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Academic Burnout Reduction Handbook: Brief Introduction and Coping Guide

Led by

Xin Tang (Shanghai Jiao Tong University, China)

Jennifer Symonds (University College London, UK)

With

Jin Xie (Shanghai Jiao Tong University, China)

Matthew P. Somerville (University College London, UK)

Huiru Wang (Shanghai Jiao Tong University, China)

Katariina Salmela-Aro (University of Helsinki, Finland)

The work is reviewed by **Lijuan Wang** (School of Education, Shanghai Jiao Tong University); **Yiqun Gan** (School of Psychological and Cognitive Sciences, Peking University); **Danhua Lin** (Faculty of Psychology, Beijing Normal University); **Joseph Lau** (The Chinese University of Hong Kong & Wenzhou Medical University); **Xiaolan Fu** (School of Psychology, Shanghai Jiao Tong University)

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Corresponding author:

Xin Tang

School of Education, Shanghai Jiao Tong University, China

xin.tang@sjtu.edu.cn; tangxin09@gmail.com

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Executive Summary

In the contemporary educational setting, academic pressure is on the rise, and students confront various expectations from school, family, and society. This persistent stress can lead to academic burnout, characterized by exhaustion, cynicism, and a sense of inadequacy. Academic burnout not only hampers students' academic performance but can also profoundly affect their mental health and future prospects.

This executive summary outlines 13 key principles covering the definition, causes, effects, and intervention strategies of academic burnout, aiming to provide readers with a clear and concise overview. We hope this simplified guide helps readers quickly grasp the core points of managing academic burnout and provides practical guidance for students, parents, and practitioners (such as teachers, school psychologists, education administrators, and community workers). For a more in-depth analysis and specific implementation methods, please refer to the detailed version.

Why Focus on Academic Burnout

Principle 1: Academic Burnout is Prevalent and Early Intervention is Needed

Explanation:

Academic burnout is a pervasive global issue, affecting as many as 70.6% of students. It has detrimental effects on academic performance, mental health, and social relationships,

and increases the risk of depression, self-harm, and dropout. In severe cases, burnout can have profound negative impacts on both individuals and society. Research underscores the critical need for early interventions, particularly before high school, to prevent long-term consequences. Therefore, educators and policymakers must prioritize early detection and implement effective strategies to mitigate the adverse effects of burnout.

Coping Guidance 1:

Schools and teachers play a crucial role in student development and in preventing academic burnout. By identifying early warning signs and intervening promptly, they can protect students' mental health, improve stress management, and promote long-term growth.

Educators and practitioners must treat academic burnout with the seriousness it deserves, actively monitoring students and offering targeted support. Prioritizing emotional well-being alongside academic achievement creates a supportive environment that helps students regain motivation and maintain positive mental health.

Understanding Academic Burnout

Principle 2: Academic Burnout Is a Multi-dimensional Phenomenon

Explanation:

Initially, burnout was associated with the workplace, characterizing the exhaustion resulting from excessive demands. Subsequent research extended this concept to the educational domain, where students experience fatigue, distraction, and difficulties in concentration.

Academic burnout has three key dimensions:

- **Exhaustion:** Mental and physical fatigue from prolonged academic pressure.

- Cynicism: Loss of enthusiasm, seeing learning as meaningless.

- Inadequacy: Doubting academic abilities and struggling to meet goals.

Coping Guidance 2:

Practitioners must understand academic burnout to effectively identify and address it. Teachers should educate students about its signs to facilitate early detection.

- Exhaustion: If students show fatigue, teachers should explore personal issues and suggest solutions, like reducing tutoring for better rest.

- Cynicism: Enhancing engagement with hands-on activities can reignite interest in learning.

- Inadequacy: Teachers should help students set clear goals, find suitable study methods, and rebuild self-confidence.

The Onset and Persistence of Academic Burnout

Principle 3: Academic Burnout Stems from an Imbalance Between Demands and Resources

Explanation:

The Conservation of Resources (COR) Theory posits that burnout arises when essential resources, such as time, support, and resilience, are depleted, thereby increasing stress. A deficiency in these resources is strongly associated with academic burnout.

The Demand-Resource Model further suggests that burnout results from an imbalance between demands and available resources. For students, academic challenges and pressures can deplete their resources, leading to fatigue and burnout, particularly in the absence of adequate support or personal coping mechanisms.

Coping Guidance 3:

Practitioners should evaluate both students' demands and available resources.

Demands: Monitor academic workload and external pressures, and provide time management strategies and career planning education to assist students in setting balanced goals.

Resources: Enhance internal resources by offering time management and emotional regulation training, and strengthen external support through counseling, peer mentoring, and group study sessions.

Principle 4: Academic Burnout Is Self-Sustaining and Difficult to Overcome

Explanation:

The Self-Maintenance Cognitive Behavioral Model posits that burnout stems from an imbalance between demands and resources, exacerbated by maladaptive coping strategies such as anxiety and pessimism. Prolonged stress and inadequate recovery, including insufficient sleep, perpetuate burnout. Students who tend to ruminate are particularly susceptible to prolonged burnout. Adopting adaptive strategies, such as emotional regulation and relaxation techniques, can mitigate burnout. Overexertion in response to stress can deplete resources and intensify burnout, whereas healthier coping mechanisms can aid in recovery and prepare students to manage future challenges.

Coping Guidance 4:

To prevent and address academic burnout, practitioners should proactively identify early warning signs, such as difficulty concentrating or declining performance. Regular one-on-one discussions can help uncover underlying issues. Enhancing cognitive-behavioral patterns through techniques like challenging negative thoughts and employing emotional regulation strategies (e.g., mindfulness) can facilitate recovery. Promoting balanced study

schedules, adequate sleep, and regular physical exercise also supports overall well-being. By addressing both psychological and physical aspects, practitioners can effectively assist students in overcoming burnout and achieving a healthier, more balanced state.

Identifying Academic Burnout by Developmental Stages

Principle 5: Academic Burnout Develops Progressively

Explanation:

The stages of academic burnout unfold in a sequence, although sometimes the dimensions of burnout—exhaustion, cynicism, and inadequacy—can appear simultaneously.

1. Exhaustion: Students feel fatigued and overwhelmed by academic demands, often withdrawing from tasks.

2. Cynicism: As exhaustion grows, students develop a negative or indifferent attitude toward their studies, detaching emotionally.

3. Inadequacy: Eventually, students doubt their abilities and believe success is unachievable, leading to further disengagement.

Early recognition of these stages enables practitioners to intervene and support students before burnout becomes chronic.

Coping Guidance 5:

Coping Guidance for Academic Burnout:

Early Stage: Observe students' emotional changes, reduce academic workload, and encourage extracurricular activities for relaxation and social support.

Mid Stage: Recommend psychological counseling, teach time management, and set achievable goals to build confidence. Maintain communication with parents.

Late Stage: Refer to professional mental health services for treatment, collaborate with parents for recovery, and provide personalized study plans to help students regain motivation.

Principle 6: Multiple Approaches Are Needed to Identify Academic Burnout

Explanation:

Several methods are employed to measure academic burnout, including self-report questionnaires, interviews, observations, physiological indicators, peer evaluations, and teacher assessments. Each method has its strengths, such as the ease of scalability for questionnaires and the depth of insight provided by interviews, but also comes with limitations, such as potential biases or time constraints. A comprehensive evaluation that combines multiple methods offers a more accurate assessment, although it can be resource-intensive. These tools assist teachers and researchers in assessing burnout levels and implementing effective interventions to support students.

Coping Guidance 6:

Practitioners should be familiar with various methods for measuring academic burnout. Self-report questionnaires, such as the Maslach Burnout Inventory, are effective for large-scale assessments. Interviews provide detailed insights, particularly for unique cases. Observations during classroom activities can help identify burnout signs in real time. Physiological indicators offer objective data but are resource-intensive. Peer and teacher evaluations provide additional perspectives. A comprehensive approach that combines multiple methods offers a holistic understanding, enabling early intervention to prevent chronic burnout and support student well-being.

Demands Versus Resources

Principle 7: The Multi-level Framework of Demands and Resources on Academic Burnout

Explanation:

The updated Study Demands-Resources (SD-R) Model builds upon the original framework by incorporating five interconnected levels: school, classroom, family, society (including teachers and peers), and the individual. This model underscores how imbalances between demands and resources at these various levels impact individuals. When such imbalances span multiple levels, they significantly contribute to academic burnout. At each level, factors such as school policies, teaching strategies, family support, and social relationships play crucial roles in shaping students' development and psychological well-being. To effectively reduce burnout, interventions must address the demands and resources across all these levels.

Coping Guidance 7:

To effectively mitigate academic burnout, practitioners should address demands and resources across five key levels: school, classroom, family, society, and individual. Strategies encompass reducing academic pressures, fostering a positive school environment, strengthening teacher-student relationships, setting realistic goals, and offering emotional support at home. Furthermore, promoting inclusive societal values and organizing community activities can enhance students' resilience. By balancing the reduction of demands with the enhancement of resources, educators can not only reduce burnout but also improve student well-being and foster both academic and emotional success.

Burnout Prevention and Intervention at the Individual Level

Principle 8: Developing Students' Social-Emotional Skills for Preventing Academic Burnout

Explanation:

Social and emotional skills (SEK) are essential for both academic success and personal development. These skills, including perseverance, emotional regulation, and collaboration, enable students to manage stress, emotions, and relationships, thereby reducing the risk of burnout. Strong SEK allows students to remain focused under pressure, regulate their emotions, and collaborate effectively, fostering resilience and motivation. By cultivating these skills, students are better prepared to navigate academic challenges, maintain mental well-being, and avoid burnout, ultimately leading to more positive academic and social outcomes.

Coping Guidance 8:

Enhancing students' social and emotional skills is crucial for preventing academic burnout. At the group level, effective strategies include setting Social and Emotional Learning (SEL) goals, providing professional development for educators, and developing engaging SEL materials. On an individual level, educators can model empathy, involve families in SEL initiatives, and teach emotional regulation techniques, such as preventive measures, response strategies, and cognitive reappraisal. These approaches help students manage their emotions, reduce stress, and maintain a positive mindset, ultimately preventing burnout and fostering academic success.

Principle 9: Physical Exercise Can Effectively Alleviate Academic Burnout

Explanation:

Engaging in regular physical exercise offers a range of benefits for students, improving their physical, mental, and social well-being. It boosts mental health by releasing endorphins, which help reduce stress, improve sleep quality, and enhance overall life satisfaction. Physical activities are typically categorized into aerobic exercises (e.g., jogging, cycling) and strength training (e.g., push-ups, squats), each lasting 30–50 minutes. Regular physical activity can effectively reduce academic burnout by alleviating emotional stress and fatigue.

Coping Guidance 9:

Practitioners should incorporate physical exercise into students' routines to improve physical fitness and psychological resilience. Strategies include daily activities like recess exercises and PE classes, team sports, and skill training. Fun events such as sports days and festivals promote engagement. Personalized exercise plans, safety education, and incentives can further enhance participation. By offering diverse, enjoyable activities, students can effectively alleviate stress, build teamwork, and improve overall well-being.

