

# Academic Anxiety, ADHD, Absent-mindedness and Learning During and Post COVID Scenario

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## Abstract

Although the immediate crisis of COVID-19 has passed, its long-term effects continue to influence students' academic performance, psychological wellbeing and cognitive functioning. This study examines the relationship between academic anxiety, ADHD-related attentional difficulties, absent-mindedness and pandemic-induced disruptions to educational environments. Guided by the Transactional Model of Stress and Coping, the study adopts a conceptual and analytical approach to explore how students cognitively appraise academic stressors and utilize coping strategies across personal, interpersonal and environmental dimensions. The analysis indicates that the sudden transition to virtual and blended learning significantly disrupted academic routines, reduced structured learning opportunities and limited social and classroom interaction. These changes contributed to increased academic anxiety, reduced motivation and engagement and greater attention-related challenges, including forgetfulness, distraction and difficulty sustaining concentration. Students with pre-existing attentional vulnerabilities were particularly susceptible to these negative outcomes. However, the findings also highlight that adaptive coping mechanisms, such as strong social support systems, structured learning environments and access to psychological and academic support resources, played a critical role in promoting resilience and academic adjustment. The study underscores the importance of developing supportive post-pandemic educational frameworks that prioritize students' psychological wellbeing, strengthen coping capacities and foster stable and engaging learning environments to enhance academic success and long-term educational recovery.

**Keywords:** Absent-mindedness, Academic Anxiety, ADHD, COVID-19, Intervention, Transactional Stress and Coping Model.

## Introduction

The COVID-19 pandemic created unprecedented disruptions to education systems worldwide, including in Saudi Arabia, where schools and universities were temporarily closed and rapidly shifted to online and blended learning environments. These preventive measures, implemented to reduce virus transmission (1-3), affected nearly 1.5 billion students globally and significantly transformed traditional teaching methods, academic routines and student engagement (4, 5). The abrupt transition to digital learning created multiple academic, psychological and cognitive challenges. Students were required to adapt to unfamiliar learning formats while simultaneously dealing with social isolation, uncertainty about the future and limited face-to-face interaction with instructors and peers. These circumstances contributed to increased academic

anxiety, reduced motivation, attentional difficulties and ultimately influenced students' academic performance and psychological wellbeing. Academic anxiety emerged as a major concern during the pandemic. This form of anxiety negatively affects concentration, emotional stability and academic achievement. Online and blended learning often lacked the structured schedules, immediate feedback and interpersonal support typically available in traditional classrooms. As a result, these challenges were particularly pronounced among students with attention deficit hyperactivity disorder (ADHD), who faced greater obstacles in adapting to remote learning conditions (6). Remote learning being a new experience posed many issues for students consequently, many students reported reduced academic productivity while cognitive fatigue

