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Mitigating Undergraduate Learning Burnout: Development of an Assessment Tool and Positive Thinking Training Program

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Abstract

The purposes of the current study were to 1) develop a learning burnout assessment for Thai undergraduate students and 2) examine the effects of a positive thinking training program on Thai undergraduate students' learning burnout. The study was divided into two parts: the instrumental development of the assessment tool and the implementation of the positive thinking training program. The first part involved 250 undergraduate students selected using a multi-stage sampling method. The second part involved implementing the positive thinking training program with 25 participants. The results led to the creation of a learning burnout assessment tool for Thai undergraduate students, encompassing the components of emotional exhaustion, social disengagement, and academic workload. The assessment tool demonstrated content validity, construct validity, and reliability. Additionally, the positive thinking training program effectively reduced learning burnout among participants. This study contributes to the field by introducing a validated learning burnout assessment tool in the Thai educational context and demonstrating the benefits of psychological training in reducing learning burnout.

Keywords: learning burnout, positive thinking training, undergraduate education, educational mental health

1. Introduction

In the current era characterized by intense rivalry and rapid technological changes, the significance of mental health in education is extremely important (Fuhrer & Keyes, 2019; Keyes, 2003). Students at various educational levels, particularly undergraduates, are anticipated to cultivate a diverse array of skills and knowledge, which frequently results in notable difficulties and tension (García-Moya et al., 2023). This level of pressure can lead to a range of mental health disorders. The World Health Organization reports a significant increase in mental health issues among young adults, specifically in the age group of 18–22 (2023). Hence, it is imperative to give due consideration to these concerns and take necessary measures to foster a better and more productive academic milieu.

Learning burnout is also one of the causes leading to mental issues in education. The term “learning burnout” refers to an accumulation of academic inadequacy despair, and emotional fatigue that arises from the incapacity to fulfill educational expectations (Schaufeli et al., 2002; Salmela-Aro et al., 2009). In detail, burnout is a state of psychological distress, widely recognized as an important work-related syndrome (Maslach & Leiter, 2016). Initially, research on burnout focused on practicing physicians in the medical field. However, increasing attention has recently been given to college students, who can also be affected by burnout. This phenomenon, known as learning burnout or academic burnout, originates from the general concept of burnout and includes the same core elements (Jensen & Olsen, 2023).

Addressing the problem of learning burnout requires a systematic approach to accurately assess and identify its presence among students. Without a reliable assessment system, it becomes challenging to understand the extent of burnout and implement effective interventions. A systematic assessment of learning burnout enables educators and mental health professionals to recognize the signs of emotional exhaustion, cynicism, and academic inefficacy early on (Schaufeli et al., 2002, 2020). This understanding is crucial for developing targeted support strategies that

can alleviate burnout and prevent its adverse effects on students' mental health and academic performance (Salmela-Aro et al., 2009). Therefore, establishing a comprehensive assessment framework is essential for tackling learning burnout and promoting a healthier educational environment.

Positive thinking training offers a promising approach to reducing learning burnout among students. Positivity is a propensity to generally assess aspects of life as good, maintaining constant energy and effective positive energy on body health, and creating communication tools between people (Taherkhani et al., 2023). By fostering a positive mindset, students can develop resilience against the stressors that contribute to burnout. Positive thinking training equips students with strategies to reframe negative thoughts, manage stress more effectively, and build a supportive network through improved communication skills (Luisetto et al., 2023; Tabrizi et al., 2021). This proactive approach not only enhances students' emotional well-being but also boosts their academic performance by mitigating the effects of learning burnout. Therefore, integrating positive thinking training into educational programs can be a valuable intervention for promoting a healthier, more balanced academic experience.

In summary, the issue of learning burnout is evident and necessitates a systematic assessment for effective intervention. Additionally, the potential of positive thinking training in mitigating learning burnout has been recognized. Therefore, the current study aims to develop a comprehensive assessment tool for learning burnout and implement positive thinking training as an intervention. This research will contribute to the academic field by exploring the mental dimensions of undergraduate education and providing a structured approach to addressing the challenges associated with learning burnout.

