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Exploring Mindfulness: Impact of Cognitive Flexibility on Stress Perception and Behavioral Intentions among Individuals

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This research examines the dynamic interactions between cognitive flexibility, mindfulness, perceived stress, behavioral intentions, and performance expectancy in the higher education setting. More precisely, it examines if cognitive flexibility and mindfulness serve as psychological resources that decrease perceived stress, subsequently leading to stronger behavioral intentions and performance expectancy. The study also hypothesizes that perceived stress mediates the relationship between mindfulness and behavior outcomes, emphasizing its position as a central mechanism influencing students' academic adaptation. A quantitative method was used, whereby survey data were gathered from 332 university students studying in various academic programs. Structural Equation Modeling (SEM) was utilized through the use of Stata to examine direct and indirect effects between the study variables. The hypothesized model was estimated to confirm the presumed association and mediation pathways. The results indicate that cognitive flexibility positively impacts perceived stress and behavioral intentions, while mindfulness strongly reduces perceived stress. In return, lower perceived stress enhances behavioral intentions, thereby confirming its mediating position. The results also capture importance of performance expectancy moderation; and mindfulness as an essential predictor of academic adaptability, both directly and indirectly through stress regulation. Through the integration of cognitive flexibility, mindfulness, and perceived stress into one explanatory model, the present study creates theoretical insight into how psychological characteristics

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find expression as behavioral and performance-based indicators in students. The findings have practical relevance for education settings desiring to create interventions and support processes that maximize learner well-being, resilience, and academic achievement.

Keywords: Cognitive flexibility, Mindfulness, Perceived stress, Behavioral intentions, Performance expectancy.

Introduction

Under current classroom conditions, learners are exposed to greater scholastic stresses, virtual distractions, and individual crises requiring adaptive behavior and mental adjustments. Cognitive and affective tendencies of cognitive flexibility and mindfulness have been deemed as a necessary gauge of students' coping with stress and the development of intentional behaviors by psychologists and educators (Mishra & Singh, 2024). Cognitive flexibility allows students to shift between tasks, viewpoints, and problem-solving strategies, while mindfulness supports sensitivity to the present moment and emotional control (Hsieh et al., 2024). Both of these characteristics have been the focus of expanding amounts of research into academic achievement, wellbeing, and behavioral interventions, especially as universities struggle to enhance the resilience and adaptability of students (Wang, 2025). In this field, behavioral intention the cause of subsequent behavior has been shown to be one of the critical determinants of resulting learning behavior and motivation (Kumawat & Metri, 2025). Along with these factors, perceived stress has been defined as a mediating psychological condition operating on the translation of individual traits to action affecting well-being, and also academic resilience (Choi et al., 2024). Second, contextual variables such as performance expectancy, which are based on technology adoption models, provide further information about how anticipated outcome beliefs affect stress appraisal and behavioral performance (Idrees & Ullah, 2024). These combined provide an integrative research area covering psychology, education, and the behavioral sciences.

Empirical research has well established cognitive flexibility and mindfulness' relation to students' psychological and behavioral outcomes (Anthony Jr et al., 2023). Research shows that cognitive flexibility enhances adaptive learning, problem-solving, and openness to adopting new strategies, which have an impact on students' intention to engage in positive behavior (Hartanto et al., 2023). For instance, Jeon et al. (2025) found that those who

were more flexible were less stressed and more goal-directed in coping. Likewise, mindfulness has been researched as a means of decreasing stress and enhancing behavior for the most part. Octalina et al. (2023) confirmed that mindfulness causes self-determined behavior by heightened awareness and intentionality, while Suthatorn and Charoensukmongkol (2023) reported reductions in academic stress and enhanced study habits in mindful students. Perceived stress has always been the mediating variable in such relationships, with Y. Chen et al. (2025) research showing that flexibility and mindfulness affect outcomes through their control over stress appraisal. Performance expectancy has also been shown to be a contextual moderator in models of behavior, especially in technology adoption and learning behavior studies (Wang et al., 2024). These findings collectively identify the interaction among psychological traits, stress, and expectancy belief in influencing students' behavioral intention.

Notwithstanding the emerging stream of literature, a number of gaps exist in knowing the interrelationships between cognitive flexibility, mindfulness, perceived stress, performance expectancy, and behavioral intention (Dinesh et al., 2023). To begin with, most existing research has studied these constructs in isolation or within limited disciplinary silos. For example, whereas research has examined cognitive flexibility on problem-solving or adaptability and mindfulness on stress reduction Baluku (2024), fewer have combined both attributes within an integrated framework to account for behavioral intention in academic settings. Second, the mediating role of perceived stress has been recognized but not adequately tested in the case of student decision-making and intention formation (X. Yu et al., 2023). Although research indicates that stress influences how cognitive and affective resources are being mobilized Beuchel and Cramer (2023), complete models testing mediation have been in short supply. Third, performance expectancy has mostly been examined in technology adoption research Geiger et al. (2024), yet its role as a moderator of psychological processes, such as the stress-buffering effects of cognitive flexibility and mindfulness, is still not fully examined in higher education research. Lastly, most of the current empirical evidence is context-specific and addresses Western populations or professional settings, with a void in empirical validation in diverse educational and cultural contexts (T. Yu et al., 2023). This restricts generalizability and the universality of the findings and questions the feasibility of applying the current models in non-Western, highpressure academic settings (Alimour et al., 2024). Filling these gaps needs an

integrated model involving individual psychological characteristics, stress appraisal strategies, and contextual performance beliefs to provide a fuller account of students' behavioral intentions.

Considering the gaps that have been identified, the present study aims to examine the interlinkages between cognitive flexibility, mindfulness, perceived stress, performance expectancy, and behavioral intention within one theoretical framework. The main aim is to determine if cognitive flexibility and mindfulness in students play a key role in influencing their behavioral intentions and perceived stress levels. Additionally, the study aims to determine if performance expectancy will act as a moderator of the cognitive flexibility and mindfulness relationship with stress, intensifying or diminishing the relationship. Lastly, the study is also set to explore the mediating effect of perceived stress in linking mindfulness and cognitive flexibility with students' behavioral intention and bringing more understanding to how psychological factors result in intentional behavior. Particularly, the study explores: How much do mindfulness and cognitive flexibility shape students' behavioral intentions? What is the mediating effect of perceived stress in these connections? and To what degree does performance expectancy moderate the cognitive flexibility and mindfulness effect on stress? Through the provision of these answers, the study hopes to make theoretical and practical contributions to the domains of educational psychology, stress management, and behavioral science.

Literature Review

Cognitive flexibility, or cognitive capability to switch among thinking about various notions and to modify behavior responses to novel or changing situations, has been recognized as a significant component in students' learning processes and decision-making behaviors (Liang et al., 2025). In educational psychology, it is most generally linked with improved problem-solving potential, creativity, and adaptive learning tendencies (Y.-J. Chen et al., 2025). Such individuals have higher cognitive flexibility that enables them to reconceptualize experience, react to new information, and deal with academic issues better and thus be more receptive to new behavior and practices (Singh, 2025). This flexibility is particularly important in situations where the students are confronted by uncertainty or ambiguity since it allows them to hold in tension a number of perspectives on a situation before making a decision (Gao et al., 2024). Evidence shows that cognitive flexibility not just supports

academic resilience but also enables self-regulated motivation and learning, hence guiding behavioral choices in learning environments (Liu et al., 2024).