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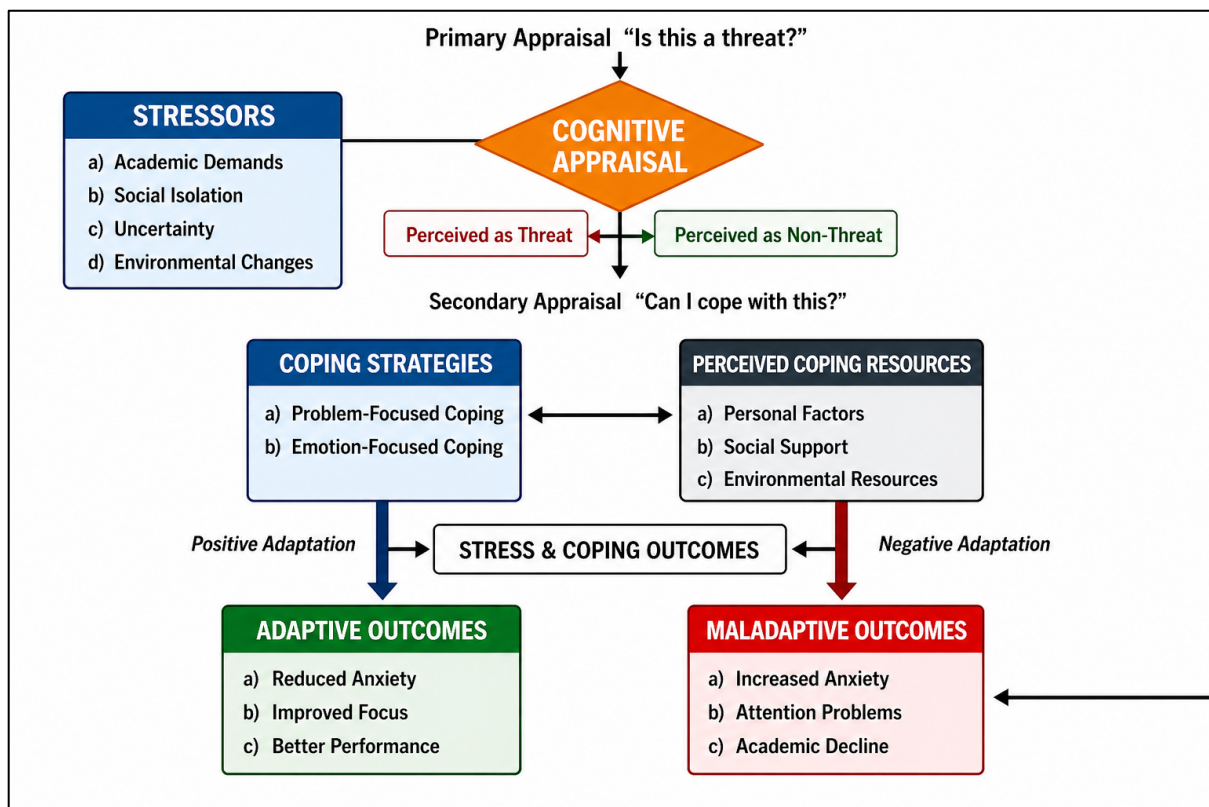
became more common (7, 8). In addition to ADHD-related challenges, absent mindedness and cognitive overload also became widespread issues during the pandemic period (9, 10). The Transactional Model of Stress and Coping (TMSC) provide a useful theoretical framework for understanding these challenges (11). According to this model, stress does not arise solely from external circumstances but from the dynamic interaction between individuals and their environment, particularly through processes of cognitive appraisal and coping responses (12, 13). The model emphasizes that stress reactions are influenced by several interrelated determinants, including personal, interpersonal, societal and environmental factors. Applying the TMSC framework helps explain the increase in academic anxiety, ADHD symptoms and cognitive difficulties observed during the pandemic and offers guidance for developing effective interventions that improve students' mental health and academic outcomes (14). However, individuals experience and manage stress differently and effective interventions must address all levels of influence simultaneously (15). Social networks, including family and friends, can act as both protective and risk factors for depressive symptoms and major depressive disorder (16).

Advocates and supporters of the TMSC model emphasize that "psychological stress is a particular relationship between the person and the environment..." (17). within this framework, interventions can be designed at multiple levels. Personal-level interventions focus on helping individuals develops adaptive coping strategies and healthier responses to stress (18). Interpersonal interventions aim to strengthen supportive relationships and enhance social networks (19). Societal-level interventions seek to reduce stressors at the community or institutional level and promote overall well-being (20). Environmental factors also play a critical role in learning; therefore, creating supportive physical and learning environments is essential for minimizing stress to improve outcomes (21). Interventions that combine strategies across these different levels are likely to be more effective in strengthening resilience and reducing the negative impact of stress on mental health and academic functioning (22).

During COVID-19, learning transition triggered primary appraisals in which students evaluated academic demands as overwhelming (23). Secondary appraisals involved assessing available coping resources which were perceived as inadequate, students experienced sustained stress responses manifested through academic anxiety, ADHD-related concentration issues and absent-mindedness, all of which negatively influenced learning outcomes (24–26). Academic anxiety impaired attentiveness and lack of motivation (27, 28), while ADHD symptoms and cognitive distractions weakened learning efficiency. When applied effectively, the coping strategies can reduce anxiety and cognitive disruption; however, ineffective coping may intensify learning difficulties (29–31). The present study addresses these issues by pursuing several objectives; it examines the impact of COVID-19 on learning, investigates the relationships among academic anxiety, ADHD symptoms, absent-mindedness and learning, analyzes these issues through the TMSC framework, explores possible interventions to provide practical recommendations for different stakeholders.

