowledging three limitations is commendable, consider restructuring the limitations section for improved flow and conciseness. You could merge the first two limitations into one:

1) Firstly, the study's focus on HyFlex learning limits its generalizability to other contexts. Additionally, self-reported data introduces potential social desirability bias, impacting data accuracy; and

2) Secondly, the sample's restriction to first-year students prevents it from fully representing the broader college population.

Despite these limitations, the study significantly contributes to our understanding of stress, coping mechanisms, and academic achievement in HyFlex learning, offering valuable insights for both educators and researchers. Moving forward, future research should incorporate diverse student populations beyond first-year students to enhance representativeness. Examining the long-term effects of coping strategies on student well-being and academic success within HyFlex environments is also crucial for solidifying these findings and informing effective interventions.

REFERENCES

Abdi Zarrin, S., Nori, T., & Ghasemi, N. (2019). Academic achievement: The role of stress-coping styles and academic procrastination. *Educational Researches, 14*(59), 137-156.

AlHadi, A. N., & Alhuwaydi, A. M. (2021). The mental health impact of pandemic COVID-19 crisis on university students in Saudi Arabia and associated factors. *Journal of American College Health*, 1-9. https://doi.org/10.1080/07448481.2021.1947839

Ansarisadr, A., & Shirazi, M. (2022). Relationship between stress coping styles and causal attribution with academic achievement in student. *Journal of Educational Psychology Studies, 19*(45), 27-14. https://jeps.usb.ac.ir/article_6994.html

Atherton, M. (2015). Measuring confidence levels of male and female students in open access enabling courses. *Issues in Educational Research, 25*(2), 81-98. https://search.informit.org/doi/10.3316/informit.376539213601437

Baqutayan, S. M. S. (2015). Stress and coping mechanisms: A historical overview. *Mediterranean Journal of Social Sciences, 6*(2 S1), 479. https://doi.org/10.5901/mjss.2015.v6n2s1p479

Basith, A., Syahputra, A., Fitriyadi, S., Rosmaiyadi, R., Fitri, F., & Neni Triani, S. (2021). Academic Stress and Coping Strategy in Relation to Academic Achievement. *Jurnal Cakrawala Pendidikan, 40*(2), 292–304. https://doi.org/10.21831/cp.v40i2.37155

Bauduin, S. E. E. C. (2022). *Stressed-out stress systems: dysregulated stress-systems in the pathophysiology of stress-related disorders*. Leiden University.

Beatty, B. (2019). *Hybrid-flexible course design*. EdTech Books.

Boyes, A. (2013). *Avoidance Coping*. Psychology Today.

Brown, S. P., Westbrook, R. A., & Challagalla, G. (2005). Good Cope, Bad Cope: Adaptive and Maladaptive Coping Strategies Following a Critical Negative Work Event. *Journal of Applied Psychology, 90*(4), 792–798. https://doi.org/10.1037/0021-9010.90.4.792

Cochran, W. G. (1977). *Sampling techniques (3rd ed.)*. Wiley.

Cohen, S. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health (pp. 31–67)*. Sage Publications, Inc.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. *Journal of Health and Social Behavior, 24*(4), 385. https://doi.org/10.2307/2136404

Crego, A., Carrillo-Diaz, M., Armfield, J. M., & Romero, M. (2016). Stress and academic performance in dental students: the role of coping strategies and examination-related self-efficacy. *Journal of Dental Education, 80*(2), 165-172. https://doi.org/10.1002/j.0022-0337.2016.80.2.tb06072.x

Dikmen, M. (2022). Mindfulness, Problem-solving Skills and Academic Achievement: Do Perceived Stress Levels Matter?. *Journal of Theoretical Educational Science, 15*(1), 42-63. https://doi.org/10.30831/akukeg.945678

Endler, N., & Parker, J.D.A. (1990). Multidimensional assessment of coping: A critical evaluation. *Journal of Personality and Social Psychology, 58*(5), 844–854.

Endler, N.S., & Parker, J.D.A. (1990). *Coping Inventory for Stressful Situations (CISS): Manual*. Multi-Health Systems.

Endler, N. S., & Parker, J.D.A. (1994). Assessment of multidimensional coping: Task, emotion, and avoidance strategies. *Psychological Assessment, 6*(1), 50. https://doi.org/10.1037/1040-3590.6.1.50

Esia-Donkoh, K., & Yelkpieri, D. (2011). Coping with Stress: Strategies Adopted by Students at the Winneba Campus of University of Education, Winneba, Ghana. *Online Submission. US-China Education Review, 2*, 290-299.