2. Literature Review

2.1 Learning Burnout

Learning burnout is a complex psychological state characterized by a combination of emotional exhaustion, cynicism, and academic inefficacy resulting from the inability to meet academic requirements (Schaufeli et al., 2002; Salmela-Aro et al., 2009). When students lose interest or enthusiasm for learning but feel compelled to continue, they experience a state of mental and physical fatigue known as learning burnout (Jensen & Olsen, 2023). Academic burnout syndrome, a psychological condition producing insidious, negative responses, affects psychosocial health and well-being. This syndrome leads to variations in academic performance, fulfillment, and perseverance in learning, potentially resulting in withdrawal from academic activities. According to Thi and Doung (2024), burnout among students in professional programs, such as those preparing for careers in teaching, can predict future occupational burnout and affect job performance post-graduation. This highlights the long-term implications of learning burnout, emphasizing the need for early intervention and support to prevent its progression into professional life.

This condition manifests through several key characteristics. Students suffering from learning burnout generally lack enthusiasm for their studies and feel emotionally drained, nervous, and frustrated. They struggle to concentrate on their learning tasks, and their emotional are depleted, resulting in extreme tiredness and low learning enthusiasm. Affected students often exhibit a bland, passive, and negative attitude towards others, leading to a lack of trust and increased critical behavior. This can escalate to aggressive behaviors towards others or themselves, increasing interpersonal conflicts and self-harm tendencies. Learning burnout can lead to a significant drop in students perceived academic achievements. They tend to undervalue their accomplishments, with some even negating their past efforts.

The causes of learning burnout can be attributed to several interrelated factors, with emotional exhaustion, social disengagement due to learning, and academic overload being prominent among them. Emotional exhaustion arises when students feel overwhelmed by the demands of their studies, leading to a depletion of their emotional and physical energy. This constant state of tiredness can make it difficult for students to engage effectively with their coursework and maintain motivation. Social disengagement due to learning refers to the alienation students experience when their academic commitments isolate them from social interactions and support networks. The intense focus on academics can lead to a sense of loneliness and a lack of connection with peers, exacerbating feelings of burnout. Finally, academic overload occurs when the volume and complexity of the coursework exceed the students' capacity to manage effectively. This overload can stem from high expectations, rigorous curricula, and time-consuming assignments, contributing to a sense of being overwhelmed and incapable of keeping up. Together, these factors create a detrimental cycle that undermines students' well-being and academic performance, highlighting the need for comprehensive support systems to address and mitigate learning burnout.

2.2 Assessing Learning Burnout

Burnout can be considered a psychological issue that requires a systematic method of assessment. To effectively



address the problem of learning burnout, it is essential to develop a methodical approach for identifying and confirming its presence among students. Without a reliable assessment method, it is challenging to determine the severity of burnout and devise effective intervention strategies. By employing a systematic assessment of learning burnout, mental health professionals and educators can detect early signs of emotional exhaustion, cynicism, and academic inefficacy.

Scholars have developed various assessment tools to measure the level of academic burnout in different study contexts (Campos et al., 2012; Liu & Zhong, 2022; Schaufeli et al., 2020). Campos et al. (2012) developed the Oldenburg Burnout Inventory for college students, which includes 14 items across two dimensions: exhaustion and disengagement. This assessment tool demonstrated both content validity and construct validity. Schaufeli et al. (2020) introduced a burnout assessment tool that addresses issues of exhaustion, mental distance, cognitive impairment, and emotional impairment. Additionally, Liu and Zhong (2022) created an English learning burnout assessment that focuses on the dimensions of exhaustion and demotivation.

2.3 Psychological Training as Intervention of Learning Burnout

Psychological training plays a crucial role in addressing and mitigating learning burnout among students. Scholars (Abbasi et al., 2021; Barcons et al., 2019; Khojasteh & Abdoli, 2023; Liu et al., 2024; Szarko et al., 2022) have studied the effects of psychological training techniques on the level of student learning burnout, and it was that These activities help individuals reframe negative thoughts, manage stress, and enhance their emotional resilience, thereby improving overall mental well-being.