Although many studies have examined the psychological and academic consequences of the COVID-19 pandemic (31–34), several research gaps remain. Previous studies often investigated academic anxiety (35, 36) or ADHD (37, 38) separately, with limited attention to their combined influence on academic performance (39, 40). Additionally, absent-mindedness has received relatively little scholarly attention, despite its potential role in shaping learning outcomes (41, 42). Much of the existing literature focuses on immediate pandemic-related disruptions (43–46), leaving limited empirical evidence on long-term post-pandemic effects on learning engagement and performance (47–50). Furthermore, absent-mindedness has rarely been explored as a mediating factor connecting stress, attentional difficulties and academic performance. Finally, coping interventions were also not commonly tried.

TMSC framework provides deeper insight into students' stress appraisal processes, coping mechanisms and academic performance in post-pandemic educational environments. The findings aim to recommend effective interventions and policy strategies designed to strengthen resilience and enhance learning outcomes in Figure 1.



**Figure 1:** Transactional Model of Stress and Coping

## Methodology

### Research Design

This study employed a conceptual and theoretical research design. It does not involve primary data collection but instead synthesizes existing literature to examine the interrelationship between COVID-19-related stressors, academic anxiety, ADHD, absent-mindedness and learning outcomes. The study is grounded in the TMSC model, which provides a framework for understanding how individuals appraise and respond to stressors.

### Literature Selection Process

Relevant peer-reviewed journal articles, reports and academic publications published especially recent publication were reviewed. Sources were identified through academic databases such as Google Scholar, Scopus and ERIC using keywords including:

- COVID-19 and education
- Academic anxiety
- ADHD and learning
- Absent-mindedness
- Stress and coping in students

Priority was given to empirical studies, systematic reviews and theoretical papers examining

psychological and educational impacts of the pandemic.

### Analytical Framework

The reviewed literature was analyzed using a thematic synthesis approach. Key themes were identified related to:

- Pandemic-related academic stressors
- Psychological impacts on students
- Cognitive and attentional challenges
- Coping mechanisms
- Intervention strategies

These themes were interpreted through the lens of the Transactional Model of Stress and coping to explain how students' stress appraisal processes may influence anxiety levels, ADHD-related behaviours and academic functioning.

## Results and Discussion

The conceptual analysis reveals that the COVID-19 pandemic created unprecedented stressors in students' academic environments, resulting in increased academic anxiety, ADHD-related attentional difficulties and absent-mindedness. The abrupt transition to virtual and blended learning posed significant environmental stressors, requiring students to adapt to new

technological demands, altered routines and reduced social interactions (5, 8, 23). Studies indicate that academic anxiety impaired concentration and motivation, while ADHD symptoms and cognitive distraction reduced task persistence and learning efficiency (27, 28, 44, 45). Absent-mindedness, often exacerbated by cognitive overload and stress, further disrupted academic performance (40, 41).

Applying the Transactional Model of Stress and Coping (TMSC) helps explain how these outcomes emerge from the interaction between individual appraisal and coping strategies (11). When coping resources were insufficient, students experienced prolonged stress, manifesting in heightened anxiety, attentional difficulties and cognitive lapses (26, 50). Effective coping strategies, such as mindfulness, time management and social support, mitigated anxiety and improved focus, whereas maladaptive coping, including avoidance or excessive screen time, exacerbated academic challenges (31, 51).

Students with ADHD were particularly vulnerable during the pandemic. Remote learning reduced external structure and supervision, intensifying inattention, distractibility and executive functioning difficulties (44, 46). These deficits contributed to both academic anxiety and absent-mindedness, creating a cycle that negatively impacted learning outcome (26, 40). Similarly, academic anxiety alone, driven by uncertainty, workload and lack of social support, was shown to decrease motivation, engagement and task persistence (8, 23).

The discussion highlights the multi-level nature of effective interventions under the TMSC framework. Individual-level interventions such as mindfulness-based stress reduction, cognitive-behavioral strategies and executive function coaching improved attention, reduced anxiety and enhanced self-regulation (18, 27, 49). Interpersonal-level interventions like peer support, mentoring and family engagement provided critical social buffering, reducing stress and promoting adaptive coping (16, 19). Community- and societal-level interventions, including school policies that reduced academic overload, access to online learning tools and mental health support, created more resilient and inclusive educational environments (20, 21, 52).