Principle 10: Students' Mindsets Are Critical for Academic Burnout

Explanation:

Changing maladaptive mindsets is crucial for reducing academic burnout. Enhancing self-efficacy builds confidence, while encouraging adaptive attribution helps students view failure as a learning opportunity. Fostering intrinsic motivation combats external pressures. Intervention methods like Cognitive Behavioral Therapy (CBT), Rational Emotive Behavior Therapy (REBT), and mindfulness training address these aspects, helping students reframe negative thoughts, regulate emotions, and enhance resilience, ultimately

reducing burnout and promoting academic success.

Coping Guidance 10:

Practitioners must receive training in Cognitive Behavioral Therapy (CBT), Rational Emotive Behavior Therapy (REBT), and Mindfulness Therapy to effectively address academic burnout. CBT focuses on identifying and adjusting negative thought patterns. REBT teaches the ABC model to challenge irrational beliefs. Mindfulness therapy helps reduce stress through exercises like mindful breathing. Intervention plans should be tailored to individual needs, with regular follow-up to assess progress and adjust strategies, ensuring long-term effectiveness in managing burnout.

Burnout Prevention and Intervention at the Group Level

Principle 11: Implementing Collective Mental Health Courses to Prevent Academic Burnout

Explanation:

Research has found that collective learning through mental health education programs can reduce academic burnout by enhancing students' resilience and academic motivation. Additionally, connecting school learning with future career development has been shown to alleviate academic burnout. A group counseling program in South Korea focusing on academic motivation further demonstrated that by enhancing learning motivation, optimizing coping strategies, and strengthening self-efficacy beliefs, students were better able to manage academic stress in adaptive ways, thereby mitigating burnout.

Coping Guidance 11:

To help students improve resilience and academic motivation, it' s important to implement structured mental health interventions. This includes promoting 'Work-Oriented Life Group Intervention' courses, which focus on career planning, time management,

and communication skills. Additionally, 'Motivation-Based Academic Group Therapy' courses can be developed to address academic stress and regulate learning emotions. Professional teacher training is crucial for effective course implementation, and creating a course promotion plan ensures proper support. Evaluating course effectiveness allows for ongoing improvements, enhancing student well-being and reducing academic burnout.

Principle 12: School-Family Collaboration Is Essential for Academic Burnout Reduction

Explanation:

Ecological Systems Theory highlights the critical influence of both family and school environments on adolescents' mental health and their experiences of burnout. In schools, high academic demands, competitive pressures, and inadequate personalized support can contribute to exhaustion and helplessness. Teachers' attitudes and methods, particularly those that are strict or indifferent, can worsen these feelings. On the family side, high expectations, excessive interference, and a lack of understanding can increase psychological burdens. Parental anxiety and an unstable home environment further amplify feelings of stress and diminish students' confidence and motivation to learn.

Coping Guidance 12:

To tackle academic burnout effectively, schools and families must collaborate by integrating their resources. Schools should maintain regular communication with parents, organize meetings, and offer mental health education programs. Families can support by fostering a positive mindset in students and participating in volunteer activities. The 'Two-Winged Approach' emphasizes joint efforts from both school and family, with the student' s mental health at the core. This model promotes a comprehensive support system to reduce burnout and enhance students' overall development.

Future Trends

Principle 13: New Technologies Matter for Academic Burnout Reduction

Explanation:

Innovative interventions such as online self-help programs, mindfulness-based virtual reality, biofeedback training, and AI technologies aim to address academic burnout. These approaches offer personalized coping strategies, stress management, and emotional regulation. Online self-help programs focus on Cognitive Behavioral Therapy, while virtual reality enhances mindfulness practice. Biofeedback helps regulate stress through heart rate variability, and AI provides personalized assessments and interventions. These technologies have potential for reducing burnout, but further research and ethical considerations are needed for optimization.

Coping Guidance 13:

Administrators should adopt new technologies to provide efficient support for academic burnout, including online self-help platforms, mindfulness-based virtual reality programs, biofeedback devices, and AI-driven monitoring systems. They should promote teacher training and student engagement with these tools. Practitioners must stay updated on research, select appropriate intervention strategies, and offer personalized support using technology. This approach ensures timely, targeted mental health interventions to reduce academic burnout and enhance student well-being.

Academic Burnout Reduction Handbook: Brief Introduction and Coping Guide

This guide aims to provide evidence-based practices for academic burnout reduction, thereby assisting students in reigniting their passion for learning and enhancing their mental health. It targets individuals concerned with academic burnout, such as educators, school psychologists, educational administrators, community workers, and parents.

Academic burnout is a condition of psychological depletion induced by academic pressures, marked by exhaustion (such as ongoing fatigue and sleep disturbances), cynicism (including a diminished interest in learning and avoidance of classroom participation), and a sense of inadequacy (such as doubting one' s capabilities and experiencing feelings of helplessness). This phenomenon results in deteriorating academic performance and may also precipitate mental health challenges like depression and anxiety, impacting familial relationships and social adaptability.

Studies show that academic burnout arises from a variety of causes, such as personal characteristics, family dynamics, educational settings, and social demands. This guide thoroughly examines the developmental processes behind academic burnout and provides targeted, multi-tier intervention strategies aimed at helping students, families, and educators in both preventing and mitigating its effects. The goal is to rekindle students' passion for learning and enhance their psychological well-being.

01

Why Focus on Academic Burnout?

01

Why Focus on Academic Burnout?

Principle 1: Academic Burnout is Prevalent and Early Intervention is Needed

Explanation:

Academic burnout has become a widespread global issue, with incidence rates ranging from 7.2% to 70.6% in diverse countries, including China, the UK, and many others (Asghar et al., 2019; Boni et al., 2018; Gan et al., 2007; Liu et al., 2023; Sm et al., 2019; Wickramasinghe et al., 2018).

Studies indicate that academic burnout results in a series of adverse outcomes, impacting not only academic performance and psychological well-being—such as increasing the risk of depression and suicidal thoughts (Dyrbye et al., 2008; Salmela-Aro et al., 2009; Ugwu, 2013)—but also diminishing cognitive and physiological functioning (May et al., 2014, 2015, 2016).

Moreover, the negative effects of academic burnout extend beyond the school setting and impact students' daily lives (Salmela-Aro & Upadyaya, 2014). Severe burnout can disrupt social relationships, causing estrangement from peers and family, further affecting overall quality of life and social adaptability (Kim et al., 2018).

Academic burnout poses risks not only to individuals but also to educational systems and broader societal

development. Research indicates that students experiencing burnout often lack effective coping strategies for academic and life pressures, which can lead to serious consequences, including dropping out, self-harm, or suicide (Bask & Salmela-Aro, 2013; Goel et al., 2016; Stehman et al., 2019). This deteriorating pattern is often described as the 'burnout spiral' (Modrego-Alarcón et al., 2021).

A nine-year longitudinal study has shown that early interventions during the critical period of adolescent development (before high school) can significantly enhance intervention effectiveness and yield lasting positive effects (Nadon et al., 2024). Therefore, early identification of burnout symptoms and the implementation of effective interventions are urgently needed for educators and policymakers.

Coping Guidance 1:

Schools and teachers are essential contributors to student development and play a vital role in addressing academic burnout. By recognizing early signs of burnout and implementing timely interventions, they can effectively prevent its progression and mitigate mental health concerns among students. Early intervention not only helps restore students' physical and mental well-being but also enhances their stress management abilities, thereby fostering long-term development and promoting overall societal welfare.

Practitioners (including teachers, social workers, educational administrators, etc.) must recognize the seriousness of academic burnout. It is crucial to closely monitor students and implement targeted interventions to address these concerns effectively. Educators should prioritize the emotional and psychological well-being of students along with their academic achievements, fostering a supportive and encouraging educational atmosphere. By employing evidence-based and well-structured interventions, professionals can assist students in overcoming academic burnout, rekindling their motivation to learn, and enhancing their mental health and positive development.

02

Understanding Academic Burnout

02

Understanding Academic Burnout

Principle 2: Academic Burnout Is a Multi-dimensional Phenomenon

Explanation:

Originally, the concept of burnout was associated with the workplace, describing a state of failure, fatigue, or depletion caused by excessive demands on an individual' s energy, strength, or resources (Freudenberger, 1986). However, further research has broadened this definition. In educational environments, many students often experience symptoms such as exhaustion, distraction, and difficulty concentrating, which are typically signs of academic burnout.

Academic burnout is understood as a syndrome comprising three core dimensions: exhaustion, cynicism, and inadequacy (Maslach et al., 2001). In educational contexts, academic burnout similarly manifests as one of these symptoms or a combination of these three dimensions (Kashirskaya et al., 2024; Salmela-Aro et al., 2009).

Exhaustion: Students experience mental and physical depletion due to prolonged high-pressure learning, often accompanied by persistent fatigue and sleep disturbances.

Cynicism: Students develop a cynical attitude toward learning, losing enthusiasm for academic activities. They may exhibit negative or indifferent attitudes and perceive learning as lacking value or meaning.

Inadequacy: Students begin to question their academic abilities and achievements,

feeling unable to meet their established learning goals.

Coping Guidance 2:

Practitioners should comprehend the aspects of academic burnout to identify when and where students may be experiencing it. Furthermore, teachers need to inform students about the various signs of burnout, enabling them to detect early symptoms.

Physical and Mental Exhaustion:

When teachers notice a student exhibiting signs of fatigue, they should quickly engage with the student to identify any personal issues contributing to the exhaustion and offer timely solutions. For example, if a student is getting insufficient sleep due to an excessive number of tutoring sessions, the teacher should advise the student to decrease the number of additional classes to ensure adequate rest.

Cynicism towards school:

When students display negative or cynical attitudes towards their studies, educators can attempt to reignite their interest in learning by enhancing the curriculum' s engagement and practicality. This can be accomplished by incorporating more hands-on activities, case studies, or projects that relate to real-world scenarios.

Sense of inadequacy:

Teachers should be attentive to changes in a student' s academic performance and help them identify study methods that align with their individual learning needs. By assisting students in accurately attributing their successes and failures, teachers can support the rebuilding of their self-efficacy in learning. For instance, if a student' s academic performance has recently declined, the teacher should engage in a discussion with the student to clarify learning goals, develop feasible strategies, break down the goals into smaller tasks, and offer rewards to help reignite the student' s interest in learning.

03

The Onset and Persistence of Academic Burnout

03

The Onset and Persistence of Academic Burnout

Principle 3: Academic Burnout Stems from an Imbalance Between Demands and Resources

Explanation:

The conservation of resources (COR) theory suggests that the depletion of resources is a key element of burnout (Hobfoll & Se, 1989). Individuals are driven to obtain or maintain resources—items they value—such as objects, conditions, personal traits, and energies (Hobfoll & Se, 1989). This theory indicates that when resources become limited, individuals experience stress. Research has demonstrated a strong connection between stress and academic burnout (Fariborz et al., 2019; Jiang et al., 2021). Resources are classified into four types: Objects (e.g., houses, reference books), Conditions (e.g., social support), Personal Characteristics (e.g., resilience to stress), and Energies (e.g., time, money, knowledge, sufficient rest).

The demand-resource model emphasizes both the resources an individual has and the demands they encounter. The theory proposes that if the equilibrium between resources and demands is disrupted, individuals are more likely to experience burnout (Bakker & Mostert, 2024; Jagodics et al., 2023; Salmela-Aro & Upadyaya, 2014). Essentially, when an individual' s resources are insufficient to meet their demands, they are more susceptible to experiencing energy depletion and are at a higher risk of academic burnout.