One effective form of psychological training is positive thinking activities, which are designed to foster a more optimistic and resilient mindset (Khojasteh & Abdoli, 2023). Moreover, positive thinking training equips students with the tools to cope with the challenges and pressures of academic life. Promoting a positive outlook allows students to better handle emotional exhaustion, cynicism, and academic inefficacy—the core elements of learning burnout (Tabrizi et al., 2021). This training not only helps in alleviating immediate symptoms of burnout but also builds long-term resilience against future stressors.

The findings of previous studies suggest that psychological training techniques hold significant potential in aiding participants to cope with learning burnout. However, there is a need for further research and the exploration of additional techniques. To the best of our knowledge, no learning burnout assessment tool has been specifically developed for the Thai educational context. Therefore, the current study aims to develop an assessment tool for learning burnout, targeting Thai undergraduate students. Additionally, a positive thinking training program has been developed and implemented to reduce learning burnout among this population. The purposes of the study were 1) to develop a learning burnout assessment for Thai undergraduate students and 2) to examine the effects of positive thinking training on Thai undergraduate students' learning burnout.

3. Methodology

3.1 Research Design

The study comprises two main parts: the first part employs an instrumental development design to create and validate a learning burnout assessment tool, while the second part utilizes a one-group experimental design to evaluate the effectiveness of a positive thinking training program in reducing learning burnout. The first part involves defining constructs through literature review, generating items, ensuring content validity with expert reviews, conducting pilot testing, confirming construct validity via Confirmatory Factor Analysis (CFA), and testing reliability. The second part involves pre- and post-intervention assessments of learning burnout using the validated tool, with a positive thinking training program implemented in between. The effectiveness of the intervention is assessed by comparing pre- and post-intervention scores using statistical analyses.

3.2 Learning Burnout Assessment Development

3.2.1 Participants

The sample for the instrumental development part consisted of 250 first-year students from a public university in Thailand. These participants were selected from a population of 515 first-year students using multi-stage random sampling. The sample size was determined based on the principles outlined by Hair et al. (1998).

3.2.2 Developing Processes of Learning Burnout Assessment Tool

The development of the learning burnout assessment tool followed a systematic process. Initially, the objectives for creating the tool were defined, followed by an extensive review of relevant concepts, theories, and research to analyze the characteristics of learning burnout among first-year undergraduate students. The components and indicators of learning burnout were then identified, and operational definitions were established. Questions were

developed based on these definitions, and the assessment tool was designed as a 5-point Likert scale.

To ensure content validity, expert evaluations were conducted, and the Item Objective Congruence (IOC) index was calculated. Items with an IOC value between 0.67 and 1.00 were selected. The revised tool was pilot tested with a group of 60 first-year undergraduate students not included in the main sample. Data from this pilot test were analyzed to determine the item-total correlation for each question and calculate the reliability of the tool using Cronbach's alpha coefficient, resulting in an overall reliability of 0.82 and a final tool comprising 23 items in three aspects of emotional exhaustion, social disengagement due to learning, and academic overload.

Finally, the structural validity of the tool was confirmed through Confirmatory Factor Analysis (CFA), which demonstrated that the model was perfectly aligned with the empirical data. CFA is a rigorous method for validating the structure of a measurement instrument. By confirming that observed variables accurately represent their underlying constructs, researchers can ensure the reliability and validity of their instruments, providing a solid foundation for further research and practical applications. The final model was interpreted to confirm the validity (construct validity) and reliability (internal consistency) of the measurement instrument. High factor loadings and good fit indices supported the instrument's validity. The final version of the learning burnout assessment tool was then published, providing a validated instrument for measuring learning burnout among undergraduate students.

3.3 The Development and Implementation of Positive Thinking Training Program

3.3.1 Participants

For the second part of the study, one major in the College of Education was selected as the sample group. Using cluster random sampling, 25 students were chosen from a population of 515 first-year students. These selected students participated in a positive thinking training program designed to reduce their learning burnout.

