Volume 4 - Issue 8- August,2024

SABUJEEMA

An International Multidisciplinary e-Magazine

Article ID: SIMM0434

Popular Article

The Foundation of Well-Being: Importance of Mental Health in Technical Students

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How to Cite this article

Das et al 2024. The Foundation of Well-Being: Importance of Mental Health in Technical Students. *Sabujeema-An International Multidisciplinary e-Magazine.* 4(8): 30-35

Open Access

Abstract

Technical students are under immense pressure to excel in demanding coursework, meet tight deadlines, and keep pace with the ever-evolving technological landscape. These factors, coupled with the potential for social isolation, unrealistic expectations, and difficulty maintaining a healthy work-life balance, can create a perfect storm for negative mental health consequences. This paper explores the importance of mental health for technical students, highlighting the specific problems they encounter and proposing solutions to create a more supportive learning environment. By prioritizing mental well-being, technical institutions can empower students to not only thrive academically and professionally but also develop the emotional resilience necessary to become well-rounded individuals.

Keywords: Mental health, technical students, Academic pressure, Stress, Well-being, Mental health awareness, Support systems, Resilience

Introduction:

Technical education opens doors to innovative careers but often impacts students' mental health. The demanding curriculum and pressure to excel contribute to stress, anxiety, and depression, as evidenced by recent studies [1]. The rigorous nature of technical programs, combined with tight deadlines and rapidly evolving technology, can lead to chronic stress affecting both mental and physical health [2]. Research shows a clear link between mental well-being and academic performance [3], highlighting the importance of addressing mental health concerns not only for individual well-being but also for fostering a resilient technical workforce.

1. Challenges Faced by Technical Students:

Technical education's rewards come with mental health and academic hurdles. some of the major obstacles technical students encounter:

1.1 Academic Pressures and Workload:

Technical programs are known for their rigorous curriculum, encompassing complex subjects and heavy workloads. This intense academic pressure often results in chronic stress among stu-dents, affecting their motivation, sleep, and overall health. A study in the Educational Re-searcher (Vol. 48, No. 7, 2019) [4] established a link between demanding academic workloads and increased stress

and anxiety in technical students. The trend is concerning, as evidenced by UK data showing a rapid increase in students disclosing mental health conditions to their universities, rising to over 5% in 2020/21.

1.2. Competition and Performance Anxiety: Technical fields' competitiveness breeds performance anxiety, causing physical symptoms and hindering cognitive function. Studies by the American Psychological Association (2023) highlight that this can lead to increased heart rate, difficulty concentrating, and panic attacks, negatively impacting academic performance and well-being.

1.3. Isolation and Lack of Social Support: Intense academic focus can result in social isola-tion. Long study hours and individual work disconnect students from peers. Research by Afreen (2014) in the Journal of American College Health emphasizes that this lack of social support exacerbates stress, anxiety, and potentially contributes to depression.

1.4. Balancing Academic and Personal Life: Balancing academic and personal life is challenging for technical students. Hunt and Schaul (2009) note that demanding schedules leave little time for leisure, exercise, and socializing, leading to burnout and exhaustion, which can hinder overall academic performance.

2. Consequences of Poor Mental Health:

When a technical student experiences poor mental health, the consequences can be particularly detrimental to their academic and professional journey.

2.1 Impact on Academic Performance and Learning Outcomes:

Technical courses are often project-based and require collaboration. Poor mental health can make it difficult for students to contribute effectively in teams, leading to communication breakdowns and missed deadlines (Sitzman & Ely, 2010 [5]).

- Technical concepts can be complex and require in-depth understanding. Anxiety and depression can significantly impair a student's ability to grasp new information and retain knowledge (McNally, Rae, & Oswald, 2015 [6]).
- Time management is crucial for technical students. However, mental health struggles can disrupt sleep patterns, decrease motivation, and make it challenging to prioritize tasks effectively (LeBlanc et al., 2007 [7]).

2.2. Effects on Physical Health and Overall Well-being:

- Technical students often lead sedentary lifestyles due to long hours spent studying and coding. Poor mental health can exacerbate this, leading to neglecting physical activity and unhealthy eating habits (Morris et al., 2018 [8]).
- Sleep deprivation is a common consequence of mental health struggles. This can significantly impact a student's energy levels, cognitive function, and ability to perform well in academics and future careers (Chen et al., 2015 [9]).

2.3. Social and Interpersonal Challenges:

- Technical degrees can be isolating, especially for introverted students. Poor mental health can further limit a student's ability to connect with peers, create a support net-work, and build valuable professional relationships during their studies (Evans et al., 2017 [10]).
- Technical workplaces often involve collaboration and teamwork. Students struggling with social anxiety might find it challenging to build rapport with colleagues, impacting their career growth and overall work experience (Antony et al., 2017 [11]).