Mindfulness, commonly a definition of being present in the moment with non-judgmental acceptance, has been found to have a significant influence on cognitive and emotional control in students (Patil et al., 2025). Mindful individuals are more sensitive to their thoughts, emotions, and bodily sensations, and this enhances their reflective thinking and purposeful action (Mishra & Singh, 2024). Cognitive inflexibility is lessened and flexibility is enhanced as a result of mindfulness practice because it results in larger tolerances for uncertainty and receptivity to experience (Wang, 2025). Within the classroom setting, mindfulness leads to increased immersed participation in the learning task, improved emotional regulation within a high-stress setting, and more effective decision-making (Choi et al., 2024). These are the characteristics that will most directly influence students' behavioral intentions, specifically toward adopting new ways of learning, technology, or collaborative work on projects (Anthony Jr et al., 2023). Since both cognitive flexibility and mindfulness are linked with increased self-awareness and flexibility, their combined impact tends to be reflected in students' willingness to embrace change and pursue significant activities toward their academic and personal objectives (Jeon et al., 2025).

Experimental studies have long supported the fact that cognitive flexibility is an elementary psychological ability that affects people's decision-making and behavioral outcome (Suthatorn & Charoensukmongkol, 2023). Wang et al. (2024) believed that cognitive flexibility is not just to think anew but a process of examining a set of alternatives and result in goal-oriented and adaptive behavioral outcomes. In the classroom, Baluku (2024) reported that learners who possessed higher cognitive flexibility were inclined to exhibit problemsolving behavior and adopt proactive steps when confronted with learning issues. Beuchel and Cramer (2023) also reported that cognitive flexibility to switch from mental sets increases individuals' openness to change, which also increases their willingness to learn new behavioral habits. In consumer psychology, T. Yu et al. (2023) attested to the fact that cognitive flexibility is the underlying process of cross-cultural communication and adaptation openness and hinted at the possibility of its influence spilling over from educational environments into general behavioral intentions. Later studies, e.g., by Roux et al. (2024), focused on how cognitive flexibility results in more adaptive coping mechanisms, which in their own turn influence the intention to use adaptive

behaviors. Collectively, earlier research suggests cognitive flexibility provides individuals the capacity to make purposeful, adaptive, and future-oriented decisions within a broad range of contexts (Kleszewski et al., 2025).

According to these empirical findings, it is possible to believe that students with higher levels of cognitive flexibility have better abilities to impact desired behavioral outcomes in educational settings (Liang et al., 2025). In contrast to rigid thinkers who could not adapt to change or different methods, cognitively flexible learners can sift through numerous possibilities, predict outcomes, and purposefully use techniques best for achieving academic and personal objectives (Singh, 2025). This adaptability is particularly critical in present learning environments that are dominated by technology integration, multiple modes of learning, and constant adjustment (Liu et al., 2024). Cognitive flexibility allows students to cope with these complexities through matching internal resources and external demands, leading to stronger behavioral intentions to embrace good learning behaviors (Hsieh et al., 2024). Empirical evidence in organizational psychology supports this assumption since flexible workers have stronger behavioral intentions to embrace innovative work practices (Kumawat & Metri, 2025). Referring to the same with students, it is clear that cognitive flexibility is directly involved in shifting intentions by making decision-making, problem-solving, and new learning contexts more open (Idrees & Ullah, 2024). It follows that it is reasonable to believe that cognitive flexibility significantly influences behavioral intention, since it offers students psychological readiness and capability to choose meaningful and adaptive paths of action.

H1. Students' cognitive flexibility significantly influences their behavioral intention.

Mindfulness has extensively been studied in psychological and education literature as a predictor of intentional behavior (Hartanto et al., 2023). Octalina et al. (2023) presented mindfulness as non-judgmental present-moment awareness, highlighting its power to ensure deliberate and intentional action. Empirical education research reveals that mindfulness enhances improved concentration, self-regulation, and emotional management, which collectively influence behavioral decision-making (Y. Chen et al., 2025). Dinesh et al. (2023) found that individuals who are mindful possess higher levels of self-determined behavior such that their intentions are reflective rather than reactive. In schools, mindfulness interventions have been known to enhance intention in students to implement effective study habits and healthier lifestyle

behaviors (X. Yu et al., 2023). Furthermore, research done by Geiger et al. (2024) corroborated that mindfulness strengthens the intention-behavior relationship via reduced impulsivity and enhanced decision-making clarity. In health psychology, mindfulness-based interventions were discovered to strengthen exercise and eating habits intentions, which are reflective of its influence on adaptive behavioral intentions (Alimour et al., 2024). Overall, these studies illustrate how mindfulness enhances the strength of online intentions by ensuring diligent, thoughtful, and adaptable decision-making across all aspects of life.

According to these findings, it is reasonable to infer that students' mindfulness will have a direct influence on their behavioral intentions (Gkintoni et al., 2025). More reflective students will be more likely to pause, reflect, and make intentional choices instead of responding carelessly to academic demands or distractions. This capacity for awareness and reflection makes it possible for them to align their intentions with long-term academic and life goals (Phansikar et al., 2023). Compared to students who may be responding out of stress or habit, more self-aware individuals form behavior intentions based on clearness and conscious awareness, in which goals and actions become aligned (Y.-J. Chen et al., 2025). Social psychology research shows that mindfulness strengthens prosocial intentions via boosted empathy and reduced egocentric responses (Gao et al., 2024). Transferring this to the learning environment, mindful students are anticipated to have more robust behavioral intentions towards collaborative learning, the adoption of effective study habits, and positive peer relationships. Mindfulness has also been shown to strengthen the self-regulation processes necessary to translate intentions into action (Patil et al., 2025). This positions it in a critical location to impact not just the quality of students' intentions, but also their commitment propensity (Phansikar et al., 2023). Mindfulness is thus expected to have significant effects on students' behavioral intention by inducing greater awareness, reflection, and intentionality in academic and life decision-making.

H2. Students' mindfulness significantly influences their behavioral intention.

Cognitive flexibility has been extensively studied as a psychological buffer that confers resilience to stress and leads to enhanced coping ability (Mishra & Singh, 2024). Empirical studies reveal that individuals who are highly flexible in their thinking can reframe stressful events and seek alternative coping strategies as opposed to repetitively engaging in the same stress-generating

coping strategy (Kumawat & Metri, 2025). Clinical psychology studies highlight the fact that cognitive inflexibility is linked with higher anxiety and depression levels because rigid thinking limits the adaptive reaction to the stressors (Anthony Jr et al., 2023). At school, Octalina et al. (2023) demonstrated that students possessing higher cognitive flexibility perceive lower stress because they are able to adjust better to changing academic requirements. Similarly, Wang et al. (2024) found that flexible people are less likely to perceive stress as overwhelming and more likely to see challenges as being manageable. Neurocognitive work also indicates cognitive flexibility underlies executive functions aimed at coping with emotional reactions to stress (X. Yu et al., 2023). Across these disparate threads of research, cognitive flexibility invariably emerges as a buffer against perceived stress by virtue of helping individuals respond to stressors with adaptive, problem-focused, and reappraisal-oriented strategies.

Based on these results, it is possible to assume that the cognitive flexibility of students plays an important role in their experience of stress (T. Yu et al., 2023). Students in educational settings are frequently confronted with omnipresent deadlines, changing expectations, and excessive requirements for peak performance. More cognitively flexible students will reinterpret threatening stressful situations as challenges, thus lowering their subjective experience of stress (Gkintoni et al., 2025). By enabling students to perceive several alternatives to cope and other senses through which to see the world, cognitive flexibility provides students with psychological tools to manage stress better (Liu et al., 2024). This is in accord with empirical observations that flexible thinkers are better at employing adaptive coping strategies, such as problem-solving and reappraisal, over maladaptive avoidance or rumination (Liang et al., 2025). In everyday life, students with the ability to alternate among several mental sets can adapt study plans, rebound from unexpected setbacks in academics, and cope with emotional reactions. Thus, cognitive flexibility operates not only as a cognitive skill but as a stress-buffering mechanism, reducing perceived stress by enhancing adaptive interpretation and response to academic and personal stressors (Gao et al., 2024). Based on this empirical foundation, it is here theorized that higher levels of cognitive flexibility reduce students' perceived stress levels.