From the students' perspective, the requirements encompass the challenges they encounter in learning and participating in school activities, such as difficult assignments, and obstacles like academic pressure (Salmela-Aro et al., 2022). Responding to academic

demands requires significant effort, consuming substantial energy, emotions, and cognitive resources. Extreme academic demands can lead to excessive fatigue, eventually resulting in burnout. Resources consist of the external support students receive, as well as their personal attributes, including school infrastructure and parental parenting styles. In the learning process, if there is a lack of appropriate resources, students may struggle to effectively manage heavy academic demands and fail to complete academic tasks successfully, leading to withdrawal behavior. Whether experiencing exhaustion or exhibiting academic withdrawal, students are more likely to fall into academic burnout.

Coping Guidance 3:

Practitioners should consider both the demands placed on students and the resources available to them.

From the perspective of demands:

Monitor students' academic workload: Practitioners should evaluate the amount of time students dedicate to daily studies and homework to determine if they are overwhelmed. If assignments are too demanding, practitioners can offer time management strategies to help reduce academic stress.

Be aware of external pressures: Practitioners should consider pressures related to further education or career prospects. Career planning education can assist students in developing a balanced outlook on their future, enabling them to set appropriate life goals.

From the perspective of resources:

Focus on students' internal resources: Practitioners can guide students in time management and emotional regulation to enhance their self-regulation skills. By providing positive feedback and encouraging gradual successes, practitioners can help build students' confidence and self-efficacy. For students with low self-efficacy, regular praise for their efforts and progress can boost their confidence.

Focus on students' external resources: Practitioners should actively support their students by identifying and addressing any challenges they encounter. Individual counseling and psychological support can help students tackle academic and life challenges. Practitioners can also encourage building supportive relationships through peer mentoring, group study, and collaborative projects, such as establishing a peer learning group to foster mutual assistance among students.

Principle 4: Academic Burnout Is Self-Sustaining and Difficult to Overcome

Explanation:

According to the self-maintenance cognitive behavioral model proposed by Almén, burnout arises from an ongoing imbalance between demands and resources, while its persistence is due to maladaptive coping strategies, such as chronic anxiety, pessimism, and self-doubt, as well as inadequate recovery capacity (Almén, 2021). This model elucidates the mechanisms that sustain long-term burnout. Unlike short-term burnout, long-term burnout is not only caused by immediate physiological stress responses but also by the prolongation of these responses, such as continuous negative thoughts and emotional reactions, along with insufficient recovery capacity, like poor sleep, which leads to ineffective recuperation (McEwen, 2011).

When stressors are alleviated, most students tend to recover, but there are notable exceptions. Brosschot' s research indicates that for some individuals, stress responses can persist even after the stressful situation has been resolved (Brosschot et al., 2006). This is often due to behaviors such as anxiety and rumination. Essentially, students who are prone to ruminating or exhibit perfectionist tendencies may continue to revisit and experience negative emotions, even after the stressor has passed, which can lead to prolonged burnout. This maladaptive behavior not only impacts physical and mental health but also diminishes the ability to handle future challenges, creating a vicious cycle.

Additionally, if students lack adequate recovery capacity and cannot fully recuperate from stressful events, they become more susceptible to new stressors, potentially resulting in long-term academic burnout. Therefore, adopting healthier and more effective coping strategies, such as non-judgmental acceptance, restructuring negative emotions, developing problem-solving skills, practicing emotional regulation, or enhancing psychological resilience through rest and relaxation techniques, can gradually alleviate the perception of burnout as the stressful situation concludes (Gu et al., 2015). This approach enables individuals to not only mitigate the effects of burnout but also gradually return to a more stable psychological state, thereby enhancing their ability to manage future challenges.

When students encounter increased demands, such as more homework, alongside decreased resources, like conflicts with peers, they often respond by putting in extra effort to tackle these challenges. For instance, they might skip lunch to finish assignments or attempt to resolve conflicts with peers (Almén, 2021). However, this additional effort can lead to stress responses, such as worrying about possible peer rejection, or result in reduced resilience, like feeling physically and mentally exhausted due to inadequate sleep (McEwen, 2011). As their internal resources deplete, already burned-out students must exert even more energy to address these issues, further intensifying their burnout (Brosschot et al., 2006). This initiates a vicious cycle of burnout. This maladaptive cognitive-behavioral pattern not only adversely affects physical and mental health but also reduces the ability to handle future challenges, sustaining the burnout cycle. However, by adopting more adaptive cognitive-behavioral strategies, such as rationally evaluating peer relationships or avoiding excessive commitment to learning and perfectionism, and choosing more effective recovery methods, like mindfulness or physical exercise, the severity of burnout can be lessened, allowing for gradual recovery to a healthier psychological state.

Coping Guidance 4:

Given the self-sustaining nature of academic burnout, it is crucial for practitioners to actively identify students displaying signs of burnout to prevent them from entering a

prolonged cycle. For those already experiencing burnout symptoms, practitioners should address the stressors and concentrate on the students' psychological recovery and cognitive-behavioral patterns. This approach is essential for effectively managing and recovering from burnout, thereby preventing the establishment of a long-term detrimental cycle. **Specific measures include:**

Early Identification: Practitioners should monitor students for signs such as difficulty concentrating, low mood, or a decline in academic performance. Regular one-on-one conversations with students will help practitioners understand their learning and life situations, enabling them to identify potential issues early.

Improving Cognitive-Behavioral Patterns: Practitioners can offer students guidance on recognizing and eliminating negative thought patterns, such as excessive worry or perfectionism. Through cognitive-behavioral techniques, educators can encourage students to approach problems from a more positive and rational perspective. They can also incorporate emotional regulation techniques, such as deep breathing or mindfulness meditation, to help students manage their emotions effectively and reduce stress.

Promoting Recovery Capacity: Practitioners should assist students in developing a balanced study schedule that includes sufficient time for rest and recreation to prevent overwork. They are responsible for educating students on the importance of healthy sleep habits, such as maintaining a regular sleep schedule and practicing relaxation techniques before bedtime, to improve sleep quality. Encouraging physical exercise can enhance physical health, relieve stress, and increase psychological resilience.

By addressing both the cognitive-behavioral aspects and physical recovery needs of students, practitioners can play a crucial role in preventing burnout and supporting students' return to a healthier, more balanced psychological state.

04

Identifying Academic Burnout Across Developmental Stages

04

Identifying Academic Burnout Across Developmental Stages

Principle 5: Academic Burnout Develops Progressively

Explanation:

It is crucial to comprehend the manifestation and progression of academic burnout for effective prevention and intervention strategies. Research indicates that burnout' s three components—emotional exhaustion, cynicism, and a sense of inadequacy—generally develop in a sequential manner. Nonetheless, some studies suggest that these dimensions can sometimes arise simultaneously instead of in a predetermined sequence (Maslach et al., 2001).

Emotional exhaustion often marks the onset of burnout syndrome. When students are confronted with demanding academic workloads without sufficient rest or relaxation, they typically experience intense fatigue. This fatigue may lead them to withdraw from the educational setting, seeking temporary solace through avoidance. As the situation evolves, students may develop a negative and apathetic attitude, characterized by cynicism, as a self-protective strategy.

Cynicism, or depersonalization, illustrates the interaction between the individual and their learning environment. When students wish to leave the learning environment but feel obligated to stay, they might emotionally detach from their studies, creating a psychological distance. This detachment can result in a cynical or indifferent outlook, serving as a defense mechanism to shield against further emotional investment in their academic

endeavors.

As burnout progresses, the third dimension— a sense of inadequacy— begins to appear. Inadequacy pertains to the self-assessment aspect of burnout. When the demands of the educational setting become overwhelming, fatigue or cynicism can undermine students' sense of efficacy. This reduction in motivation, paired with emotional detachment, obstructs students from experiencing the fulfillment of success. As a result, they may start to doubt their academic abilities, feeling that regardless of their efforts, achieving positive outcomes is unfeasible. This negative self-evaluation creates a detrimental cycle, making it increasingly challenging for students to regain motivation and ultimately compromising their mental health.

Stages of Academic Burnout and Their Symptoms:

Stage	Exhaustion	Cynicism (Depersonalization)	Inadequacy
Early Stage	Mild mood fluctuations, stress, occasional fatigue	Slight dissatisfaction with learning tasks	Decreased satisfaction with learning outcomes
	Difficulty concentrating, occasional fatigue	Mild detachment from teachers and classmates	Unclear goal setting
Mid Stage	Increased emotional instability, irritability, and frustration	Noticeable detachment from school and learning	Perception that efforts are unrewarding
	Decreased sleep quality, Exacerbated fatigue	Tension in relationships with peers and teachers, reluctance to engage in group activities	Decreased self-esteem, loss of confidence
Late Stage	Persistent emotional numbness, complete disinterest	Extreme cynicism, total loss of motivation for learning	Deep self-doubt, feelings of helplessness
	Severe fatigue, physical and mental exhaustion	Social isolation, complete disinterest in school-related matters	Believing oneself incapable of achievement and giving up.

Table 1: Stages of Academic Burnout and Their Manifestations

Coping Guidance 5:

It is essential to address academic burnout using stage-specific approaches, tailored to the student' s level of burnout. Through early identification and targeted interventions, practitioners can help to effectively prevent and alleviate the level of academic burnout, thereby promoting the students' overall health.

Early Stage:

Observation and Listening: Carefully monitor students for emotional changes and actively communicate with them to understand their concerns.

Reducing Load: Assign courses and tasks in manageable amounts to prevent excessive academic stress.

Providing Support: Encourage students to engage in extracurricular activities, like clubs or interest groups, to promote social support and relaxation.

Mid Stage:

Psychological Counseling: Encourage students to utilize psychological counseling services to address any emotional challenges they may encounter.

Time Management: Equip students with effective time management strategies to help them balance their study and relaxation periods appropriately.

Building Confidence: Establish attainable goals for students and motivate them to complete tasks incrementally, thereby enhancing their confidence.

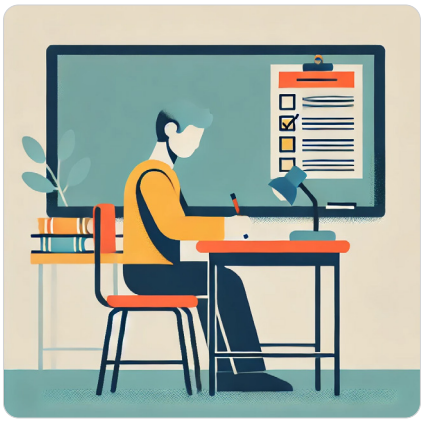
Home-School Collaboration: Maintain close communication with parents to jointly focus on students' mental health.

Late Stage:

Professional Intervention: Direct students to professional mental health services for structured psychological treatment to manage severe burnout symptoms.

Home-School Joint-efforts: Maintain close communication with parents, clarify that the student needs to undergo professional medical intervention, and guide parents to actively cooperate with the hospital's treatment plan, jointly focusing on the student's recovery progress.

Personalized Support: Create customized study plans and offer personalized assistance to help students restore motivation and progressively overcome burnout.