3.Factors Contributing to Mental Health Issues:

Technical students face a unique set of pressures that can significantly impact their mental health. Some key factors contributing to these issues are

3.1. Stigma surrounding mental health:

The technical field often emphasizes stoicism and a "problem-solving" mentality. This can lead to a culture where seeking help for mental health struggles is seen as weakness or inadequacy also

they might fear judgment from peers or professors if they open up about their mental health (Evans et al., 2018 [12]).

3.2. High expectations and perfectionism:

- Technical programs often have demanded workloads and a competitive environment. This can lead to high expectations and pressure to excel, fostering perfectionism and anxiety (Stolte et al., 2015 [13]).
- Technical students might feel constant pressure to keep up with the latest advancements and technologies, contributing to feelings of inadequacy and stress.

3.3. Technological and societal factors:

- Technical students often spend a significant amount of time in front of screens, leading to issues like sleep disruption and social isolation, both of which can worsen mental health (Przybylski et al., 2013 [14]).
- Social media can exacerbate feelings of inadequacy through unrealistic portrayals of success and constant comparisons.

3.4. Institutional culture and support systems:

- A competitive and cutthroat academic environment within technical programs can con-tribute to stress and anxiety.
- Limited access to mental health professionals on campus or a lack of flexibility in aca-demic schedules can make it difficult for students to seek help or prioritize their well-being (Hunt & Winters, 2018 [15]).

4. Interventions and Strategies:

Mental health factors are key, but prioritizing effective interventions for technical students are:

4.1. Mindfulness and stress management programs:

- Teaching mindfulness techniques like meditation and deep breathing can equip students with tools to manage stress, anxiety, and improve focus (Tang et al., 2015 [16]).
- Stress management programs can provide students with practical strategies for time management, sleep hygiene, and healthy communication skills to navigate the demand-ing academic environment (Richardson et al., 2017 [17]).

4.2. Incorporating mental health education into the curriculum:

- Normalizing conversations about mental health by integrating education into the curriculum can help students recognize signs and symptoms, and encourage them to seek help (Sultan et al., 2018 [18]).
- Technical programs can incorporate workshops or modules on topics such as self-care, stress management, and healthy coping mechanisms, equipping students with lifelong skills for emotional well-being.

4.3. Utilizing technology for mental health support:

- Technology can be leveraged to offer online mental health resources like self-help ap-plications or chatbots

providing coping mechanisms and psychoeducation (Karydi & Guimetti, 2018 [19]).

• Teletherapy or online counselling options can provide flexible and accessible mental health support to students who might face scheduling challenges or transportation barriers.

5. Future Directions and Recommendations:

While significant progress is being made in promoting mental health awareness and support for technical students, there's still room for further exploration and action.

5.1. Areas for Further Research and Exploration:

• Technology's role: Further research is needed to explore the effectiveness and limita-tions of technology-based mental health resources like apps and online therapy plat-forms for technical students (Karydi & Guimetti, 2018 [20]).

• Diversity and inclusion: Investigating the specific mental health challenges faced by marginalized groups within technical education (e.g., women, minorities) is crucial for creating inclusive support systems (Evans et al., 2018 [21]).

5.2. Policy Recommendations for Promoting Mental Health in Technical Education:

• Mandatory mental health education: Implementing curriculum requirements on mental health awareness and self-care skills for all technical students can normalize conversation's and encourage help-seeking behavior's (Sultan et al., 2018 [22]).

• Flexible academic policies: Developing policies for extended deadlines, reduced course loads, or leave of absence due to mental health concerns can show support and reduce academic pressure on struggling students (Hunt & Winters, 2018 [23]).

5.3. Strategies for Integrating Mental Health Initiatives into Institutional Frameworks:

• Peer support networks: Encouraging and facilitating the creation of peer support groups or mentoring programs can connect students with others who understand their challenges (Liu et al., 2019 [24]).

• Promoting healthy campus culture: Events, workshops, and campaigns focused on stress management, time management, and healthy living can create a culture that prioritizes student well-being (Richardson et al., 2017 [25]).

5.4. Importance of Collaboration and Partnership:

• Academia-industry collaboration: Universities can partner with technical companies to develop targeted mental health resources or internship opportunities that promote well-being alongside technical skills (Singh et al., 2018 [26]).

• Collaboration with mental health professionals: Building partnerships with local men-tal health organizations can expand the range of services available to students, offering confidential support and expertise (Hurley et al., 2019 [27]).

• Student involvement: Including students in planning and implementing mental health initiatives can ensure their needs are addressed effectively and foster a sense of owner-ship over well-being efforts (Singh et al., 2018 [28]).

CONCLUSION:

Technical education, while crucial for innovation and economic growth, often impacts students' mental health due to its demanding nature. This research has highlighted the prevalence of men-tal health issues among technical students,

their causes, and effects on academic performance and overall well-being. Effective interventions include implementing mindfulness programs, fostering peer support networks, and integrating mental health education into curricula. Future research should focus on the long-term effects of these interventions, explore technology-based mental health resources, and investigate challenges faced by marginalized groups in technical education. Collaboration between academia, industry, and mental health professionals is essential to develop comprehensive support systems, ensuring students' long-term well-being and career success.

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