3.3.2 The Development of Positive Thinking Training Program

The development process for the positive thinking training program involved several key steps. Initially, we conducted an extensive review of relevant documents, theories, literature, and research to design the program, ensuring that the objectives, activities, content, procedures, and program characteristics were aligned with the participants' needs and three aspects of mental health.

The program included 10 training activities divided into three aspects of cognitive restructuring, emotional regulation, and social skill development. To ensure content validity, three experts evaluated the program, reviewing the assessment tool for definitions of specific variables, objectives, content, language appropriateness, tools/media, and evaluation methods. The Index of Congruence (IOC) values ranged from 0.67 to 1.00, and adjustments were made based on expert feedback.

The overall suitability of the program was also assessed by three experts, who deemed it highly suitable, with an average score of 4.58 and a standard deviation of 0.27. The revised and improved assessment tool was then piloted with 30 first-year undergraduate students who were not part of the main sample. The result of the pilot study indicated an appropriateness of the training program. The program was revised following feedback from participants in pilot study before being employed in the implementation process.

3.3.3 The Implementation of Positive Thinking Training Program

The revised positive thinking training program was implemented using a one-group experimental design with a sample of 25 first-year students. The developed learning burnout assessment tool was administered pre- and post-intervention to measure the levels of learning burnout. Data analysis involved the use of descriptive statistics and paired-samples t-test to evaluate the effectiveness of the positive thinking training program in reducing learning burnout among the participants.

4. Results

4.1 Content Validity, Discrimination, and Reliability Analysis on Learning Burnout Assessment

4.1.1 Content Validity

The content validity of the assessment tool was evaluated by calculating the Index of Congruence (IOC) for each question against the definitions of terms. The researcher used an average congruence value of 0.50 or higher as the selection criterion. The results showed that the average IOC values ranged from 0.60 to 1.00, with 34 questions meeting the criterion.

4.1.2 Discrimination Analysis

The discrimination power of each item in the learning burnout assessment was analyzed. The results indicated that 23 items met the discrimination criterion, with discrimination values ranging from 0.26 to 0.66.

4.1.3 Reliability Analysis

The reliability of the entire assessment tool was examined, and the overall reliability coefficient was found to be 0.82.

4.2 Confirmatory Factor Analysis on the Learning Burnout Assessment

Table 1. Component weight (λ), standard error (SE), and reliability (R^2) of the confirmatory factor analysis (CFA)

Variable	Components	(λ_v)	(SE $_{\lambda_v}$)	(Z)	(R^2)
Learning Burnout	Emotional Exhaustion	0.80	0.02	38.12	0.65
	Social Disengagement due to Learning	0.90	0.02	51.17	0.81
	Academic Overload	0.79	0.02	37.49	0.64
Construct reliability (ρ_c) = 0.69					
Average variance extracted (ρ_v) = 0.87					

The results of the confirmatory factor analysis (CFA) for the learning burnout variable are shown in Table 1. The analysis identified three components: Emotional Exhaustion ($\lambda = 0.80$, SE = 0.02, Z = 38.12, $R^2 = 0.65$), Social Disengagement due to Learning ($\lambda = 0.90$, SE = 0.02, Z = 51.17, $R^2 = 0.81$), and Academic Overload ($\lambda = 0.79$, SE = 0.02, Z = 37.49, $R^2 = 0.64$). The construct reliability (ρ_c) was found to be 0.69, and the average variance extracted (ρ_v) was 0.87, indicating an acceptable level of internal consistency and strong convergent validity.

Table 2. Structural model test indices for the components of learning burnout

Goodness of fit indices
First-order confirmatory factor analytic model
Goodness of fit indices: The model is saturated; the fit is perfect

Table 2 presents the confirmatory factor analysis (CFA) of the learning burnout model, focusing on the goodness of fit indices. The indices considered include χ^2/df (Relative Chi-Square), p-value, CFI, TLI, RMSEA, and SRMR. The results indicate that the hypothesized model aligns well with the empirical data, suggesting that the learning burnout assessment tool possesses structural validity. This confirms that the tool can accurately represent the structural model of the components of learning burnout, as depicted in the Figure 1.