H3. Students' cognitive flexibility significantly influences their perceived stress levels.

Mindfulness has been extensively studied as a psychological variable that reduces stress and improves emotional well-being. Hsieh et al. (2024) early intervention with Mindfulness-Based Stress Reduction (MBSR) demonstrated that the mindfulness practice effectively decreased perceived stress by increasing awareness and acceptance of present-moment experience. On a regular basis, empirical findings show that mindfulness is helpful in the ability of students to regulate their emotional reactions to reduced perceived stress (Choi et al., 2024). Hartanto et al. (2023) in academic settings identified that students who engaged in mindfulness exhibited reduced levels of stress and higher levels of academic satisfaction. Suthatorn and Charoensukmongkol (2023) pointed out that mindfulness lessens physiological responding to stress through the mitigation of cortisol levels and the reduction of amygdala reactivity, hence promoting psychological resilience. Meta-analyses also determine that mindfulness interventions greatly reduce students', healthcare professionals', and employees' in several high-stress environments (Dinesh et al., 2023). Mindfulness further encourages non-reactivity and thought detachment, through which people can adapt to atypical academic or personal stressors without becoming victims of aversive states of affect (Beuchel & Cramer, 2023). These findings repeatedly reveal mindfulness as a robust predictor of reduced perceived stress across diverse populations.

As a deduction from these results, it would be logical to assume that students' mindfulness makes a significant direct contribution to their degree of perceived stress (Alimour et al., 2024). Mindful students are less likely to overidentify with sources of stress and hence less likely to apply negative thinking patterns such as rumination or catastrophizing (Kleszewski et al., 2025). Instead of reacting impulsively to the pressure of study, mindfulness enables one to be in the moment, become aware, and react with calm and intentional actions. This self-regulation reduces the cognitive load of stress, and the outcome is reduced subjective experience of stress in high-stress academic contexts (Y.-J. Chen et al., 2025). Also, mindfulness enhances emotional regulation by cultivating tolerance and awareness non-judgmentally, both of which help students perceive stressful experiences as transitory and manageable more than as fearful (Liu et al., 2024). Organizational psychology studies also buttress the same perspective, showing that mindfulness not only reduces stress but also enhances resilience and post-stress recovery (Wang et al., 2024). For students, this means being improved at workload variation management, examination stress, and interpersonal conflicts. Mindfulness,

therefore, serves as a buffer against stress by enhancing awareness, acceptance, and emotional regulation, leading to reduced students' perceived stress (Idrees & Ullah, 2024). It can thus be argued that mindfulness has far-reaching effects on perceived stress in students.

H4. Students' mindfulness significantly influences their perceived stress levels.

Performance expectancy, generally drawn from the Unified Theory of Acceptance and Use of Technology, is the degree to which individuals perceive using a specific system or approach to help them attain performance improvement (Jeon et al., 2025). Empirical research shows that performance expectancy affects how individuals score and respond to stress, especially in scholarly and workplace environments (Y. Chen et al., 2025). As an illustration, research has indicated that students are less stressed when they are assured that their learning behaviors and strategies will lead to better grades. Similarly, Baluku (2024) found that higher performance outcome expectations enhanced the commitment among students to adopt adaptive coping strategies, thereby reducing academic-related stress perceptions. Besides, organizational psychology studies demonstrate that individuals with high performance expectancy perceive stressors as growth challenges rather than threats (Geiger et al., 2024). To the extent that that is the case, performance expectancy serves as a buffer to motivation that influences not only behavior but also tints the perception of and regulation of stress (Roux et al., 2024). Overall, empirical evidence indicates that performance expectancy interacts with personal attributes like cognitive flexibility to affect stress perceptions in educational settings.

From this research, it can be theorized that performance expectancy moderates the connection between cognitive flexibility and perceived stress levels (Phansikar et al., 2023). More cognitively flexible students are already more effective in reframing stressful situations, but when reinforced with strong beliefs about their performance outcomes, the stress-buffering effects are enhanced (Singh, 2025). That is, if flexible learning plans by students are thought to enhance their performance, coping and reframing of stressors is more likely (Patil et al., 2025). Conversely, when performance expectancy is low, even flexible cognitive students may experience high levels of stress because their coping efforts are not reinforced by optimistic outcome expectations (Liu et al., 2024). Empirical studies of technology adoption determine that performance expectancy strengthens the link between cognitive

resources and stress outcomes because it reinforces self-efficacy and motivation (Gao et al., 2024). Thus, in learning environments, performance expectancy likely is an intelligence booster that affects how cognitive flexibility translates to less stress (Singh, 2025). This suggests that the interaction between performance expectancy and cognitive flexibility predicts how controllable stress will feel, supporting the hypothesis that performance expectancy strongly moderates this association.

H5. Performance expectancy significantly moderates the relationship of student's cognitive flexibility and their perceived stress levels.

Mindfulness can decrease stress by developing awareness and nonjudgmental acceptance of current experiences (Y.-J. Chen et al., 2025). Yet, the power of its impact can be influenced by contextual determinants like perceived utility and outcome expectations. Performance expectancy has been empirically connected to psychological and behavioral consequences by consolidating people's faith in the advantages of their selected strategies (Liang et al., 2025). Educational psychology research shows that when students feel that their mindful actions help improve academic performance, perceived stress is lower among them (Phansikar et al., 2023). Further, health psychology studies indicate that mindfulness interventions work better when the participants have high expectations regarding the benefits accruing to them (Kleszewski et al., 2025). In the same way, empirical studies in technology acceptance indicate that high performance expectancy reinforces the motivational effect of psychological characteristics on stress decrease and academic success (Gkintoni et al., 2025). Overall, these findings suggest that mindfulness decreases stress, but its efficacy is boosted when people anticipate positive performance-outcomes from mindful training.

Drawing from these empirical insights, it can be argued that performance expectancy moderates the relationship between mindfulness and perceived stress levels (Roux et al., 2024). While mindfulness provides students with the capacity to regulate emotions and reduce stress, the belief that such practices will also improve performance reinforces their stress-reducing effects (Alimour et al., 2024). For instance, a student who uses meditation to enhance concentration would show less stress when assured that mindfulness will ultimately lead to concrete achievement in school. However, if performance expectancy is low, mindfulness would still lower stress but to a lesser extent, since the reinforcement of motivation is lacking (T. Yu et al., 2023). Empirical evidence in organizational behavior indicates that expectancy beliefs augment

the effectiveness of mindfulness interventions by getting them aligned with performance goals and more effectively alleviating stress (Geiger et al., 2024). Therefore, in college life, performance expectancy would likely reinforce the link through which mindfulness takes the form of diminished perceived stress (Beuchel & Cramer, 2023). This confirms the hypothesis that performance expectancy has an influence on the mindfulness stress relationship, such that only mindful students realize the maximum decline in stress when they have strong belief in its performance advantage.

H6. Performance expectancy significantly moderates the relationship of student's mindfulness and their perceived stress levels.

Evidence has shown that cognitive flexibility affects behavioral intention indirectly via its impact on stress and emotional regulation (X. Yu et al., 2023). They are more able to handle stress, and in turn, this influences their intentional behaviors. In schools, Baluku (2024) discovered that students who had reported greater flexibility reported lower stress and had better chances of adaptive learning intentions. In the same fashion, Dinesh et al. (2023) noted that flexible cognitive processes enable one to evaluate stressors in less negative ways, facilitating proactive behavioral decisions. Stress theories like Wang et al. (2024) Transactional Model of Stress and Coping highlight that appraisal and coping processes play a mediating role between the effect of cognitive resources on such outcomes as behavioral intention. Consistent with this, organizational psychology research discovered that stress is a mediator of the relationship between cognitive flexibility and adaptive behavior among employees (Y. Chen et al., 2025). Overall, previous results affirm that cognitive flexibility decreases stress, which in turn impacts the intentional intention to use constructive and goal-oriented behaviors.