Overall, the integrated TMSC approach demonstrates that the complex interplay between COVID-

19 stressors, psychological vulnerabilities and learning outcomes cannot be addressed by single-level interventions. A multi-level framework, encompassing personal, interpersonal, institutional and societal strategies, is essential to improve academic engagement and performance while supporting mental health in post-pandemic and blended learning contexts (12, 14, 50–52).

### **TMSC Based Recommendations**

TMSC can be of great help in the process of coping with determinants in general and academic anxiety, ADHD and absentmindedness. Following is a detailed intervention for each of the factors used in this study:

#### **TMSC based Recommendations on the Intervention of COVID-19 Related Problems of Academic Anxiety**

TMSC can help guide ways to support people who are feeling stressed about their studies because of the COVID-19 pandemic (50). This study showed that TMSC was helpful for people with multiple sclerosis (MS) in dealing with stress, so it can also be useful for managing academic stress. The TMSC proposes that stress is not solely determined by external stressors, but also by how individuals appraise and cope with those stressors. Here are some recommendations for interventions through the lens of the TMSC:

##### **Appraisal**

Help people rethink how they feel about the stress from the pandemic in their studies. Encourage them to see the current situation as a chance to learn and grow. Help them find out what they are good at and what resources they have, so they can use these to deal with their academic challenges (51).

##### **Coping**

Give people different ways to handle stress and worry about their studies. These can include ways to manage time, techniques to relax and reaching out to friends, family, or experts for help. Encourage them to create a daily routine that includes things they like and that helps them feel calm (52).

##### **Study Skills**

Help individuals to develop and practice effective study skills that are appropriate for remote learning environments. Provide resources for online study tools, time-management apps and organizational strategies.

**Social Support**

Encourage individuals to stay connected with social support networks, such as family, friends and academic support services. Provide resources for accessing virtual study groups and online tutoring services.

**Information Management**

Help individuals to manage the information overload related to academics by providing clear and concise information that is relevant to their needs. Encourage them to limit exposure to media and news outlets that may contribute to feelings of overwhelm and anxiety related to academics.

People look for information to make better decisions and they check different sources today. But research shows that getting info from many places can cause too much information, which leads to bad feelings and actions. By looking at the stress from the COVID-19 pandemic through the TMSC framework, people who feel anxious about school can learn better ways to handle their worries and feel more in control during this tough period. It's key to keep offering help and tools so people can deal with the changes in learning during the pandemic (53-55).

**TMSC based Recommendations on the Intervention of COVID-19 Related Problems of ADHD**

TMSC can help guide ways to support people with ADHD who are facing difficulties because of the COVID-19 pandemic. This model suggests that stress isn't just caused by outside problems, but also by how a person thinks about and handles those problems (56, 57).

Here are some suggestions for helping through the TMSC approach:

**Appraisal**

Help individuals with ADHD to reframe their appraisal of the pandemic-related stressors. For example, instead of viewing the changes in routine as completely disruptive help them to see the opportunities for new experiences and growth. Encourage them to focus on what they can control and work on developing a sense of predictability and structure within the current limitations.

**Coping**

Help people with ADHD find different ways to handle stress and feeling anxious. Suggest things like focusing on the present moment, taking slow deep breaths and doing some kind of movement or exercise. Ask them to create a daily habit that

includes doing things they like and that help them feel calm and refreshed.

**Social support**

Encourage people with ADHD to keep in touch with their social support system, like family, friends and therapists. Offer information on how to find online support groups and virtual therapy options

**Accommodations**

Work with individuals with ADHD to identify accommodations that may help them manage the challenges of remote learning and increased screen time. These may include providing breaks for physical activity or incorporating interactive learning activities into the curriculum.

**Information Management**

Help individuals with ADHD to manage the information overload related to the pandemic by providing clear and concise information that is relevant to their needs. Encourage them to limit exposure to media and news outlets that may contribute to feelings of overwhelm and anxiety.

By looking at the stress from the COVID-19 pandemic through the TMSC approach, people with ADHD can learn better ways to handle stress and feel more in charge during this tough time. It's key to keep offering support and helpful tools so that people with ADHD can deal with the changes brought by the pandemic.