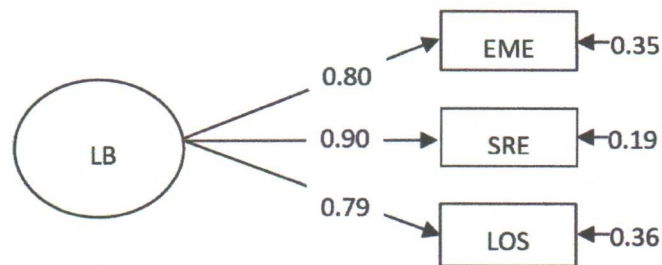


Figure 1. Confirmatory factor analysis model of learning burnout

4.3 The Effects of Positive Thinking Training on Participants' Learning Burnout

Table 3. Participants' learning burnout before and after the positive thinking training program

Learning burnout	Pre-assessment n=25		Post-assessment n=25	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Emotional Exhaustion	3.39	0.68	1.91	0.46
Social Disengagement due to Learning	2.06	0.96	1.81	0.86
Academic Overload	3.30	0.63	2.21	0.67
Average	2.95	0.53	1.99	0.49

Table 3 presents the descriptive statistics for participants' learning burnout levels before and after the positive thinking training program. Pre-assessment results showed means (*M*) and standard deviations (*SD*) of 3.39 (*SD* = 0.68) for Emotional Exhaustion, 2.06 (*SD* = 0.96) for Social Disengagement, and 3.30 (*SD* = 0.63) for Academic Overload, with an average learning burnout score of 2.95 (*SD* = 0.53). Post-assessment results indicated a reduction in these values, with Emotional Exhaustion at 1.91 (*SD* = 0.46), Social Disengagement at 1.81 (*SD* = 0.86), and Academic Overload at 2.21 (*SD* = 0.67), resulting in an average learning burnout score of 1.99 (*SD* = 0.49). These findings suggest that the positive thinking training program effectively reduced learning burnout among participants.

Table 4. The comparison between the participants' learning burnout before and after the treatment

	<i>n</i>	Pre-assessment		Post-assessment		<i>t</i>	<i>df</i>	<i>p</i> -value
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Learning burnout	25	2.95	0.53	1.99	0.49	5.683*	24	.000

Note. **P* < 0.05.

Table 4 presents the comparison of participants' learning burnout levels before and after the positive thinking training program. The sample included 25 first-year students. Pre-assessment results showed a mean (*M*) learning burnout score of 2.95 with a standard deviation (*SD*) of 0.53. Post-assessment results indicated a significant reduction in learning burnout, with a mean score of 1.99 (*SD* = 0.49). The paired-samples *t*-test revealed a statistically significant difference between pre- and post-assessment scores, $t(24) = 5.68$, $p < .005$. This indicates that the positive thinking training program effectively reduced learning burnout among the participants.

5. Discussion

The results of the study indicate three components of learning burnout assessment, namely Emotional Exhaustion, Social Disengagement due to Learning, and Academic Overload. These components collectively define the multifaceted nature of learning burnout experienced by first-year undergraduate students.

Emotional Exhaustion is a primary component of learning burnout, reflecting the intense mental fatigue that students experience as they strive to meet academic demands. This state of exhaustion can significantly impair a student's ability to concentrate, retain information, and stay motivated, ultimately affecting their academic performance and overall well-being. The study's findings align with previous research, indicating that emotional exhaustion is a critical indicator of burnout in educational settings (Schaufeli et al., 2002; Salmela-Aro et al., 2009).

Social Disengagement due to Learning highlights the impact of academic pressures on students' social interactions. When students become overwhelmed by their studies, they often withdraw from social activities and peer interactions, which can lead to feelings of isolation and decreased social support. This disengagement can exacerbate the emotional toll of burnout, as students lose a crucial source of emotional and psychological resilience. Social support is essential for buffering stress and fostering a sense of belonging, which is vital for maintaining mental health (Yang & Farn, 2005).