Based on this evidence, it may be reasoned that perceived stress mediates the relationship between cognitive flexibility and behavioral intention among students (Suthatorn & Charoensukmongkol, 2023). Cognitive flexibility helps students manage academic requirements efficiently by recontextualizing stress-provoking situations, thus minimizing perceived stress (Octalina et al., 2023). Lower stress levels provide a favorable ground for goal-oriented and purposeful decision-making, thus strengthening behavior intention. If stress is high, however, even cognitively flexible students will struggle to turn their adaptability into intentional behaviors because stress weakens motivation and concentration (Jeon et al., 2025). Empirical evidence supporting this pathway comes from research demonstrating that stress mediates the adaptive traits'

effect on behavioral outcomes in academic and workplace settings (Hartanto et al., 2023). Practically speaking, this implies that students who score high in cognitive flexibility are not only able to adapt but will also more likely develop positive behavioral intentions when their stress level is under control (Anthony Jr et al., 2023). Perceived stress, therefore, operates as a central mechanism in connecting cognitive flexibility with behavioral intention, and empirical support for the hypothesized mediating role.

H7. Student's perceived stress levels significantly mediates the relationship of cognitive flexibility and behavioral intention.

Mindfulness has been empirically associated with reduced stress and better behavioral outcomes in educational and organizational settings. Idrees and Ullah (2024) showed that mindfulness decreases perceived stress by promoting non-judgmental awareness, which, in turn, allows for intentional and goaldirected behavior. Student population research verifies that mindfulness activities reduce student stress, resulting in increased engagement and intent towards productive study habits (Choi et al., 2024). In the work context, Kumawat and Metri (2025) identified that mindfulness lowers stress and raises intentional prosocial behaviors of employees. The transactional model of stress further explains that mindfulness changes the appraisal of stressful events, thus reducing perceived stress and facilitating adaptive behavioral outcomes (Wang, 2025). Research across various domains is unanimous in the conclusion that mindfulness indirectly impacts intention by virtue of its stress-reducing ability (Hsieh et al., 2024). Therefore, prior empirical work unassailably endorses the mediating function of perceived stress between mindfulness and behavioral intention.

From this evidence, it follows that students' perceived stress mediates the relationship between mindfulness and behavioral intention (Mishra & Singh, 2024). Mindfulness enhances students' capacity to regulate emotions and remain present, which reduces the intensity of stress in academic settings (Patil et al., 2025). Reduced stress creates psychological space for intentional behavior, allowing students to form and pursue clear academic goals without being overwhelmed by anxiety (Gao et al., 2024). For instance, a student who practices mindfulness may remain calm under exam pressure, which reduces stress and simultaneously strengthens the intention to adopt focused study behaviors. Without this reduction in stress, however, the influence of mindfulness on intention may be weakened, as stress can override reflective decision-making (Y.-J. Chen et al., 2025). Empirical evidence in education and

organizational settings indicates that mindfulness has its most potent impact on behavioral outcomes when it is mediated by stress reduction (Phansikar et al., 2023). Therefore, perceived stress serves as a key psychological mechanism by which mindfulness is converted into purposeful academic and personal behaviors (Gkintoni et al., 2025). This gives firm grounds for the hypothesis that the relationship between mindfulness and behavioral intention is mediated by perceived stress.

H8. Student's perceived stress levels significantly mediates the relationship of mindfulness and behavioral intention.

Theoretical basis for the model

This research model (Figure 1) is based upon the Transactional Model of Stress and Coping (Alimour et al., 2024) and Unified Theory of Acceptance and Use of Technology, UTAUT (Geiger et al., 2024). This includes the explanation of how people appraise stressors and use coping strategies, that supports the role of cognitive flexibility and mindfulness as psychological resources, influencing stress perceptions and subsequent behaviors (X. Yu et al., 2023). It supports the mediating function of perceived stress by proposing that coping processes are the most relevant mechanisms intervening between personal characteristics and behavior outcomes (Y. Chen et al., 2025). At the same time, UTAUT has theoretical grounds for the moderating function of performance expectancy since expectancy beliefs define the way people use psychological characteristics to form stress perceptions and behavior (Dinesh et al., 2023). The convergence of these theories makes it possible to grasp the complex interaction between cognitive and affective characteristics (cognitive flexibility, mindfulness), situational beliefs (performance expectancy), and psychological states (perceived stress) in determining students' behavioral intentions. Collectively, the frameworks account for all eight hypothesized relations, rendering the model a strong explanation of how internal assets and external pressures collaborate to drive stress regulation and goal-directed behavior within academic settings.

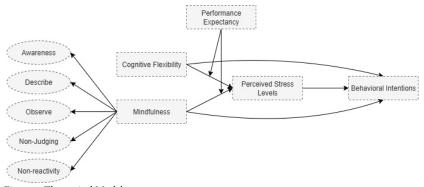


Figure 1: Theoretical Model

Methodology

The research was conducted to explore the interrelation between cognitive flexibility, mindfulness, perceived stress levels, intention to act, and performance expectancy among college students. The study sample was students from various courses of various colleges. 332 students filled out the survey with a mixed set of courses and levels of study and provided a heterogeneous sample most appropriate for intensive analysis. A formatted questionnaire was created to measure the constructs of concern, and items measuring each variable were borrowed from existing scales used in previous research. Scales ensured content validity and equivalence to other existing theoretical models, thereby ensuring credibility and reliability of data obtained.

For measurement of variables, there was some use of standardized instruments. Cognitive flexibility was determined with the 12-item instrument Martin and Rubin (1995), which examines to what extent people adapt their doing and thinking in respect of changing circumstances. Mindfulness was assessed with a 20-item modified scale Meng et al. (2020), which attempted to assess the students' capacity to remain present to their actual experience with openness. Perceived stress was captured on a 10-item scale Vaswani (2020), which was constructed to establish to what extent the students indicated that their personal life and academic life were stressful. Behavioral intentions were captured on a 3-item scale Rojas-Osorio and Alvarez-Risco (2019), which captured to what extent the students were likely to demonstrate certain academic or behavioral outcomes. Performance expectancy was finally measured with a 10-item scale Chen et al. (2020), which captured students' perceptions of how their cognitive and behavioral traits lead to their anticipated academic performance outcomes. All the statements were measured on a five-

point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree") to ensure construct equivalence.

Analysis was conducted with Stata-SEM (Structural Equation Modeling) to test multiple associations between the latent constructs simultaneously, controlling for measurement error. SEM was applied as it is a strong statistical method that captures rich insight into direct and indirect relationships among variables. Reliability and validity tests were conducted before hypothesis testing to ensure that the measurement model was of the intended order. Cronbach's alpha and composite reliability for all the constructs were higher than the given figure of 0.70 for internal consistency. Average variance extracted (AVE) values higher than 0.50 ensured convergent validity for all the constructs, while discriminant validity was ascertained by the Fornell-Larcker criterion. Model fit indices indicated good fit of data and hypothesized model, hence placing confidence in the subsequent path analyses. The SEM results were subsequently employed to test hypothesized associations and provide empirical evidence for joint effects of cognitive flexibility, mindfulness, perceived stress levels, and performance expectancy on learning performance expectations and behavioral intentions of students.