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

Gallego, J., Aguilar-Parra, J. M., Cangas, A. J., Langer, L. I., & Mañas, I. (2014). Effect of a Mindfulness Program on Stress, Anxiety and Depression in University Students. *The Spanish Journal of Psychology, 17*. https://doi.org/10.1017/sjp.2014.102

Gustems-Carnicer, J., Calderón, C., & Calderón-Garrido, D. (2019). Stress, coping strategies and academic achievement in teacher education students. *European Journal of Teacher Education, 42*(3), 375-390. https://doi.org/10.1080/02619768.2019.1576629

Hair Jr, J., Page, M., & Brunsveld, N. (2019). *Essentials of business research methods*. Routledge.

Higgins, J. E., & Endler, N. S. (1995). Coping, life stress, and psychological and somatic distress. *European Journal of Personality, 9*(4), 253-270. https://doi.org/10.1002/per.2410090403

Kariv, D., & Heiman, T. (2005). Task-oriented versus emotion-oriented coping strategies: The case of college students. *College Student Journal, 39*(1). https://www.redorbit.com/news/health/141147

Kohnke, L., & Moorhouse, B. L. (2021). Adopting HyFlex in higher education in response to COVID-19: students' perspectives. *Open Learning: The Journal of Open, Distance and e-Learning, 36*(3), 231-244. https://doi.org/10.1080/02680513.2021.1906641

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. *European journal of Teacher Education, 43*(4), 608-622. https://doi.org/10.1080/02619768.2020.1809650

Lazarus, R., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.

Lee, E. H. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian nursing research, 6*(4), 121-127. https://doi.org/10.1016/j.anr.2012.08.004

Lenz, S. (2010). Exploring College Students' Perception of the Effectiveness of Their Coping Styles for Dealing with Stress. *LOGOS: A Journal of Undergraduate Research*, 3.

Liu, C. Y. A., & Rodriguez, R. C. (2019). Evaluation of the impact of the Hyflex learning model. *International Journal of Innovation and Learning, 25*(4), 393-411.

Logan, S. (2022). Perceived Stress and Coping Strategies in Entry-Level Doctor of Physical Therapy Students Enrolled in a Hybrid-Learning Curriculum during the Pandemic. *Open Journal of Medical Psychology, 11*(02), 57–71. https://doi.org/10.4236/ojmp.2022.112005

Lohmann, M. J., Randolph, K. M., & Oh, J. H. (2021). Classroom Management Strategies for Hyflex Instruction: Setting Students Up for Success in the Hybrid Environment. *Early Childhood Education Journal, 49*(5), 807-814. https://doi.org/10.1007/s10643-021-01201-5

Malik, M., & Javed, S. (2021). Perceived stress among university students in Oman during COVID-19-induced e-learning. *Middle East Current Psychiatry, 28*(1), https://doi.org/10.1186/s43045-021-00131-7

McWilliams, L. A., Cox, B. J., & Enns, M. W. (2003). Use of the Coping Inventory for Stressful Situations in a clinically depressed sample: Factor structure, personality correlates, and prediction of distress 1. *Journal of Clinical Psychology, 59*(12), 1371-1385. https://doi.org/10.1002/jclp.10228

Miller, M. K., Finkel, J. P., Marcus, B. N., Burgin, E., Prosek, E. A., Crace, R. K., & Bravo, A. J. (2022). Efficacy of a university offered mindfulness training on perceived stress.

Journal of Counseling & Development, 100(3), 278-283. https://doi.org/10.1002/jcad.12421

Mimura, C., & Griffiths, P. (2004). A Japanese version of the perceived stress scale: translation and preliminary test. *International journal of Nursing Studies, 41*(4), 379-385. https://doi.org/10.1016/j.ijnurstu.2003.10.009

Mobo, F. D., Garcia, A. L. R., & Talosig, J. C. (2022). Challenges in Hyflex Learning in Zambales, Philippines. *International Journal of Multidisciplinary: Applied Business and Education Research, 3* (10), 2150–2153. http://dx.doi.org/10.11594/ijmaber.03.10.27

Nõuakas, K., Petjärv, B., Labanova, O., Retšnoi, V., Uukkivi, A. (2023). Challenges of Hybrid Flexible (HyFlex) Learning on the Example of a University of Applied Sciences. *Auer, M.E., Pachatz, W., Rüütmann, T. Learning in the Age of Digital and Green Transition. ICL 2022. Lecture Notes in Networks and Systems, vol 633.* Springer. https://doi.org/10.1007/978-3-031-26876-2_24