Principle 6: Multiple Approaches Are Needed to Identify Academic Burnout

Explanation:

There are several methods for measuring academic burnout, including self-report questionnaires, interviews, observations, and physiological indicators. These tools allow teachers and researchers to assess students' burnout levels more accurately. The table below summarizes some commonly used measurement methods and their key characteristics.

Measurement Method	Description	Advantages	Disadvantages
Self-Report Questionnaires	Students report the extent and manifestation of their burnout through standardized questionnaires.	Easy to implement on a large scale; Provides quantifiable results for statistical analysis.	Subject to social desirability and self-perception biases; Relies on students' honesty.
Interviews	In-depth, one-on-one or phone interviews to gain insights into students' feelings and experiences.	Offers detailed and deeper personal experiences and insights.	Time-consuming and challenging to scale; Requires skilled interviewers.
Observations	Observing students' behavior and performance directly.	Provides objective, real-time data.	Results may be affected by the observer's subjective interpretations; Difficult to conduct in natural settings.

Measurement Method	Description	Advantages	Disadvantages
Physiological Indicators	Measures physiological parameters (e.g., heart rate, blood pressure, cortisol levels) to assess burnout.	Objective data, less influenced by subjective factors.	Requires specialized equipment; Measurement process may discomfort students.
Peer Evaluation	Peer assessments given daily interaction experiences.	Allows for the third perspectives on burnout.	Peer biases or misunderstandings may distort results; Requires a trust-based environment.
Teacher Evaluation	Teachers assess burnout based on observations and interactions with students.	Teachers possess in-depth knowledge of students, leading to more nuanced evaluations.	Teachers biases may affect results; Specific evaluation skills are required for teachers.
Comprehensive Evaluation	Combines multiple methods (e.g., questionnaires, interviews, observations) for a holistic assessment.	Offers a complete and accurate understanding of burnout.	Complex, time-consuming, and resource-intensive to implement.

Table 2: Measurement Methods for Academic Burnout

Coping Guidance 6:

Practitioners should become acquainted with various methods for measuring academic burnout and choose the most suitable one for their particular context. The applications of each method are as follows:

Self-Report Questionnaires: This method can efficiently evaluate burnout on a large scale, utilizing established scales such as the Maslach Burnout Inventory (Maslach & Jackson, 1981) and the School Burnout Inventory (Salmela-Aro et al., 2009).

Interviews: Interviews offer detailed, qualitative insights into individual students, which are especially useful for those with unusual questionnaire responses. They help reveal specific challenges and emotional states that may not be evident through standardized assessments.

Observations: Teachers can monitor students during classroom activities to identify signs of burnout in real-time. This approach enables early intervention and provides immediate support.

Physiological Indicators: Utilizing objective data, such as heart rate and cortisol levels, this method offers scientifically grounded and unbiased insights into burnout. However, it is resource-intensive and may not be practical for routine educational settings.

Peer and Teacher Evaluations: Feedback from peers and teachers provides additional perspectives on a student' s burnout, complementing self-reports and giving a more comprehensive view of their well-being.

Comprehensive Evaluation: Combining multiple assessment methods can provide a complete understanding of student burnout. By using a combination of these methods, teachers can identify early signs of burnout and intervene before it becomes a significant issue. Early detection and intervention are essential for preventing burnout from becoming chronic and for supporting both students' academic success and mental health.

05

Demands Versus Resources

05

Demands Versus Resources

Principle 7: The Multi-level Framework of Demands and Resources on Academic Burnout

Explanation:

Expanding upon the original study demands-resources (SD-R) model, researchers have proposed that both demands and resources operate across five interconnected levels: school, classroom, family, society (including teachers and peers), and the individual (Salmela-Aro et al., 2022). This model emphasizes that the dynamic imbalance between demands and resources does not occur solely at one level but rather within a broader system. When this imbalance spans multiple levels, individuals may experience academic burnout.

At the school level, the broader context—defined by policies, culture, and social norms—significantly impacts students. Classroom settings, including teaching methods, management strategies, and learning environments, are closely linked to the development of students' autonomy, competence, and sense of belonging. Family settings, particularly the degree of parental support, are crucial for the development of children and adolescents. Parental attitudes, educational strategies, and family interaction patterns greatly influence children' s psychological needs and development. On the social level, which includes teacher-student and peer relationships, the quality of these social connections plays a vital role in individual psychological well-being and social adaptation. At the individual level, each student' s distinct personality, abilities, goals, and social-emotional skills serve

as essential internal resources for personal growth.

The interdependence of demands and resources mirrors the relationship between various levels of support and pressure, forming a complex network. Changes at one level can prompt reactions at others, affecting overall individual development. Therefore, to effectively reduce academic burnout, it is essential to consider interventions that address demands and resources at these multiple levels. The needs and resources at each level are demonstrated in the table below.

Level	Demands	Resources
School	Academic Pressure and Challenges (Wang & Eccles, 2012); High Academic Expectations (Côté-Lussier & Fitzpatrick, 2016; Leath et al., 2019); Academic Workload and Competition (Wang & Eccles, 2012).	Support from Teachers and School (Jang et al., 2010; Liu et al., 2018); Academic Mastery Motivation (Maas & Huls, 2018); Educational Environment Support (Du & Park, 2019); Teacher Encouragement (Côté-Lussier & Fitzpatrick, 2016).
Classroom\ Teacher	Peer Pressure (Strati et al., 2017); Conflicts and Social Competition (Strati et al., 2017); Negative Peer Influences (Jiang et al., 2018; Pöysä et al., 2019); Academic Comparison (Hughes & Cao, 2018).	Support from Peers and Teachers (Martin & Collie, 2019; Reyes et al., 2012; Romano et al., 2020); Positive Peer Relationships (Upadyaya & Salmela-Aro, 2018); Academic Collaboration (Jiang et al., 2018); Social Belonging (Reyes et al., 2012).
Family	Parental Educational Expectations (Ugudaga & Salmela-Aro, 2018; Wilder, 2014); Harsh Parenting (Raufelder et al., 2015; Ready & Christenson, 2019); Lack of Parental Support (Masten, 2013; Park et al., 2021; Salmela-Aro & Vasalampi et al., 2018).	Family Emotional and Educational Support (Luong et al., 2016); Positive Parenting (Wang & Eccles, 2012); Parental Encouragement (Liu et al., 2018); Constructive Parental Involvement (Ugudaga & Salmela-Aro, 2018).
Society	Social and Cultural Pressures (Liu et al., 2010); Inequality in Education Resources (Lerner, 2011; Rimpelä et al., 2020); High Social Expectations (Hope et al., 2016; Hurd & Ramey, 2016).	Social Support Networks (Mentzer et al., 2019); Community Engagement (King, 2015); Positive Social Role Models (Zhang et al., 2019); Youth Development Programs (Wang & Eccles, 2012).
Individual	Cognitive or Learning Difficulties (e.g., Attention Deficit Hyperactivity Disorder (ADHD); Zendarski et al., 2017); Mental Health Issues (e.g., Depression, Anxiety, Internalized Problems, Internet Addiction, Externalized Problems; Stiles & Gudiño, 2018); Externalized Behaviors (e.g., Misbehavior; Archambault et al., 2017); Personality Issues	Achievement Goal Orientation (Tuominen et al., 2020); Emotional/Motivational Resources (e.g., Life Satisfaction, Self-Efficacy, Perseverance, Growth Goals) (Heffner & Antaramian, 2016; Nadon et al., 2024; Sun et al., 2020; Tang et al., 2019; Wen et al., 2014; Xu et al., 2017); Social-Emotional Skills (OECD, 2021).

Table 3: Expanded SD-R Model

Coping Guidance 7:

Practitioners must acknowledge that students encounter demands and resources at various levels. As such, strategies to alleviate academic burnout should target these demands and resources across five critical areas: school, classroom, family, social (including teachers and peers), and individual. A comprehensive approach addressing these levels will more effectively prepare students to manage academic pressures, thereby minimizing burnout and its adverse effects. Intervention strategies can be directed towards two main objectives: decreasing demands and enhancing resources. Specific actions for each level are detailed below.

Level	Reduce Demands	Increase Resources
School	**Reducing Academic Burden:** Reduce excessive coursework and emphasize a balance between work and rest, such as shortening unnecessary activities and increasing break time. Minimize unnecessary comparisons and competition.	**Fostering a Positive School Climate:** Cultivate an uplifting school climate through school activities and student organizations. Implement mental health education programs to enhance students' psychological resilience and ability to cope with stress. **Enhancing Student Support and School-Home Collaboration:** Expand counseling and psychological services, offer career planning and academic guidance, and hold regular parent-teacher meetings to strengthen collaboration between schools and families. **Personalized Teaching:** Tailored instruction based on the characteristics of different subjects and individual students' performance levels. Provide timely feedback on students' learning progress and adjust teaching strategies accordingly. Building Positive Teacher-Student Relationships: Foster trust and support between teachers and students by providing emotional support and personalized guidance. Integrate emotional support into classroom practices and use positive feedback and encouragement to boost students' learning interest and motivation.
Classroom\ Teacher	**Tiered Assignment Design:** Design assignments at different levels based on students' performance level, ensuring that each student can practice and consolidate knowledge at an appropriate level of difficulty, thereby reducing academic challenges in the learning process.	
Family	**Adjusting Educational Expectations:** Parents should set reasonable expectations for their children, avoiding goals that exceed their abilities and reducing psychological pressure.	**Provide Emotional Support:** Help children solve problems and reduce their psychological burden through positive communication and warm care. Provide Emotional Support: Help children solve problems and reduce their psychological burden through positive communication and warm care. Optimize the Learning Environment: Provide children with a quiet and comfortable study space, reduce distractions, and avoid assigning too many additional tasks.

Level	Reduce Demands	Increase Resources
Individual	**Adjust Goals and Tasks:** Set realistic and achievable goals, focus on core tasks, break complex problems into smaller steps, and learn to decline additional burdens. **Optimize Time Management:** Concentrate on a single task, use tools setting task priorities.	**Developing Social-emotional Skills:** Participate in social and emotional skills training courses to learn skills such as effective communication, collaboration, and emotional regulation.

Table 4: Multi-Level Burnout Intervention Measures Based on the Expanded SD-R Model

Conclusion:

By tackling academic burnout on various levels of demands and resources, educators can more effectively support students in managing and overcoming challenges. The essential approach is to balance reducing excessive demands with providing adequate resources from the school, classroom, family, social networks, and individual support systems. By offering support at each level, educators can reduce the risk of burnout, enhance student well-being, and foster both academic and emotional success.

06

Burnout Prevention and Intervention at the Individual Level

06

Burnout Prevention and Intervention at the Individual Level

Principle 8: Developing Students' Social-Emotional Skills for Preventing Academic Burnout

Explanation:

Social and emotional skills (SEK) encompass an individual' s ability to perform tasks, engage socially, and manage emotions, all of which are vital for both academic success and personal development (De Fruyt et al., 2015). Based on the Big Five personality theory, the OECD has developed a research framework for social-emotional skills, as illustrated in the figure below.