Results

Table 1 presents the test of reliability and validity for constructs used in this study. Reliability was measured using Cronbach's alpha and composite reliability (CR), both of which are above the recommended value of 0.70, signifying internal consistency among constructs. For example, mindfulness as a higher-order construct has an alpha value of 0.902 and CR value of 0.872, indicating high reliability. The sub-dimensions of mindfulness such as nonjudging, observe, awareness, describe, and non-reactivity also provide acceptable reliability levels with Cronbach's alpha of 0.785 to 0.839 and CR values greater than 0.85. Likewise, cognitive flexibility illustrates two scales, alpha of 0.768 and 0.821, both being above the cut-off, indicating strength in measuring thought process flexibility. Perceived stress levels ($\alpha = 0.812$, CR = 0.820) and behavioral intentions ($\alpha = 0.867$, CR = 0.879) are also displaying adequate consistency. In addition, average variance extracted (AVE) values for constructs primarily surpass 0.50, establishing convergent validity and demonstrating that the latent constructs explain a considerable amount of the variance. Performance expectancy also displays consistent results ($\alpha = 0.849$, CR = 0.858, AVE = 0.598). Generally, Table 1 confirms the psychometric adequacy of the measurement model, which guarantees that the constructs are

reliable and valid for subsequent structural analysis.

Table 1 Variables reliability and validity

Variable Value Cronbach's Indicator Composite Average Variance Reliability Alpha Extracted (AVE) 0.56677568 Mindfulness 0.828765912 0.902874703 Non-judging NI1 0.622 0.785 0.872 0.526 NJ2 0.589 NJ3 0.616 NÍ4 0.561 Observe 01 0.566 O2 0.645 O3 0.704 04 0.582 Awareness A₁ 0.567 0.839 0.932 0.562 A2 0.641 A3 0.605 A4 0.698 Describe D10.806 0.796 0.894 0.530 D20.705 D3 0.763 D4 0.716 Non-reactivity NR1 0.659 0.803 0.891 0.537 NR2 0.553 NR3 0.706 NR4 0.740Cognitive flexibility CF1 0.559 0.768 0.853 0.533 CF2 0.583 CF3 0.727 CF4 0.602 CF5 0.701 0.821 0.911 0.549 CF6 0.745 CF7 0.772 CF8 0.591 CF9 0.752 CF10 0.590 CF11 0.718 CF12 0.597 Perceived stress PSL1 0.700 0.812 0.820 0.572 levels PSL₂ 0.830 PSL3 0.738 PSL4 0.707 PSL5 0.755 PSL6 0.582 PSL7 0.748 PSL8 0.561 PSL9 0.566 PSL10 0.637 Behavioral BI1 0.696 0.867 0.879 0.546 intentions BI2 0.744 BI3 0.567 Performance PE1 0.633 0.849 0.858 0.598 expectancy PE2 0.598 PE3 0.743 PE4 0.645 PE5 0.588 PE6 0.696

Table 1
Variables reliability and validity (Cont...)

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Variable	Indicator	Value	Cronbach's	Composite	Average Variance			
			Alpha	Reliability	Extracted (AVE)			
	PE7	0.543						
	PE8	0.651						
	PE9	0.553						
	PE10	0.697						

Table 2 shows results of the confirmatory factor analysis (CFA) that was carried out to validate the factor structure of the constructs. The majority of items have standardized factor loadings above the suggested minimum of 0.50, which indicates sufficient representation of the construct. For instance, mindfulness indicators across dimensions (NJ2 = 0.590, O3 = 0.706, A3 = 0.745, D2 = 0.706, NR3 = 0.742) show strong factor loadings, meaning that the items well represent their respective sub-constructs. Likewise, cognitive flexibility indicators such as CF5 (0.747), CF6 (0.774), and CF12 (0.831) load strongly, which shows the strength of the latent factor (Figure 2).

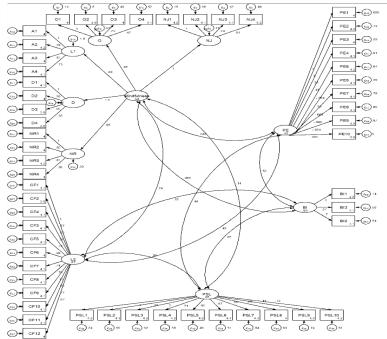


Figure 2: Estimated Model

Stress indicators (PSL2 = 0.709, PSL3 = 0.757, PSL9 = 0.697) and behavior intention indicators (BI2 = 0.634) also validate construct validity. While some

items (e.g., A4 = 0.524, CF4 = 0.592, PSL6 = 0.563) load moderately, they fall within acceptable limits, indicating that the measurement model is recording variation well. Notably, all the items are statistically significant (p < 0.05), validating their impact on the model. The CFA outcomes therefore confirm convergent validity and appropriateness of using these constructs within the structural model.

Table 2Confirmatory Factor Analysis

Measurement	OIM Coef.	Std. Err.	z P> z [95% Conf. Int			f. Interval]
NJ1	1.000	(constrained)				
NJ2	0.590	0.045	11.408	0.000	0.404	0.578
NJ3	0.618	0.049	11.058	0.000	0.158	0.601
NJ4	0.563	0.088	9.299	0.000	0.271	0.880
O1	1.000	(constrained)				
O2	0.646	0.053	9.897	0.000	0.543	0.750
O3	0.706	0.055	10.458	0.000	0.597	0.808
O4	0.606	0.043	72.786	0.000	0.216	0.762
A1	1.000	(constrained)				
A2	0.642	0.061	12.067	0.000	0.603	0.770
A3	0.745	0.058	10.681	0.000	0.638	0.694
A4	0.524	0.061	8.731	0.004	0.437	0.713
D1	1.000	(constrained)				
D2	0.706	0.059	9.591	0.000	0.597	0.663
D3	0.000	0.000	0.000	0.000	0.000	0.000
D4	0.661	0.047	64.449	0.000	0.082	0.194
NR1	1.000	(constrained)				
NR2	0.707	0.056	10.317	0.000	0.598	0.648
NR3	0.742	0.070	10.478	0.002	0.611	0.747
NR4	0.561	0.087	9.431	0.000	0.267	0.882
CF1	1.000	(constrained)				
CF2	0.627	0.051	9.592	0.000	0.526	0.727
CF3	0.603	0.052	9.470	0.000	0.502	0.699
CF4	0.592	0.052	7.478	0.000	0.370	0.572
CF5	0.747	0.055	10.960	0.000	0.647	0.695
CF6	0.774	0.039	82.441	0.000	0.193	0.443
CF7	0.592	0.053	7.569	0.000	0.374	0.579
CF8	0.754	0.059	10.811	0.000	0.645	0.702
CF9	0.703	0.041	75.585	0.000	0.120	0.368
CF10	0.598	0.041	79.583	0.000	0.329	0.756
CF11	0.702	0.060	11.223	0.000	0.618	0.844
CF12	0.831	0.057	12.898	0.000	0.693	0.727
PSL1	1.000	(constrained)				
PSL2	0.709	0.061	11.596	0.000	0.662	0.895
PSL3	0.757	0.220	4.239	0.000	0.369	0.494

Table 2
Confirmatory Factor Analysis (Cont...)

Measurement	OIM Coef.	Std. Err.	z	P> z	[95% Con:	f. Interval]
PSL4	0.583	0.045	11.271	0.000	0.399	0.571
PSL5	0.557	0.040	75.649	0.000	0.259	0.798
PSL6	0.563	0.087	9.188	0.000	0.268	0.870
PSL7	0.567	0.040	77.116	0.000	0.264	0.813
PSL8	0.639	0.052	9.778	0.000	0.537	0.741
PSL9	0.697	0.055	10.332	0.000	0.590	0.798
PSL10	0.695	0.040	74.678	0.000	0.119	0.363
BI1	1.000	(constrained)				
BI2	0.634	0.060	11.922	0.000	0.596	0.761
BI3	0.599	0.043	71.912	0.000	0.214	0.753
PE1	1.000	(constrained)				
PE2	0.590	0.551	8.013	0.000	0.604	0.653
PE3	0.698	0.059	9.476	0.000	0.590	0.655
PE4	0.544	0.077	10.830	0.000	0.293	0.940
PE5	0.653	0.047	63.675	0.000	0.081	0.191
PE6	0.738	0.054	10.829	0.000	0.639	0.687
PE7	0.699	0.055	10.193	0.000	0.591	0.641
PE8	0.733	0.069	10.352	0.002	0.604	0.738
PE9	0.560	0.086	9.318	0.000	0.264	0.872
PE10	0.577	0.089	8.548	0.000	0.226	0.818

Table 3 shows inter-construct correlations, indicating the strength and direction of the relationships between mindfulness, cognitive flexibility, perceived levels of stress, behavioural intentions, and performance expectancy. There is a very strong positive correlation between mindfulness and cognitive flexibility (r = 0.749), which indicates that students who are more mindful are also likely to be more flexible at changing their thoughts and actions. Both mindfulness (r = 0.710) and cognitive flexibility (r = 0.655) show high correlations with levels of perceived stress, illustrating their important contribution to stress management. Notably, behavioral intentions correlate somewhat with mindfulness (r = 0.562) and cognitive flexibility (r = 0.505), validating their role in the determination of student behavioral decisions. Performance expectancy is highly correlated with mindfulness (r = 0.637) and self-reported levels of stress (r = 0.620), also lending further support to the moderating effect. Correlations are within expected levels, indicating discriminant validity and providing initial support for hypothesized relationships. This table provides solid foundation support for the structural model by demonstrating that constructs are related but not the same.