**TMSC based Recommendations on the intervention of COVID-19 Related Problems of Absent Mindedness**

The Transactional Model of Stress and Coping (TMSC) can help plan ways to support people who are forgetful because of the COVID-19 pandemic. This model says that stress doesn't just come from outside problems, but also from how people think about those problems and how they deal with them. Here are some recommendations for interventions through the lens of the TMSC:

**Appraisal**

Help individuals to reframe their appraisal of the pandemic-related stressors. Encourage them to focus on what they can control and work on developing a sense of predictability and structure within the current limitations. Help them to identify their strengths and resources and use those to navigate the current situation.

**Coping**

Give people different ways to deal with stress and worry. Some of these ways could be practicing mindfulness, taking slow deep breaths and doing

some kind of physical exercise. Encourage them to establish a consistent self-care routine that includes activities that they enjoy and find relaxing.

### **Organization**

Help individuals to establish organizational strategies to manage tasks and information. This may include creating a daily to-do list, using reminder systems, or breaking tasks into smaller, more manageable steps.

### **Mindfulness**

Encourage others to try mindfulness techniques such as focusing on the present moment and avoiding distractions. This can help improve attention and memory, reducing absent-mindedness (58-62).

### **Information Management**

Help individuals to manage the information overload related to the pandemic by providing clear and concise information that is relevant to their needs. Encourage them to limit exposure to media and news outlets that may contribute to feelings of overwhelm and anxiety (63).

By looking at the stress from the COVID-19 pandemic through the TMSC framework, people who feel forgetful can learn better ways to handle stress and feel more in control during this tough time. It's important to keep offering support and tools to help people deal with the ongoing changes brought by the pandemic.

Complex problems like exploring the relationship between COVID-19, academic anxiety, ADHD, absentmindedness and learning call for multifaceted solutions, such as the transactional stress and coping model proposed here. The literature review makes clear that there is a wide range of interrelated factors at play. Therefore, it is necessary to develop an intervention that targets the issue on multiple fronts. Academic anxiety, attention deficit hyperactivity disorder (ADHD), absentmindedness are all conditions that can be addressed with targeted interventions at the individual level. Counseling, psychotherapy and even medication can help with this. A lack of self-assurance, poor study habits and unrealistic expectations are all contributors to academic anxiety that must be addressed as well.

A transactional stress and coping approach recognize and addresses these interrelated factors in a comprehensive and integrated manner, which can lead to more effective and sustainable

solutions. It understands that the COVID-19 pandemic affected people and groups in different ways. By looking at the bigger social and economic issues that influence how well people learn, a socio-ecological approach can help fix the unfair differences in education access and support.

TSCM approach recognizes that individual-level interventions, such as counseling and coaching, are important but not sufficient on their own. By considering the broader context of learning environments, social support systems and policy-level interventions, a TSCM approach can help to create a more supportive and inclusive learning environment for all students. It recognizes the importance of prevention and promoting resilience. By promoting healthy learning environments, providing access to mental health resources and addressing the broader social determinants of health, a transactional stress and coping approach can help to prevent and mitigate the negative impacts of COVID-19 on academic anxiety, ADHD, absent-mindedness and learning outcomes. Overall, using a transactional stress and coping approach is helpful for resolving academic anxiety, ADHD, absent-mindedness and learning challenges caused by COVID-19 because it provides a comprehensive and integrated framework for addressing these challenges and promoting resilient and inclusive learning environments.

So, working with the TSCM model needs a full approach that covers all the things that lead to COVID-19, academic stress, ADHD and forgetfulness. Good solutions should focus on people, their families, schools and communities to help build healthy habits and improve school performance. The TMSC model is a way to see how personal, family, community and bigger society factors all play a role in shaping behavior and health results. This model can be applied to COVID-19, academic anxiety, ADHD, absent-mindedness and learning to identify strategies for intervening at various levels.

Individual level interventions may include providing support for students with ADHD and absent-mindedness, such as executive functioning coaching, which can help students develop organizational skills and strategies to manage their attention. For students experiencing academic anxiety, individual interventions may include stress management techniques, such as

mindfulness and cognitive-behavioral therapy. Interpersonal level interventions may include promoting positive social support systems, such as peer tutoring and mentorship programs. These programs can provide students with opportunities for academic and emotional support from their peers, which can help to reduce academic anxiety and improve learning outcomes.

Community level interventions may include implementing policies that promote healthy learning environments, such as providing access to mental health resources and reducing stressors in the learning environment. For example, schools may consider implementing flexible attendance policies and reducing the number of tests and assignments to help reduce academic anxiety.