Social and Emotional Skills-Domain	Social and Emotional Skills-Facets
Task Performance	Perseverance, responsibility, self-control
Emotional Regulation	Emotion regulation, optimism, stress resilience
Interaction with Others	Confidence, energy, social skills
Collaboration	Cooperation, empathy, trust
Openness	Creativity, curiosity, tolerance

Table 5: OECD framework of Social and Emotional Skills

Coping Guidance 8:

Enhancing students' social and emotional skills is a crucial strategy for preventing academic burnout, particularly in high-pressure educational settings.

Group-level Practices

Establish Social and Emotional Learning (SEL) Goals: We should set specific social and emotional learning goals for various grade levels, such as emotional regulation, empathy, and teamwork skills, and incorporate them into the daily curriculum. This approach helps students maintain a positive mindset under academic stress.

Professional Development: Provide practitioners with specialized training in social and emotional skills to equip them with the necessary knowledge and tools, while also enabling them to identify early signs of academic burnout. Practitioners play a vital role in the implementation of these strategies.

Develop Relevant Teaching Materials and Resources: Create social and emotional learning materials and activities tailored to students, such as case studies and interactive games, to make the learning of these skills more engaging and applicable to real-life situations. User-friendly tools can enhance the effectiveness of lessons delivered by practitioners.

Individual-level Practices

To effectively enhance students' social and emotional skills and reduce academic burnout, practitioners should implement a range of comprehensive strategies and methods.

Act as Role Models: Demonstrate empathy in interactions with students and others. Model healthy ways to handle frustration, disappointment, and conflict, allowing students to learn through imitation.

Family Involvement: Offer resources and workshops for families to extend social and emotional learning beyond school. Educate families about social and emotional learning activities and encourage them to reinforce these skills at home.

Developing Emotional Regulation Strategies: Emotional regulation strategies can be categorized into three main types: preventive strategies, response strategies, and cognitive reappraisal. Preventive strategies are designed to avert the onset of negative

emotions by modifying the learning environment or tasks, such as establishing small, attainable goals or creating a study space free of distractions (Schutte et al., 2009). Response strategies involve managing emotions after they arise, such as employing relaxation techniques to reduce anxiety or using positive self-talk to challenge negative thoughts (Demaree et al., 2006). Cognitive reappraisal refers to altering the emotional response to a situation by reinterpreting it, such as perceiving failure as an opportunity for growth rather than a reflection of inadequate ability (Gross & John, 2003). These strategies enable students to effectively handle their emotions through preventative, coping, and cognitive approaches, thereby facilitating better navigation of learning challenges and maintaining a positive mindset.

Principle 9: Physical Exercise Can Effectively Alleviate Academic Burnout

Explanation:

Engaging in regular physical exercise provides numerous benefits for students' overall health, encompassing improvements in physical, mental, and social well-being. In particular, physical activity can boost mental health by releasing endorphins, which not only relieve pain but also promote relaxation and happiness. This helps to combat stress and emotional fatigue, enhance sleep quality, and increase overall life satisfaction (Azofeifa Mora, 2018; Boni et al., 2018; Erschens et al., 2019). Thus, regular physical exercise serves as an effective strategy for reducing academic burnout.

An intervention study classifies physical activities into aerobic exercise and strength training (Rosales-Ricardo & Ferreira, 2022). For those in the aerobic exercise group, activities such as jogging, walking, or stationary cycling are recommended for 30–50 minutes, including initial warm-up/stretching, aerobic exercise, and a recovery phase. For the strength/resistance training group, exercises like push-ups, abdominal exercises, high-bar exercises, and squats are suggested for 30–50 minutes, also including a warm-up/stretching phase, strength exercises, and a recovery phase. Research indicates that

regular engagement in physical activities aids students in managing emotions, reducing learning stress, and alleviating fatigue from prolonged study sessions, thereby decreasing academic burnout.

Coping Guidance 9:

Practitioners should acknowledge the critical role that physical exercise plays in enhancing students' learning and overall well-being. By creating activities that are both engaging and relevant, students can be effectively supported in alleviating stress, improving physical fitness, and boosting psychological resilience. The following strategies provide effective methods for integrating physical exercise into students' routines:

Category	Activity Name	Schedule	Content
Daily Physical Activities	Recess Exercise	Twice daily, 25-30 minutes each	Warm-up: Activities such as jogging or jump rope to elevate heart rate. Stretching: Full-body stretches to improve flexibility.
	Physical Education (PE)	At least 3 times per week, 40-45 minutes	Basic Fitness Training: Running, long jump, and throwing exercises to improve physical endurance and strength. Team Sports: Football, basketball, volleyball, etc., to enhance cooperation and competitive skills. Skill Training: Teaching fundamental sports skills, such as dribbling, passing, and shooting in basketball. Games: Engaging activities such as relays and obstacle courses that add enjoyment to physical education classes.
Fun Physical Activities	Sports Day	Once per semester, 1-2 days	Tug-of-War: Fosters class unity and team spirit. Three-Legged Race: Promotes collaboration and synchronization. Kangaroo Jump: Improves leg strength and coordination. Target Basketball: Enhances hand-eye coordination and accuracy. Fun Relays: Creative relay races, such as carrying ping pong balls or jump rope relays.
Fun Physical Activities	Sports Festival	Annually, lasting one week	Sports Knowledge Quiz: An interactive Q&A session to raise awareness about sports. Sports Photography Exhibit: Showcases campus sports activities to inspire student participation. Athlete Talks: Guest speakers such as athletes or coaches share their experiences and motivational insights. Parent-Child Sports Day: Encourages family involvement in physical activities, strengthening familial bonds.

Table 9: Physical Activity Guidelines

Additional Considerations:

Personalized Exercise Plans: Develop customized exercise programs based on students' physical conditions and interests to ensure active participation from each student.

Safety Education: Enhance safety education in physical activities by teaching correct exercise techniques and safety measures to minimize sports-related injuries.

Incentives: Implement a rewards system to recognize students who excel in physical activities, thereby boosting enthusiasm and participation.

Principle 10: Students' Mindsets Are Critical for Academic Burnout

Explanation:

Changing maladaptive mindsets (including stress mindset) is vital for reducing academic burnout. Enhancing self-efficacy allows students to build confidence in their ability to tackle academic challenges, which decreases anxiety and frustration, ultimately reducing the risk of burnout. Encouraging adaptive attribution helps students perceive failure as a learning opportunity rather than a setback, enabling them to maintain a positive outlook and lower burnout risk from repeated challenges. Additionally, fostering intrinsic motivation keeps students engaged and inspired by their interest and enjoyment in learning, mitigating burnout linked to external pressures. Common intervention methods include cognitive behavioral therapy (CBT), rational emotive behavior therapy (REBT), and mindfulness.

1. Cognitive Behavioral Therapy

1.1 Classic Cognitive Behavioral Therapy

Cognitive behavioral therapy (CBT) is a fundamental element of effective psychological treatment for various behavioral issues and is widely considered the gold standard in psychotherapy (David et al., 2018). CBT operates on the understanding that emotional

and behavioral problems largely stem from maladaptive cognitive patterns or thought processes. By modifying these patterns, individuals can enhance both their emotional well-being and behavior. Cognitive theory highlights the essential links between thoughts, feelings, and behaviors. For students experiencing burnout, the therapist' s objective is to help them identify the cognitive and emotional processes involved in burnout, thereby promoting greater self-awareness (Saricam et al., 2017). In this framework, CBT seeks to boost feelings of competence and hope by restructuring unhealthy thoughts and behaviors, while encouraging healthier coping strategies to address life' s challenges and stressors, ultimately reducing academic burnout (Alshobaili et al., 2020).

Example from Baratisedeh' s Study: To offer a clearer understanding of the specifics of CBT, the therapeutic content is summarized in the following table (Baratisedeh et al., 2023).

Session	Content
1	After the introduction, the definition of academic burnout and the factors causing it were discussed.
2	Trainings were provided on the characteristics of spontaneous thoughts and belief systems.
3	It was devoted to education related to behavioral and emotional consequences and thoughts and beliefs.
4	The training of skills to change thoughts of irrational beliefs was done.
5	Verbal and non-verbal skills of effective communication and assertive behavior were taught.
6	Relaxation training was given.
7	Problem-solving skill training was done.
8	It was devoted to a review of the trainings and programs presented in the previous meetings.

Table 6: Cognitive Behavioral Therapy Treatment

1.2 Rational Emotive Behavior Therapy (REBT)

Rational emotive behavior therapy (REBT) is a branch of cognitive behavioral therapy (CBT) with its distinctive theoretical and technical elements. Developed by Albert Ellis in the 1950s, REBT suggests that emotional distress primarily stems from irrational beliefs within our belief systems (Ellis, 1957). It emphasizes that changing these beliefs can lead to changes in emotions and behaviors. A key aspect of REBT is the identification and challenging of irrational beliefs. The ABC model is used to describe emotional reactions: A is the activating event, B is the belief, and C is the consequence. By altering B (belief), one can affect C (consequence). In addition to addressing emotional and behavioral concerns, REBT aims to foster self-acceptance, tolerance for others, and acceptance of reality.

Rational emotive behavior therapy (REBT), often provided through group therapy, involves a collaborative process between the therapist and participants. REBT posits that individuals experiencing burnout often hold unhelpful, self-defeating, and emotionally disturbing beliefs. The therapy aims to assist clients in restructuring their thoughts, correcting incorrect beliefs, reducing intense negative emotions, and improving their ability to regulate emotions. This is accomplished through techniques such as disputing, rational self-talk, Socratic questioning, cognitive rehearsal, and role-playing.

Example from Ogbuanya' s Study: In this study, REBT was implemented over 12 weeks, with 20 sessions followed by bi-weekly follow-ups. Each session lasted approximately 90 minutes (Ogbuanya et al., 2019). The following table summarizes the treatment guidelines.

Time Frame	Stage	Activity
Weeks 1-4 (Short-term phase, two sessions per week)	Session 1 (Introduction)	1. Conduct an initial clinical assessment of fatigue syndrome symptoms.
		2. Establish good relations with participants.
		3. Provide education on REBT, clarify the treatment goals and expectations, and explain the rules.
		4. Develop a list of issues to address.
Weeks 1-4 (two sessions per week)	Sessions 2-8	Apply REBT models and techniques to address each issue on the list through counseling and interventions

Time Frame	Stage	Activity
Weeks 5-8 (Mid-term phase, two sessions per week)	Sessions 9-16	1. Strengthen rational beliefs and reduce fatigue-related thinking.
		2. Manage fatigue symptoms by challenging fatigue-related beliefs, promoting rational thinking and maintaining a sense of self-acceptance.
		3. Encourage participants to recognize connections between different issues, especially fatigue-related issues.
Weeks 9-12 (Final phase, one session per week)	Sessions 17-20	1. Prepare participants to become their own therapist or self-coach for managing burnout.
		2. Develop problem-solving skills, enhance cognitive hardiness, and build resilience against burnout.
		3. Facilitate group dialogue to share experiences and reflections on the treatment sessions and the REBT program.
		4. Implement relapse prevention strategies and conduct post-assessment.
Follow-up (6 months)	Phone follow-up	Two bi-weekly follow-ups and assessments.