Correlation of Variables									
Variables	1	2	3	4	5				
Mindfulness	1	0.749	0.710	0.562	0.637				
Cognitive flexibility	0.749	1	0.655	0.505	0.563				
Perceived stress levels	0.710	0.655	1	0.540	0.620				
Behavioral intentions	0.562	0.505	0.540	1	0.448				
Performance expectancy	0.637	0.563	0.620	0.448	1				

Table 3Correlation of Variables

Table 4 presents the structural model modle fit indices based on chi-square statistics as well as other important indicators. The standardized root mean square residual (SRMR) of 0.056 and 0.068 for the saturated and estimated models, respectively, both show acceptable levels (<0.08), thereby confirming good model fit. The likelihood ratio chi-square test (5738.029, p < 0.001) indicates substantial differences between the model and data, although chi-square is usually sensitive to sample size. The R-squared values indicate the model accounts for a very high percentage of variance in the dependent variables: 67.8% in perceived levels of stress and 60.5% in behavior intentions. Such high explanatory power indicates the robustness of the hypothesized model in explaining underlying relationships. The chi-square baseline to saturated model comparison ($\chi^2 = 1630.974$, p < 0.001) verifies the model robustness. These statistics cumulatively support the structural model's adequacy, warranting subsequent hypothesized relationship interpretation.

Table 4Chi-square Fit statistics

	Saturated	Estimated	R	Fit statistic	Value	Description
	Model	Model	Square			
SRM	0.056	0.068		Likelihood	5738.029	model vs.
R				ratio		saturated
Pe	erceived stress	s levels	0.678	p > chi2	0	.000
Behavioral intentions			0.605	chi2_bs(2728)	1630.974	baseline vs.
						saturated
			p > chi2	0.000		

Table 5 provides the results of the structural path analysis (Figure 3), testing all eight hypotheses of the study. The findings reveal that each hypothesized path is statistically significant (p < 0.001), with strong coefficients indicating meaningful relationships. Cognitive flexibility has a strong impact on behavioral intention (β = 0.480) and perceived stress levels (β = 0.514), whereas mindfulness has even greater effects on behavioral intention (β = 0.543) and stress (β = 0.539). Performance expectancy has robust moderating effects: it

enhances the correlation between cognitive flexibility and stress (β = 0.548), and mindfulness and stress (β = 0.490), attesting to its being a contextual variable influencing outcomes.

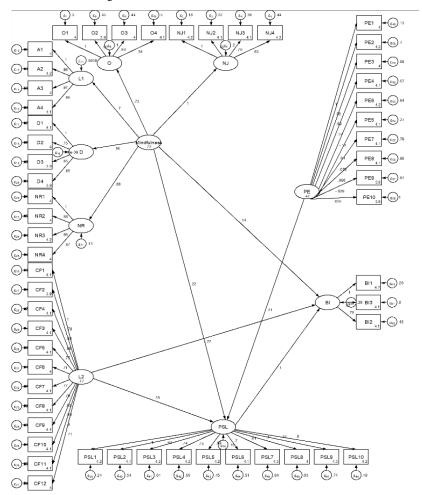


Figure 3: Structural Model for Path Analysis

Furthermore, perceived levels of stress serve as a strong mediator for the model. Specifically, stress mediates the links between cognitive flexibility and behavioral intention ($\beta = 0.509$), and between mindfulness and behavioral intention ($\beta = 0.580$). Such mediation effects underscore stress as a key psychological mechanism for linking cognitive resources and mindfulness practice to behavioral outcomes. Overall, the path analysis offers strong

empirical support for each hypothesis, confirming the theoretical framework and emphasizing the combined role of flexibility, mindfulness, stress, and expectancy in the prediction of students' behavioral intentions.

Table 5Path Analysis

Pa	ith Analy	/S1S				
	OIM	Std.	z	P> z	[95% (Conf.
	Coef.	Err.			Inter	val]
H1. Students' cognitive flexibility	0.480	0.034	46.81	0.000	0.059	0.1
significantly influences their behavioral			5			41
intention.						
H2. Students' mindfulness significantly	0.543	0.067	7.145	0.000	0.268	0.7
influences their behavioral intention.						00
H3. Students' cognitive flexibility	0.514	0.041	7.494	0.000	0.434	0.4
significantly influences their perceived						71
stress levels.						
H4. Students' mindfulness significantly	0.539	0.051	7.611	0.001	0.444	0.5
influences their perceived stress levels.						43
H5. Performance expectancy	0.548	0.063	6.850	0.000	0.194	0.6
significantly moderates the relationship						41
of student's cognitive flexibility and						
their perceived stress levels.						
H6. Performance expectancy	0.490	0.066	6.285	0.000	0.166	0.6
significantly moderates the relationship						01
of student's mindfulness and their						
perceived stress levels.						
H7. Students' perceived stress levels	0.509	0.028	59.03	0.000	0.080	0.2
significantly mediates the relationship			5			92
of cognitive flexibility and behavioral						
intention.						
H8. Students' perceived stress levels	0.580	0.031	67.32	0.000	0.092	0.3
significantly mediates the relationship			7			33
of mindfulness and behavioral						
intention.						

Discussion

The present research aimed to explore the psychological and behavioral processes that drive students' intentions in educational environments with a focus on the interrelated contributions of cognitive flexibility, mindfulness, perceived stress, and performance expectancy. As educational environments place mounting demands on students, they are frequently tasked with reconciling academic demands with psychological resilience and hence, it is essential to understand the influence that these constructs have on their

behaviors. All eight hypotheses in this study were supported, affirming the theoretical model's validity and shedding light into new areas of how cognitive and emotional regulation interface with stress perception and behavioral intentions. The ensuing discussion synthesizes these results, positions them in the wider literature, and considers their significance.

The findings indicate that cognitive flexibility is significantly and positively affecting the behavioral intention of the students. This means that learners who can adapt their cognition, reshape challenges, and look at things from different perspectives are likely to show initiative in academic behaviors and decisionmaking. These results are in agreement with psychological adaptability predictions Octalina et al. (2023), which state that high-cognitive flexibility people can adjust their approaches to requirements in the context and, through this, enhance behavioral outcomes. In school, flexibility means being able to deal with changing learning environments, seek alternative solution avenues, and maintain motivation under adversity. Previous studies Hartanto et al. (2023) have indicated that goal-directed behavior is associated with cognitive flexibility, in line with the current result that flexible cognition fortifies students' academic behavioral intentions directly. These also highlight that mindfulness strongly predicts students' behavioral intention, proof that instant awareness causes intentional engagement in learning tasks. Intentional learners are likely to engage consciously, fight distractions, and stay committed to learning goals. This aligns with previous research Hsieh et al. (2024) indicating that mindfulness enhances self-regulation, with the latter influencing purposeful behavior. The confirmation of this hypothesis highlights that mindfulness is not only a defensive psychological resource but also an initiative one, enabling students to convert their intentions into long-term academic goals. In application, mindfulness interventions in schools may therefore enhance intentionality and prolonged student interest.