Societal level interventions may include providing financial and social support to families and communities affected by the pandemic, as well as advocating for policies that support public health and education. For example, providing resources to families for home learning and ensuring equitable access to remote learning technologies can help to reduce the impact of COVID-19 on learning outcomes.

Adopting a TMSC model can provide valuable insights into effective interventions that address the multiple levels of influence on student academic success during and after the challenging time of COVID-19. By considering the individual, interpersonal, community and societal factors that impact learning outcomes, researchers, educators and policymakers can develop targeted interventions that address the unique challenges students are facing (64-65). For instance, at the individual level, interventions such as cognitive-behavioral therapy teaches individuals a range of coping skills, such as relaxation techniques and problem-solving strategies, mindfulness-based stress reduction can be effective in reducing academic anxiety and improving attention and focus for students with ADHD or absent-mindedness. At the interpersonal level, interventions such as peer tutoring, mentoring and social-emotional learning programs can provide students with the social support and emotional regulation skills they need to succeed academically. At the community level, interventions such as family engagement, community-based learning opportunities and school-based health clinics can address the social determinants of health that impact

academic success. At the societal level, policy interventions such as increased funding for education, technology access and mental health services can provide the resources and support necessary for all students to succeed. So, interventions at multiple levels of the transactional and stress coping model are needed to effectively address the complex interplay between COVID-19, academic anxiety, ADHD, absent-mindedness and learning. By taking a multi-level approach, we can help support students and minimize the negative impact of these challenges on academic achievement and overall well-being.

### **Scope and Limitations**

As a conceptual study, the findings are interpretative and based on existing research rather than primary empirical data. Therefore, conclusions are theoretical and suggest directions for future empirical investigation.

### **Conclusion**

A substantial body of research indicates that the COVID-19 pandemic significantly disrupted the learning process, largely through its direct and indirect effects on students' academic anxiety, ADHD-related symptoms and absent-mindedness. While many studies conducted during the height of the pandemic documented increased stress and psychological distress among learners, the long-term post-COVID academic and cognitive consequences remain insufficiently explored. Academic anxiety emerged as a major concern due to uncertainty, social isolation, academic pressure and sudden shifts in instructional modes. Similarly, students with ADHD appeared particularly vulnerable, facing greater difficulty adapting to online and hybrid learning environments that demanded sustained attention, self-regulation and independent task management. In both virtual and post-pandemic physical classrooms, increased levels of distraction and absent-mindedness were observed, suggesting that the psychological effects of prolonged stress may persist beyond the immediate crisis period. These findings highlight the need for sustained academic and psychological support systems rather than short-term interventions.

The TMSC model provides a valuable framework for understanding how learners appraise stressors and utilize coping resources at personal, interpersonal, societal and environmental levels.

By applying this model, educators and policymakers can design innovative, engaging and supportive strategies aimed at reducing academic anxiety, strengthening coping mechanisms and addressing attentional challenges.

However, this study is limited by its conceptual nature, relying on previously published literature rather than primary empirical data. Future research should employ longitudinal and mixed-method approaches to examine post-pandemic academic adjustment, particularly among students with ADHD. Additionally, intervention-based studies are needed to evaluate the effectiveness of multi-level coping strategies in improving long-term academic and psychological outcomes. A sustained focus on mental health-informed educational practices will be essential for building resilient learning environments in the post-COVID era.

### Abbreviations

ADHD: Attention Deficit Hyperactivity Disorder, AI: Artificial Intelligence, TMSC: Transactional Model of Stress and Coping.

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### Author Contributions

Intakhab Alam Khan: conceptualization, drafted the outlines, set the stages, distributed the tasks, Akhmedova Shakhzoda Baxtiyarovna: writing original draft, coordination, related the theory with the existing local case, Yunuszoda Shaxnoza Jovidjonovna: writing- second draft, editing, analysis, other research requirement, Nazarova Nurjakhon Bahodir Qizi: initial discussion, final editing, language editing, formatting.

### Conflict of Interest

The author declares there is no conflict.

### Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to privacy and ethical restrictions related to participant confidentiality.

### Declaration of Artificial Intelligence (AI) Assistance

This manuscript was written by the authors without much use of generative AI or AI-assisted

technologies (except in the case formatting and referencing).

### Ethics Approval

Since no human element or risk factor was noticed, no technical formalities were done.

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