Table 7: Summary of the Rational Emotive Behavior Therapy (REBT) Program Manual

2. Mindfulness Training

Some researchers contend that mindfulness is more than a relaxation or emotional regulation technique; it is a form of psychological training designed to minimize the cognitive vulnerabilities linked to rumination (Bishop et al., 2004). Within the self-sustaining model of burnout, reducing rumination can facilitate recovery from burnout and help prevent its recurrence. Mindfulness is characterized by the intentional and non-judgmental attention to each present moment (Jon, 1990, 1994) and involves engaging with the present with curiosity, openness, and acceptance (Bishop et al., 2004, Su et al., 2019). This approach represents a unique way of thinking. Mindfulness training generally

includes two well-recognized methods: mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT). These programs typically guide participants in non-judgmentally focusing attention on the present moment, encompassing physical sensations, thoughts, and emotions (Kabat-Zinn, 1990, 1994; Segal et al., 2013). Meta-analyses show that both MBSR and MBCT effectively reduce emotional symptoms and improve overall functioning in individuals with mental health issues (Gu et al., 2015; Khoury et al., 2013).

A comprehensive research project led by Oxford University, known as the MYRIAD study, sought to investigate ways to enhance psychological resilience and reduce depression in adolescents by examining the impact of mindfulness interventions on their mental health. The study found that while mindfulness training is generally beneficial for most adolescents, its effectiveness is diminished among younger adolescents or those with severe pre-existing mental health issues (Kuyken et al., 2022; Montero-Marin et al., 2022). Younger adolescents, such as 11-year-olds, often find it difficult to fully understand and apply mindfulness skills, which require advanced metacognitive abilities—the capacity to be aware of and control one' s thought processes. This ability is not fully developed in younger children, limiting their ability to effectively use mindfulness techniques for self-regulation. Additionally, adolescents at high risk for mental health challenges often exhibit poorer executive functioning and struggle with emotional management. Although they might recognize their negative emotions, they find it challenging to use mindfulness skills to regulate these emotions or restore psychological balance, largely due to insufficient executive function support. Consequently, mindfulness training may not be significantly beneficial for these adolescents and might even worsen their distress.

Example from O' Driscoll' s Study: In O' Driscoll' s study, participants were required to complete a 4-week mindfulness course (O' Driscoll et al., 2019). The course comprised four weekly sessions, each varying in length, along with daily practice lasting approximately 20 minutes.

Week	Activity Type	Description	Time (minutes)
Week 1	Introduction, group agreement, reflection, self-introduction, raisin exercise, attitude foundations, body scan	Course introduction, group agreement, personal reflections, self-introductions, raisin exercise, discussion of attitude foundations, body scan meditation, and other activities.	75
Week 2	Body scan, street walking, mindful breathing, mindful movement and exploration	Detailed body scan meditation, street walking reflection, mindful breathing meditation, mindful movement series, and other activities.	70
Week 3	Mindful movement, joy calendar, seated meditation, unpleasant events, stress, 'Guest House'	Mindful movement, joy calendar, seated meditation, addressing unpleasant events, stress management, 'Guest House' meditation, and other activities.	95
Week 4	Seated meditation, 'Johnny on the Way to School', 'Photograph Five Chapters', bringing mindfulness into daily life, mindful stretching, guided reflection, final words	Seated meditation, 'Johnny on the Way to School' story, 'Photograph Five Chapters' poem, integrating mindfulness into daily life, mindful stretching, course reflections, and other activities.	80
Daily Homework	Meditation and exploration	Includes body scan, mindful breathing, joy calendar, alternating between seated meditation and mindful movement or body scan, and other practices.	20-30

Table 8: Mindfulness Course

Notes:

1. The raisin exercise is a classic mindfulness training method used to help people enhance their awareness of the present moment. Through this exercise, participants focus their attention on the process of eating a raisin, observing and experiencing it in detail, cultivating concentration and mindful awareness.

2. The 'Guest House' meditation is a mindfulness-based meditation practice inspired by Rumi's (1207-1273) poem 'The Guest House'. This poem uses the metaphor of a Guest House to represent our mind, inviting various emotions and experiences as visitors. It teaches us how to face all life experiences with an open and accepting attitude.

Coping Guidance 10:

Prior to implementing intervention methods, it is essential for practitioners to undergo basic training to ensure these techniques are applied effectively. The training content can be simplified into the following key points:

1. Cognitive Behavioral Therapy (CBT): Instruct on techniques to identify negative thinking patterns, such as cognitive distortions. Teach simple adjustment methods, for example, using a question-and-answer format to assist students in converting negative thoughts into more positive perspectives.

2. Rational Emotive Behavior Therapy (REBT): Educate practitioners on employing the straightforward ABC model (Activating event, Belief, Consequence) to analyze student issues, guide students to challenge irrational beliefs, and promote rational thinking. Provide example scenarios and practical guidance.

3. Mindfulness Therapy: Train practitioners to become proficient in basic mindfulness exercises, such as mindful breathing and a 3-minute focused attention practice. Teach practitioners how to introduce mindfulness techniques before or during class to assist students in alleviating stress.

When practitioners identify that students are experiencing significant symptoms of academic burnout, they can employ the following intervention strategies:

1. Cognitive Behavioral Therapy (CBT): Assist students in recognizing and altering maladaptive cognitive patterns by fostering relationships, providing cognitive training, and skill development, which can improve emotional and behavioral issues.

2. Rational Emotive Behavior Therapy (REBT): Support students in forming rational beliefs, managing fatigue symptoms, and enhancing emotional regulation by identifying and challenging irrational beliefs.

3. Mindfulness Therapy: Help students reduce rumination and improve emotional regulation, thereby alleviating stress and burnout through mindfulness practices.

Create Intervention Plans Based on Individualized Assessments: Conduct comprehensive evaluations of students' academic burnout levels, thought patterns, and psychological needs using assessment tools. Develop personalized intervention plans by flexibly integrating CBT, REBT, or mindfulness therapy to maximize intervention effectiveness.

Provide Ongoing Support and Follow-up: After implementing interventions, regularly follow up with students to monitor their thought and behavior adjustments in real academic settings. Adjust intervention strategies as necessary to prevent the recurrence of burnout issues.

07

Burnout Prevention and Intervention at the Group Level

07

Burnout Prevention and Intervention at the Group Level

Principle 11: Implementing Collective Mental Health Courses to Prevent Academic Burnout

Explanation:

In 1981, researchers suggested that burnout workshops could be an effective intervention model (Pines & Aronson, 1981). In 2008, a study introduced a work-life group approach aimed at facilitating the transition to high school or vocational education while improving the mental health of young people completing basic education. This intervention helped reduce burnout among students who initially faced learning difficulties (Vuori et al., 2008). By addressing the potential risks and challenges students might encounter in their future careers, the approach allowed them ample time to develop the necessary professional skills, thereby enhancing their preparedness. When students feel well-prepared, their self-efficacy increases, and they begin to focus more on their self-development (Vuori et al., 2005). This method consists of five key components.

Module	Title	Content
Module 1	Career Management Skills	Encourage participants to define and practice career management skills, such as identifying personal strengths, exploring career interests, seeking career information, setting personal goals and plans, and internalizing the concept of lifelong learning. Additionally, participants are encouraged to view their social networks as valuable resources for career guidance.
Module 2	Active Teaching Methods	Trainers integrate career knowledge and career choice skills into the learning process through small group discussions, role-playing, and other interactive activities. Participants take an active role in their learning, with the trainer introducing exercises, providing guidance, observing progress, and facilitating the process to help participants reach the desired outcomes.

Module	Title	Content
Module 3	Supportive Learning Environment	Trainers create a positive and supportive learning environment where participants can collaborate, learn from each other, and build trust in both the trainer and fellow group members. This environment is fostered through targeted, timely, and well-justified social support and feedback, strengthening both the group process and individual growth.
Module 4	Frustration Prevention Training	Participants are guided in problem-solving and taught coping strategies for managing stress caused by obstacles and setbacks in their educational and professional careers. These challenges may include lack of social support, parental conflict, unrealistic career expectations, lack of self-confidence, gender inequality, unstable careers, or job insecurity. The training focuses on three key aspects: (a) identifying potential obstacles, (b) developing strategies to address them, and (c) practicing resilience in overcoming these challenges.
Module 5	Skilled Trainers	Effective training requires that participants develop a solid understanding of core concepts. Trainers are encouraged to build trust with participants and work collaboratively, often in pairs, to facilitate the learning process and promote mutual engagement and support.

Table 10: Work-Life Group Intervention Method for Career Preparation

In 2009, with backing from South Korea' s Ministry of Education, Science, and Technology, a motivation-centric academic group psychotherapy program was created to combat academic burnout by boosting learning motivation (Jo et al., 2009). This program incorporates activities designed to enhance students' intrinsic motivation, develop coping strategies, and improve self-efficacy. By integrating scientific educational strategies, it helps students learn to manage academic stress adaptively. The program' s effectiveness has been confirmed by researchers such as Noh et al. (2020), with detailed content outlined in the table below (Noh et al., 2020).

Phase	Module	Course Title	Goal
Phase 1: Introduction	1	I Am a Korean Middle School Student!	Introduction to the program and enhancement of motivation.
Phase 2: Development	2	My Learning Style	Identifying and examining learning styles.

Phase	Module	Course Title	Goal
Phase 2: Development	3	You're Not My Type!	Coping with academic helplessness.
	4	Valuable to Both You and Me	Enhancing academic self-efficacy.
	5	Never Get Discouraged	Overcoming and coping with frustration.
	6	The Magic Wand I' m Waiting For	Building self-confidence.
	7	Dream Come True	Enhancing intrinsic motivation.
Phase 3: Conclusion	8	It' s Simple, Isn' t It?	Final review and promoting lasting change.

Table 11: Motivation-Based Academic Group Psychotherapy Intervention Program

Coping Guidance 11:

Through collective mental health course interventions, students can systematically improve their resilience to stress and boost their academic motivation. It is advised to actively support and promote these initiatives.

Promote the implementation of 'Work-Oriented Life Group Intervention' courses: Stakeholders can design intervention courses focused on students' career development, including career planning, time management, and communication skills training. These courses can help students enhance practical skills and reduce anxiety about their future.

Develop 'Motivation-Based Academic Group Therapy' courses: Collaborate with universities and psychological experts to create group psychological courses aimed at increasing academic motivation. These courses can help students manage academic stress, regulate their learning emotions, and develop a positive sense of purpose.

Organize professional teacher training: Provide specialized training in course design and implementation for mental health practitioners and counselors, ensuring they can effectively guide students in participating in these intervention activities. Supporting practitioners' growth is essential for the success of the courses.

Establish a course promotion and support plan: Use policy guidance and resource in-

vestment to integrate mental health courses into regular teaching schedules. This includes providing designated class hours, venue support, and assigning professional personnel to schools.

Evaluate course effectiveness and refine it: Develop an evaluation mechanism to regularly monitor students' mental health levels and academic performance after participating in the courses. Continuously refine the course content and format based on feedback.

Practitioners can create lesson plans for mental health courses by considering students' developmental stages and the real issues they encounter. By fostering supportive and cooperative relationships, they can assist students in addressing academic challenges more effectively, increase learning motivation, and enhance academic efficacy, ultimately reducing academic burnout.

Preparation: Gain an understanding of the students' backgrounds, including their interests, strengths, and potential challenges, to tailor the course content more effectively to their needs.