The findings indicate that cognitive flexibility significantly decreases perceived levels of stress, showing its stress-protective function in campus life. Students with flexible cognitive strategies are able to reinterpret stress provoking situations in a more positive way, adapt to academic difficulties, and stay away from fixed negative thinking. This is in line with stress appraisal models as indicated by Kumawat and Metri (2025), which suggest that stress perception relies heavily on cognitive judgments. Empirical evidence Phansikar et al. (2023) also supports that cognitive flexibility enhances coping mechanisms, reducing the intensity of stress experiences. Thus, the current

findings reinforce the importance of flexible cognition as a buffer against stress, offering a psychological resource for students to manage the inevitable challenges of higher education effectively.

The endorsement of H4 indicates that mindfulness is a significant predictor of decreased stress perception among students. Mindfulness helps students stay grounded, watch out for their thoughts without judgment, and avoid spiraling of stress reactions. This finding supports previous research Gao et al. (2024), which attests to mindfulness as an effective stress-reduction mechanism. In a school setting, mindfulness seems to protect students from crushing pressures through the promotion of calmness, concentration, and emotional equilibrium. The discovery highlights mindfulness as both a mental health tool and a learning aid, as reduced stress naturally enables increased levels of concentration and productivity.

The findings reaffirm that performance expectancy strongly moderates the relationship between cognitive flexibility and perceived stress. Particularly, when students expect that academic performance results will align with their expectations, the buffering role of cognitive flexibility against stress is enhanced. On the contrary, when there is a mismatch in performance expectations, the flexibility benefits could be diluted. This is consistent with expectancy-value theory, which posits that people's beliefs about performance outcomes influence the way they react to challenges (T. Yu et al., 2023). The present outcome indicates that cognitive flexibility is not sufficient; its efficiency to minimize stress is enhanced when students believe academic assignments are congruent with attainable and desirable outcomes. This provides a better picture: students do not only need flexible cognitive capacities but also a setting that fosters their performance beliefs.

Similarly, the findings substantiate that performance expectancy acts as a moderator for the relationship between mindfulness and perceived stress. Students who have high practice in mindfulness exhibit even lower declines in stress when they believe their academic performance will deliver desired results. This also claims the dual role of internal regulation (mindfulness) and external validation (performance expectancy). It is in line with motivation models Dinesh et al. (2023) that highlight the mechanism with which expectations and inherent properties collaborate to initiate stress and performance. This implies that mindfulness interventions work best in positive learning environments where student expectations overlap with achievable academic benefits.

The outcome indicates that perceived stress has a strong mediating effect on cognitive flexibility and behavioral intention. This implies that cognitive flexibility affects behavioral intention directly as well as indirectly by reducing stress. Students having more cognitive flexibility experience less stress, in turn increasing their intention to embrace intentional academic behavior. This aligns with dual process models of psychology Jeon et al. (2025), which emphasize the indirect processes through which personal traits impact outcomes. Through the emphasis on stress as a mediating channel, this research accounts for why cognitive flexibility such a valuable resource is it not only facilitates adaptability but also alleviates psychological burdens that might otherwise hinder students' behavioral intentions.

Therefore, the results also support that perceived stress is the mediating factor linking mindfulness and behavioral intention. It is mindfulness that is accountable for reducing levels of stress, which in turn improves students' capacity to use intentional learning as well as academic behavior. This finding is consistent with previous studies Idrees and Ullah (2024), which have indicated that stress is usually a critical obstacle to behavioral consequence, and mindfulness weakens the power of this obstacle by regulating emotion responding. This indirect pathway supported here again underscores mindfulness as a core psychological skill that facilitates intention formation through stress reduction. This finding is consistent with the findings that school interventions based on mindfulness directly and indirectly influence students' behavioral predispositions.

Both of the aforementioned findings in tandem indicate that subjective stress is a significant psychological process in which cognitive flexibility and mindfulness are both preoccupied with behavioural intentions. Stress is the means through which effective cognitive and emotional abilities are translated into proactive pupil action. The discovery that stress is a mediator presents new theory to higher education models of engagement and implies that interventions aimed at fostering flexibility and mindfulness need to incorporate managing stress simultaneously in order to be optimally effective.

In general, the eight support for all the hypotheses indicate that cognitive flexibility and mindfulness play significant roles in directing students' behavioral intentions directly as well as indirectly via perceived influence on stress, while performance expectancy further strengthens these relationships. The research contributes to building a better understanding of the interrelatedness among adaptability, awareness, motivation, and regulation of

stress in the learning environment. Importantly, the research finds that building the student's internal qualities (mindfulness and hardness) must be complemented with the support of institutional structures in accordance with performance demands. In combining cognitive, affective, and contextual determinants, this study provides theoretical and practical understanding to how universities can optimize student commitment and hardness within the more demanding higher education context.

Implications of the Research

This study makes a theoretical contribution through the means of depicting the combined effects of mindfulness and cognitive flexibility on the behavioral intentions of students and thus becomes part of the nascent literature at the nexus of education, psychology, and behavioral sciences. In establishing the role of such psychological constructs in intention-guided formation of behavior, the study integrates the building blocks of cognitive-behavioral and mindfulness-based theories since they highlight the function of self-regulation, flexibility, and attentional awareness in decision-making direction. In addition, experimental support for all hypotheses sustains the presumption that cognitive flexibility and mindfulness are complementary processes where cognitive adaptability strengthens the exploration of varied alternatives and mindfulness allows for intention-cognition transparency. This syntheses gives a broader theoretical perspective that covers both internal psychological resources and external behavioral consequences, borrowing from earlier frameworks that have the tendency of analyzing these variables in isolation.

Practically, the findings have useful implications for schools, policymakers, and student development professionals who aim to promote students' wellbeing and academic performance. By including training interventions that focus on the development of mindfulness and cognitive flexibility, institutions can promote more intentional, adaptive, and self-regulated student behavior. Interventions like mindfulness workshops, flexible problem-solving practices, and resilience curricula could help equip students to overcome academic setbacks and make informed behavioral choices. In addition, these findings can inform student affairs and counseling offices to create specific strategies to enhance coping skills and minimize stress-maladaptive behaviors. On an institutional level, incorporating such practices within curriculum and cocurriculum might not only increase individual behavioral intentions but also lead to an adaptive, mindful, and goal-directed student culture.

Limitations and Future Research Directions

Despite the study's important contributions, a number of limitations need to be noted. The study was restricted to a particular student sample, and this might impede the generalizability of the results to more diverse groups like working professionals, teenagers, or cross-cultural samples. The use of selfreported data also introduces the possibility of response bias, as it is possible that respondents provided socially desirable responses instead of measures of their actual experiences. In addition, the cross-sectional design limits the capacity to infer causality among mindfulness, cognitive flexibility, and intentions to change. Future studies may circumvent such limitations with longitudinal designs, experimental manipulations, or mixed-methods to more fully explore causal relationships. Expanding the populations and cultural contexts of sampling would further enrich the generalizability of findings, since norms within different cultures may influence the expression of mindfulness and cognitive flexibility. Researchers can also examine mediating and moderating variables such as resilience, emotional intelligence, or technology factors to specify a more comprehensive model that accounts for the complexities of intention-driven student behavior.