Örücü, M. Ç., & Demir, A. (2009). Psychometric evaluation of perceived stress scale for Turkish university students. *Stress and Health: Journal of the International Society for the Investigation of Stress, 25*(1), 103-109. https://doi.org/10.1002/smi.1218

Phillips, A.C. (2013). Perceived Stress. In: *Gellman, M.D., Turner, J.R. (eds) Encyclopedia of Behavioral Medicine.* Springer. https://doi.org/10.1007/978-1-4419-1005-9_479

Pietrangelo, A. (2020). *Identifying and Treating Maladaptive Behavior. Healthline.* https://www.healthline.com/health/maladaptive-behavior

PsyTeachR Team (2021). *Team Chapter 7 Reverse scoring.* Tutorials. https://psyteachr.github.io/tutorials/reverse-scoring.html

Rice, K., Rock, A. J., Murrell, E., & Tyson, G. A. (2021). The prevalence of psychological distress in an Australian TAFE sample and the relationships between psychological distress, emotion-focused coping and academic success. *Australian Journal of Psychology, 73*(2), 231-242. https://doi.org/10.1080/00049530.2021.1883408

Roberti, J. W., Harrington, L. N., & Storch, E. A. (2006). Further psychometric support for the 10-item version of the perceived stress scale. *Journal of College Counseling, 9*(2), 135-147. https://doi.org/10.1002/j.2161-1882.2006.tb00100.x

Rossi, M. F., Gualano, M. R., Magnavita, N., Moscato, U., Santoro, P. E., & Borrelli, I. (2023). Coping with burnout and the impact of the COVID-19 pandemic on workers' mental health: a systematic review. *Frontiers in Psychiatry, 14,* 1139260. https://doi.org/10.3389/fpsyt.2023.1139260

Salam, A., Abd Harith, A. A., Abdullah, N., Shan, C. P., Rahman, A. B. A., & Mahadevan, R. (2019). Coping strategies among first- and third-year medical students in a Malaysian public university. *Journal of Medicine, 20*(1), 5-11. https://doi.org/10.3329/jom.v20i1.38813

Scott, E (2022). *Why Avoidance Coping Creates Additional Stress*. Verywell Mind.

Shokeen, A. (2018). Procrastination, stress and academic achievement among the B. Ed. Students. *Educational Quest-An International Journal of Education and Applied Social Sciences, 9*(1), 125-129.

Shokri, O., Kadivar, P., & Daneshvarpour, Z. (2007). The role of coping styles in academic stress and academic achievement. *Journal of Iranian Psychologists, 3*(11), 249-257.

Siraj, H. H., Salam, A., Roslan, R., Hasan, N. A., Jin, T. H., & Othman, M. N. (2014). Stress and its association with the academic performance of undergraduate fourth year medical students at Universiti Kebangsaan Malaysia. *IIUM Medical Journal Malaysia, 13*(1). https://doi.org/10.31436/imjm.v13i1.488

Sousa, V. D., Driessnack, M., & Mendes, I. A. C. (2007). An overview of research designs relevant to nursing: Part 1: quantitative research designs. *Revista Latino-Americana De Enfermagem, 15*(3), 502–507. https://doi.org/10.1590/s0104-11692007000300022

Steinmayr, R., Meißner, A., Weidinger, A. F., & Wirthwein, L. (2014). *Academic achievement.* Oxford Bibliographies.

Stevens, B. S., Royal, K. D., Ferris, K., Taylor, A., & Snyder, A. M. (2019). Effect of a mindfulness exercise on stress in veterinary students performing surgery. *Veterinary Surgery, 48*(3), 360-366. https://doi.org/10.1111/vsu.13169

Thompson, M. D., Draper, B. S., & Kreitler, C. M. (2022). The Relationship Between Stress, Coping Strategies, and Problem-Solving Skills Among College Students. *Inquiries Journal, 14*(03), 1/1.

Turashvili, T., & Japaridze, M. (2013). Coping strategies of university students in georgian context. *Problems of Education in the 21st Century, 56*, 144.

Yousif, M. A., Arbab, A. H., & Yousef, B. A. (2022). Perceived Academic Stress, Causes, and Coping Strategies Among Undergraduate Pharmacy Students During the COVID-19 Pandemic. *Advances in Medical Education and Practice, 13*, 189–197. https://doi.org/10.2147/amep.s350562

Zach (2021). *How to Perform Reverse Coding in Excel (With Example)*. Statology.