Course Design: Thoughtfully develop the specific content and activities for each lesson, ensuring they are engaging and practical, based on the course modules.

Execution and Adjustment: Monitor student feedback during the course and adjust the content as necessary to accommodate the diverse needs of the students.

Evaluation and Feedback: Collect student evaluations regularly, assess the course's effectiveness, and continuously refine the teaching plan.

Principle 12: School-Family Collaboration Is Essential for Academic Burnout Reduction

Explanation:

According to ecological systems theory, both family and school play vital roles in the mental health development of adolescents (Bronfenbrenner, 1979) and significantly impact students' experiences of burnout. In the school environment, excessive academic demands, frequent exams, competitive pressures, and limited personalized teaching support can lead to feelings of exhaustion and helplessness among students, potentially causing burnout (Keller et al., 2014; Strati et al., 2017). Additionally, teachers' attitudes and teaching methods influence students' emotions and motivation. Those who are overly strict or indifferent can exacerbate negative feelings in students (Hughes & Cao, 2018). On the family front, high parental expectations, excessive interference, and a lack of understanding can add to students' psychological burdens (Upadyaya & Salmela-Aro, 2013; Wilder, 2014; Raufelder et al., 2015; Reschly & Christenson, 2019). Parents' anxiety and stress often transfer to their children, amplifying their feelings of anxiety and helplessness. Additionally, an unstable family environment and lack of support can weaken students' self-confidence and motivation to learn (Im et al., 2016; Upadyaya & Salmela-Aro, 2013; Wang & Eccles, 2012; Wilder, 2014).

Coping Guidance 12:

To effectively address academic burnout, it is essential for schools and families to integrate their resources and work collaboratively (Li et al., 2020). Schools should engage in regular communication with parents to jointly monitor students' academic performance and emotional health, allowing for the timely identification and resolution of any issues. Organizing parent-teacher meetings and educational workshops can assist parents in adopting scientifically backed educational approaches that help alleviate academic pressures on students. Concurrently, families can support schools by engaging in volunteer activities, thereby reinforcing the school-family partnership. Furthermore, schools should

implement mental health education programs and offer professional psychological counseling and support services. Families can contribute by fostering a positive mindset and coping strategies in students through open and supportive communication. This collaborative support system not only mitigates academic burnout but also enhances students' overall development.

The 'Two-Winged Approach' to school-family collaboration for addressing academic burnout is a comprehensive psychological health education model designed to provide holistic mental health support through combined efforts from both the school and the family. Central to this model is the concept of 'One Body' , which emphasizes placing the student' s mental health at the forefront. The 'Two Wings' symbolize support and cooperation from both the school and family. Practitioners are encouraged to strategically use the resources available within students' families to help reduce academic burnout.

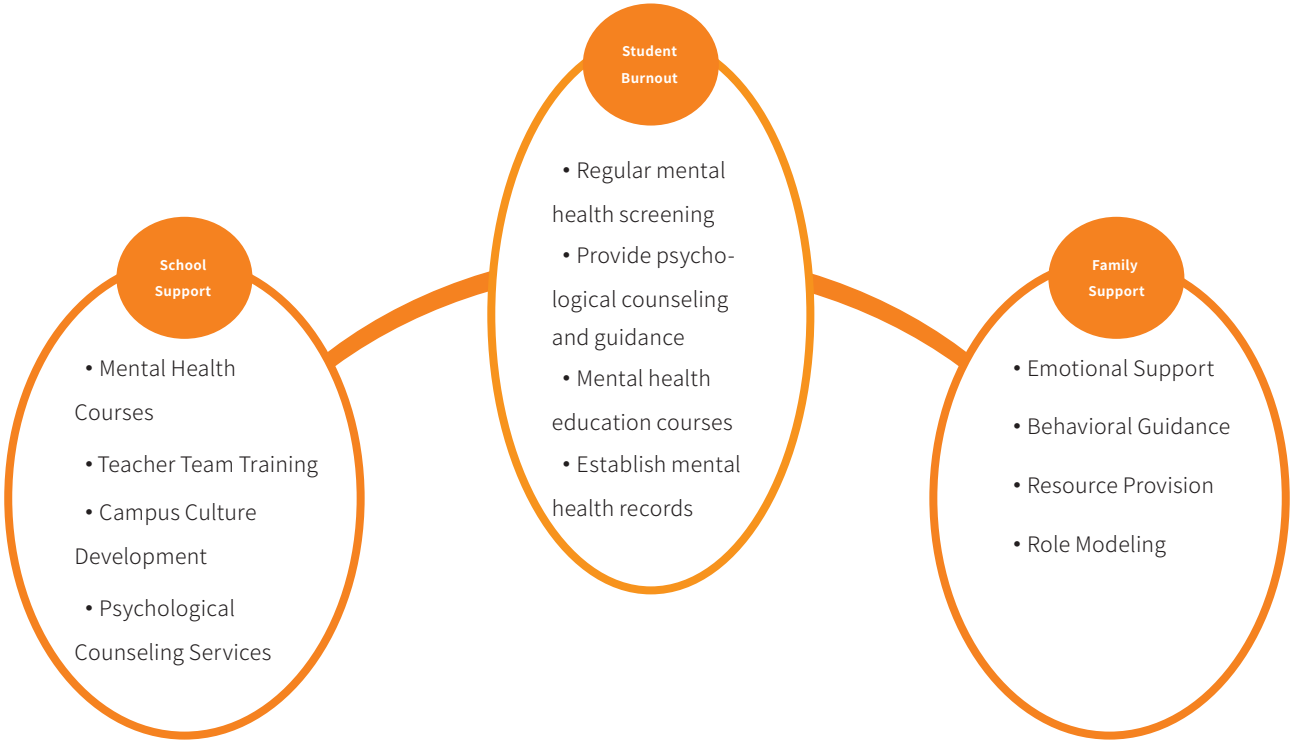


Figure 1: The 'One Body, Two Wings' Collaborative Family-School Support System for Academic Burnout

08

Future Trends

08

Future Trends

Principle 13: New Technologies Matter for Academic Burnout Reductions

Explanation:

1. Online Self-Help Interventions

Online Self-Help Interventions utilize online stress management systems to offer structured content based on mental health education and cognitive behavioral therapy (CBT). These interventions aim to help users identify and manage stress while promoting mental health and behavioral change. The primary objective is to equip users with effective coping strategies to better handle life' s stressors (Charbonnier et al., 2022). Coping strategies in this context refer to the cognitive and behavioral efforts individuals employ to manage stressful situations (Carver et al., 1989). Typically, these interventions classify coping strategies as either adaptive or maladaptive. Adaptive strategies, such as acceptance, problem-solving, and stress reduction, are encouraged as beneficial through online resources. In contrast, maladaptive strategies, such as avoidance, are noted as less effective in online modules since they may exacerbate stress (Carver & Scheier, 1990; Folkman, 1997). There is a positive correlation between maladaptive coping strategies and academic burnout (Vizoso et al., 2019) as well as learned helplessness (Wang et al., 2017).

Example from Charbonnier' s Study: An 8-week online self-help intervention course has been designed to assist individuals in developing and applying healthier coping strategies. An example from Charbonnier' s study involves an 8-week online self-help intervention course designed to assist individuals in developing and applying healthier coping

strategies. The course comprises eight modules, addressing topics from an introduction to stress to strategies for managing and reducing uncertainty. Each module includes two 10-minute videos that provide information, tools, student experiences, and tests. These videos are shared weekly in a private Facebook group. After watching the videos, participants are required to engage with the module by verifying their learning on Facebook. This approach fosters continuous learning and enhances communication and support within the community. The benefits of online self-help interventions include flexibility, low cost, and the elimination of geographical limitations. A detailed description of the program is provided in the table below.

Module Number	Theme	Content	Medium Used	Exercises and Additional Information
Module 1	Stress Information	Program schedule, definition of stress and stressors, implicit theory of emotion, introduction to mindfulness, sleep advice	Two videos (one with student interviews), one information brochure	Mindfulness, breathing control
Module 2	Learning Information	Definition of learning, strategies for learning, distance learning strategies	Two videos (one with student interviews)	Invitation to reflect on their learning strategies
Module 3	Acceptance and Avoidance	Definition of avoidance, short- and long-term effects of avoidance, definition of acceptance, short- and long-term effects of acceptance	Two videos based on fictional student situations	Exercise to observe emotions
Module 4	Cognitive and Metacognitive Learning Strategies	Misconceptions about failure, metacognition, promotion of effective learning strategies	Two videos (one with student interviews)	Invitation to reflect on their learning strategies
Module 5	Cognitive Reappraisal and Self-Blame	Definition of self-blame and its effects, training in cognitive reappraisal, introduction to ACT matrix	Two videos (one with student interviews)	ACT matrix
Module 6	Motivation and Learning Goals	Different learning goals (control and performance goals), motivation processes, beliefs about intelligence, physical activity, diet	Four videos (one with student interviews)	Learning Goals Questionnaire, physical activity, diet
Module 7	Uncertainty and Worry	Definition of uncertainty, definition of worry and its usefulness, introduction to diffusion	Two videos	Cognitive restructuring exercise
Module 8	Synthesis	Presentation of highlights from the previous modules	One video	

Table 12: Online Self-Help Intervention Module

Note:

ACT (acceptance and commitment therapy) is a psychological intervention based on behavioral psychology. It aims to help individuals learn to accept things they cannot control and act towards their personal values.

The ACT Matrix is a tool used in acceptance and commitment therapy to help people clarify behavioral patterns and identify psychological processes, enabling them to face life' s challenges more flexibly. The matrix consists of two intersecting axes (vertical axis: internal and external experiences, horizontal axis: moving towards or away from goals), forming four quadrants.

2. Mindfulness-Based Program with Virtual Reality

As noted earlier, mindfulness is a proven intervention for academic burnout. However, studies indicate that participants in mindfulness treatments often struggle with low adherence and high dropout rates. Since the 1990s, virtual reality (VR) has been increasingly employed in clinical psychology for various purposes, particularly in virtual exposure therapy for anxiety disorders, such as agoraphobia, specific phobias, and social anxiety disorder. VR helps induce desired emotional responses through simulated scenarios, facilitating counter-conditioning effects (Diemer et al., 2014). Combining VR technology with mindfulness may improve adherence to mindfulness interventions and enhance their overall effectiveness.

Example from Modrego-Alarcón' s Study: The study involves 15 to 16 participants, with sessions conducted weekly over a six-week period. Participants are seated in a quiet and safe space, where they engage in VR-guided mindfulness or self-compassion exercises. These sessions feature a voiceover that leads them through various meditation practices (Modrego-Alarcón et al., 2021).