Academic Overload refers to the perception that academic demands are unmanageable and excessively challenging. This component underscores the stress students feel when they believe that their workload exceeds their capacity to cope. Academic overload can lead to chronic stress, reducing students' ability to perform effectively and increasing the risk of burnout. The study's findings suggest that addressing the perception of academic overload through effective time management, realistic goal-setting, and academic support can be crucial in mitigating learning burnout (Schaufeli et al., 2002; Salmela-Aro et al., 2009).

The integration of these components into the learning burnout assessment tool provides a comprehensive framework for understanding and addressing burnout among students. The significant reduction in burnout scores following the positive thinking training program highlights the potential of psychological interventions in alleviating burnout. By focusing on enhancing emotional resilience, improving social connectedness, and managing academic demands, educational institutions can create supportive environments that reduce the prevalence and impact of learning burnout.

The results of this study align with previous assessment tools developed by Campos et al. (2012), Liu and Zhong (2022), and Schaufeli et al. (2020), which also emphasize aspects of exhaustion and social disengagement due to learning burdens. Therefore, these components should be considered when developing learning burnout assessment tools in future studies.

Moreover, it was also found that positive thinking training as a psychological intervention was beneficial in helping participants cope with learning burnout. This supports previous studies (Abbasi et al., 2021; Barcons et al., 2019; Khojasteh & Abdoli, 2023; Liu et al., 2024; Szarko et al., 2022; Tabrizi et al., 2021), which also highlighted the positive effects of psychological training in reducing learning burnout.

The activities in the positive thinking training program in this study included cognitive restructuring, emotional regulation, and social skill development. Cognitive restructuring helps students identify and change negative thought patterns, thereby reducing emotional exhaustion by fostering a more positive and resilient mindset (Diachkova et al., 2024). This aligns with research suggesting that altering negative cognitive patterns can significantly alleviate the mental fatigue associated with learning burnout. Emotional regulation activities teach students how to manage their emotions effectively, reducing stress and preventing emotional exhaustion (Nikmanesh & Mirkazehi, 2020). The activity is crucial for managing the emotional toll that academic pressures can impose. Moreover, social skill development focuses on enhancing interpersonal skills and building supportive relationships which can reduce social disengagement by encouraging students to maintain healthy social interactions and seek support from peers and mentors (Ahmadi et al., 2023). This can mitigate feelings of isolation and enhance emotional resilience, further protecting against burnout.

6. Conclusion

This study was designed in two parts: the instrumental development of a learning burnout assessment and the implementation of a positive thinking training program to reduce learning burnout among Thai undergraduate students. The results led to the creation of a learning burnout assessment tool for Thai undergraduate students, which includes the components of emotional exhaustion, social disengagement, and academic workload. The assessment tool was found to have content validity, construct validity, and reliability. Additionally, the positive thinking training program was effective in reducing learning burnout among participants. This study contributes to the field by introducing a validated learning burnout assessment tool in the Thai educational context and demonstrating the benefits of psychological training in reducing learning burnout.

The findings of this study have several implications for education, future research, and policy-making. In the educational context, the validated learning burnout assessment tool can be used by educators and counselors to identify and address burnout among students more effectively. Future research should explore additional psychological training techniques and apply them in various educational contexts to further understand their impact on reducing learning burnout. For policy makers, this study highlights the importance of recognizing and addressing learning burnout and related mental health issues among students. Policies and programs should be developed to support students' mental well-being and prevent burnout, ensuring a healthier and more productive educational environment.

This study has several limitations. One notable limitation is the lack of qualitative data, which could provide deeper insights into the participants' experiences and the effectiveness of the interventions. Additionally, the study's sample size was relatively small, which may limit the generalizability of the findings. Future research should consider using larger and more diverse samples and incorporating qualitative methods to gain a more comprehensive understanding of learning burnout and the impact of psychological training programs.

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Competing interests

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Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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