Session	Mindfulness-based Program	Virtual Reality Scenarios	Relaxation Therapy
1	Introduction to mindfulness; group introduction; breathing exercises	Attention training; observing leaves	Progressive muscle relaxation; 16 muscle groups
2	Thoughts and management; body scan	Body scan; human model	Progressive muscle relaxation; 16 muscle groups
3	Body and time management; mindful walking	Spring scenery observation; observer image	Progressive muscle relaxation; 7 muscle groups

Session	Mindfulness-based Program	Virtual Reality Scenarios	Relaxation Therapy
4	Emotional management; compassion exercises	Recreating life scenarios; accepting emotions	Progressive muscle relaxation; 7 muscle groups
5	University challenges; self-compassion	Exam scenarios; 5-minute breathing	Progressive muscle relaxation; 7 muscle groups
6	Gratitude exercises	Gratitude exercises	Recall relaxation
7	Review and application; compassion exercises	Desert scene; gratitude exercises	Recall relaxation; perfect mental day
Daily Practice	Mindfulness exercises; breathing, walking, etc.	-	Difficulty identification through feeling and relaxation

Table 13: Mindfulness-Based Program with Virtual Reality Module

3. Biofeedback Training Technology

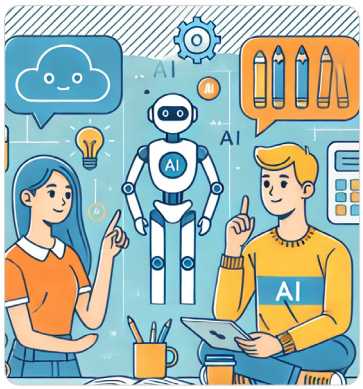
Recent studies have demonstrated that integrating biofeedback technology with psychological regulation training can enhance the effectiveness of interventions aimed at academic burnout (Diestel et al., 2013; Maslach & Leiter, 2015). Biofeedback technology typically involves connecting sensors, such as pulse or electrocardiogram (ECG) sensors, to computers, smartphones, or wearable devices, using software to monitor and analyze physiological data in real time. When this technology is combined with stress-reducing strategies, like resonance frequency breathing training—a method involving slow, rhythmic breathing exercises—it aids individuals in regulating their heart rhythms and synchronizing with the heart' s electrical activity (May et al., 2019). This synchronized state often results in an increase in low-frequency heart rate variability (HRV) amplitude in the heart rhythm pattern, indicating a balance between the sympathetic and parasympathetic nervous systems. In such a state, individuals can maintain a stable and relaxed body and mind, effectively managing daily stress without becoming excessively tense or relaxed.

Through heart rate variability coherence biofeedback (HRVCB), individuals can self-regulate and intentionally induce coherence, allowing them to maintain or transition into a more coherent mental state when facing challenges or adverse conditions (McCraty et al., 2009), thus mitigating academic burnout. Research indicates that HRVCB training can enhance emotional stability, heart rate variability, and cognitive task performance among elementary school students (Bradley et al., 2010; Light Irin & Bincy, 2012) and reduce academic burnout among college students (May et al., 2019).

4. Artificial Intelligence Technology and the Academic Burnout Reductions

The application of artificial intelligence (AI) technology in educational environments is currently driving transformative changes, including personalized learning plans, dynamic mental health monitoring, and targeted interventions. AI also holds significant potential for preventing and addressing academic burnout.

To date, AI technology has demonstrated significant promise in the realm of mental health support. For example, research by Kim has highlighted that AI applications in psychiatry are overcoming the limitations of traditional self-reporting and clinical observation (Kim, 2019). Through the use of technologies such as automated language processing and machine learning, AI provides a more comprehensive assessment of an individual' s psychological state (Kim, 2019). Zhang and colleagues developed an AI-based social robot capable of analyzing users' speech, behavior, and emotions to evaluate potential psychological issues and offer appropriate treatment plans (Zhang & Chen, 2025). Additionally, Liu and other researchers investigated the use of wearable technology integrated with AI to mitigate academic burnout (Liu et al., 2024). Their study collected physiological data such as heart rate, pulse, and body temperature from students via wearable devices, integrating this information with AI algorithms to produce personalized stress assessments and detect early burnout signs. AI can also offer emotional intelligence training to enhance students' emotional regulation skills, helping them manage academic



pressure more effectively. Research indicates that combining real-time physiological indicators with targeted emotional interventions can successfully reduce student stress and academic burnout, thereby improving learning adaptability.

In summary, AI technology presents new opportunities for preventing and addressing academic burnout through precise assessments, personalized support, and prompt interventions. However, current research on the application of AI in academic burnout is still in its early stages. Further studies are necessary to guide the development of innovative AI interventions for burnout. Moreover, the use of AI technology raises ethical concerns, including those related to privacy, fairness, and transparency, which should be overseen by ethical committees to ensure legal compliance and fairness. Additionally, data must be anonymized to safeguard the privacy of participants.

Coping Guidance 13:

Administrators should adopt new technologies to offer students scientifically and efficiently designed support for addressing academic burnout through digital and intelligent methods. Promote the Development of Online Self-Help Interventions: Educational management departments can create or introduce online self-help intervention platforms that provide resources like psychological assessments, emotional management courses, and stress reduction training. These digital resources allow students to access support anytime, anywhere.

Mindfulness-Based Programs with Virtual Reality: Implement intervention tools that integrate mindfulness practices with virtual reality, such as virtual reality meditation courses or relaxation experiences, to help students manage stress and anxiety. The effectiveness of these tools can be validated through pilot projects before gradual implementation.

Feedback Based on Physiological Indicators: In collaboration with technology companies or universities, develop or popularize biofeedback devices that enable students to monitor their physical condition in real time and make effective adjustments. This technology can be utilized in campus mental health centers or classroom activities.

Promote the Application of AI Technology in Education: Encourage schools and educators to learn and apply AI, and promote the deployment of intelligent mental health monitoring systems. AI can analyze students' learning behaviors, emotional expressions, and physiological data to identify early signs of academic burnout, ensuring timely psychological support intervention. Establish intelligent counseling rooms as part of this initiative.

Provide Teacher Training and Technical Support: Offer training for teachers on applying new technologies, enabling them to understand basic operations and intervention methods. Technical support should be provided to ensure these tools are effectively integrated into teaching.

Encourage Students to Engage with New Technologies: Through campus publicity activities and trial experiences, educate students on the benefits of these technologies and encourage their participation.

Practitioners should stay informed about the latest research and acquire relevant professional knowledge through participation in related training programs. They should familiarize themselves with effective academic burnout intervention strategies and evaluate their feasibility for implementation.

Online Self-Help Interventions: Practitioners can identify appropriate online self-help platforms or apps to assist students in learning more effective stress management techniques to mitigate academic burnout.

Combining Mindfulness with Virtual Reality: Practitioners can explore integrating mindfulness with virtual examination scenarios, utilizing methods such as scenario simulation, interactive experiences, and continuous support to enhance students' self-awareness and decrease their perception of academic burnout.

Feedback Based on Physiological Indicators: Practitioners can aid students in reducing academic burnout by developing personalized training programs, providing access to relevant biofeedback devices, and offering professional guidance.

Artificial Intelligence Technology: By adopting a data-driven approach that considers

individual student differences, more targeted and practical intervention strategies can be explored. It is crucial to consider students' subjective experiences when implementing AI technology. Through a regular feedback mechanism, intervention plans should be adjusted to ensure AI tools effectively contribute to improving students' mental health.

Appendix

Stages of Academic Burnout and Corresponding Intervention Strategies

Stages of Academic Burnout and Corresponding Intervention Strategies

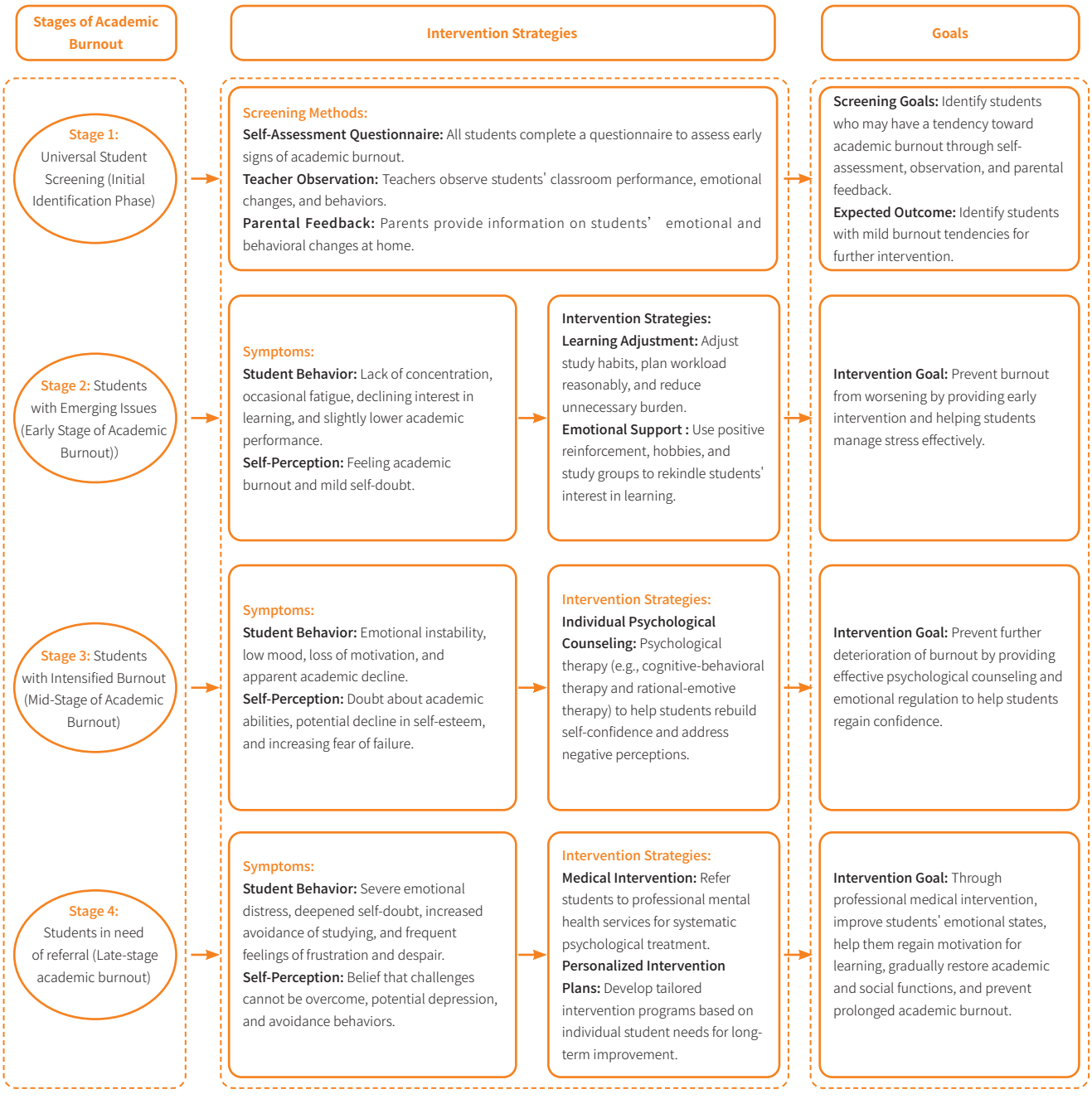


Figure 2: Stages of Academic Burnout Development, Intervention Content, and Process

Figure 2 illustrates the stages of academic burnout along with corresponding intervention strategies. Academic burnout generally progresses through early, middle, and late stages, each characterized by distinct symptoms. Interventions should be tailored to these stages. The diagram details the features of academic burnout at each stage and the pertinent interventions, assisting educators and parents in accurately identifying the stage of students' academic burnout and taking prompt action.

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