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References

- Alimour, S. A., Alnono, E., Aljasmi, S., El Farran, H., Alqawasmi, A. A., Alrabeei, M. M., Shwedeh, F., & Aburayya, A. (2024). Original Research Article The quality traits of artificial intelligence operations in predicting mental healthcare professionals' perceptions: A case study in the psychotherapy division. *Journal of Autonomous Intelligence*, 7(4). http://dx.doi.org/10.32629/jai.v7i4.1438
- Anthony Jr, B., Kamaludin, A., & Romli, A. (2023). Predicting academic staffs behaviour intention and actual use of blended learning in higher education: Model development and validation. *Technology, Knowledge and Learning*, 28(3), 1223-1269. https://doi.org/10.1007/s10758-021-09579-2
- Baluku, M. M. (2024). Mindfulness and the theory of planned behavior: explaining entrepreneurial intentions of refugees in Uganda. *Journal of Enterprising Communities: People and Places in the Global Economy*, *18*(5), 1170-1192. https://doi.org/10.1108/JEC-01-2024-0008
- Beuchel, P., & Cramer, C. (2023). Heart rate variability and perceived stress in teacher training: facing the reality shock with mindfulness? Global Advances in Integrative Medicine and

- Health, 12, 27536130231176538. https://doi.org/10.1177/27536130231176538
- Chen, J.-H., Ha, N. T. T., Tai, H.-W., & Chang, C.-A. (2020). The willingness to adopt the Internet of Things (IoT) conception in Taiwan's construction industry. *Journal of Civil Engineering and Management*, 26(6), 534-550. https://doi.org/10.3846/jcem.2020.12639
- Chen, Y.-J., Lee, C.-H., Hsieh, C.-J., Liao, P.-H., Chen, Y.-D., Chou, K.-R., Guo, S.-L., Chang, L.-F., & Lee, T.-Y. (2025). Effect of online mindfulness intervention on anxiety, depression, and stress in patients with chronic diseases. *EXPLORE*, 103214. https://doi.org/10.1016/j.explore.2025.103214
- Chen, Y., Lu, J., Walker, D. I., Ma, W., Glenn, A. L., & Han, H. (2025). Perceived Stress and Society-Wide Moral Judgment. European Journal of Investigation in Health, Psychology and Education, 15(6), 106. https://doi.org/10.3390/ejihpe15060106
- Choi, E., Levallet, N., & Bharti, M. (2024). Mindfulness and psychological capital: Examining the role of intention from the person perspective in a multi-week mindfulness training program. Personnel Review, 53(7), 1885-1908. https://doi.org/10.1108/PR-06-2023-0512
- Dinesh, T. K., Shetty, A., Thomas Gil, M., & D'souza, K. J. (2023). Effects of perceived stress, mindfulness, selfefficacy and social support on psychological wellbeing of life insurance agents during the COVID-19 pandemic. *Economic research-Ekonomska istraživanja*, 36(3). https://doi.org/10.1080/1331677X.2022.2154237
- Gao, W., Yan, X., Chen, Y., Yang, J., & Yuan, J. (2024). Situation covariation and goal adaptiveness? The promoting effect of cognitive flexibility on emotion regulation in depression. *Emotion*. https://psycnet.apa.org/doi/10.1037/emo0001410
- Geiger, S., Aufderlandwehr, J., Esser, A. J., Schadendorf, T., Muehlbauer, T., Skoda, E.-M., Teufel, M., & Bäuerle, A. (2024). Determining the acceptance of e-mental health interventions in elite athletes using the unified theory of acceptance and use of technology. Frontiers in Sports and Active Living, 6, 1416045. https://doi.org/10.3389/fspor.2024.1416045
- Gkintoni, E., Vassilopoulos, S. P., & Nikolaou, G. (2025). Mindfulness-based cognitive therapy in clinical practice: A systematic review of neurocognitive outcomes and applications for mental health and well-being. *Journal of Clinical Medicine*, 14(5), 1703. https://doi.org/10.3390/jcm14051703
- Hartanto, A., Kasturiratna, K. S., Chua, Y. J., Ngo, J. A., Ong, J. S., Quek, F. Y., Soh, X. C., & Majeed, N. M. (2023). Does a 15-minute brief mindfulness breathing exercise temporarily enhance inhibitory control and cognitive flexibility? A within-subject experimental approach. *Collabra: Psychology*, 9(1), 90219. https://doi.org/10.1525/collabra.90219
- Hsieh, M.-C., Pan, H.-C., & Chou, S.-W. (2024). Exploring e-learners' it mindfulness and its impact on post-adoption behavior: a dedication-constraint relationship of commitment in live streaming learning environments. *International Journal of Human–Computer Interaction*, 1-22. https://doi.org/10.1080/10447318.2024.2440637
- Idrees, M. A., & Ullah, S. (2024). Comparative analysis of FinTech adoption among Islamic and conventional banking users with moderating effect of education level: A UTAUT2 perspective. *Journal of Open Innovation: Technology, Market, and Complexity, 10*(3), 100343. https://doi.org/10.1016/j.joitmc.2024.100343
- Jeon, M., Kim, M., Lee, Y., Lee, S., Kim, H., & Jung, D. (2025). Why Only in the Lab? Understanding Counselors' Technology Acceptance Intentions on Virtual Reality Exposure Therapy: A Mixed Methods Study. Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems, https://doi.org/10.1145/3706599.3720233
- Kleszewski, E., Wehrt, W., Otto, K., Matick, E., & Kottwitz, M. U. (2025). Opening Windows: Effects of an App-Based Mindfulness Intervention on Perfectionistic Concerns and Cross-

- Domain Functioning. *Journal of Business and Psychology*, 1-19. https://doi.org/10.1007/s10869-025-10033-8
- Kumawat, J., & Metri, K. G. (2025). Effects of an eight-week yoga intervention on cognitive, mental, and autonomic function in female students with elevated stress: A randomized controlled trial protocol. Mental Health and Physical Activity, 100709. https://doi.org/10.1016/j.mhpa.2025.100709
- Liang, M., Zhihao, Q., Ge, Z., Xin, Z., & Hao, F. (2025). How employee resilience contributes to digital performance: moderating role of enterprise social media usage. *Behaviour & Information Technology*, 44(4), 713-730. https://doi.org/10.1080/0144929X.2024.2336603
- Liu, J., Gan, Y., & Chen, Y. (2024). How employee mindfulness influences the retention intention of technology employees: multiple mediation effects of affective commitment and organizational identification. Asia Pacific Journal of Marketing and Logistics, 36(7), 1657-1673. https://doi.org/10.1108/APJML-09-2023-0838
- Martin, M. M., & Rubin, R. B. (1995). A new measure of cognitive flexibility. *Psychological reports*, *76*(2), 623-626. https://doi.org/10.2466/pr0.1995.76.2.623
- Meng, Y., Mao, K., & Li, C. (2020). Validation of a short-form five facet mindfulness questionnaire instrument in China. Frontiers in psychology, 10, 3031. https://doi.org/10.3389/fpsyg,2019.03031
- Mishra, A., & Singh, P. (2024). Effect of emotional intelligence and cognitive flexibility on entrepreneurial intention: mediating role of entrepreneurial self-efficacy. *Journal of Entrepreneurship in Emerging Economies*, 16(3), 551-575. https://doi.org/10.1108/JEEE-05-2022-0142
- Octalina, L. E., Rahimah, A., & Arifin, Z. (2023). Exploring the Contingent Role of Effort Expectancy on Online Purchase Intention in An E-Commerce Application. *Jurnal Manajemen Teori dan Terapan*, 16(1). https://doi.org/10.20473/jmtt.v16i1.41398
- Patil, S. V., Srinivas, S. B., Tussing, D. V., & Rhee, J. (2025). Addressing the flexible use of cognitive flexibility constructs: toward a multifaceted approach. *Academy of Management Annals*, 19(1), 74-131. https://doi.org/10.5465/annals.2023.0078
- Phansikar, M., Gothe, N., Hernandez, R., Lara-Cinisomo, S., & Mullen, S. P. (2023). Feasibility and impact of a remote moderate-intensity yoga intervention on stress and executive functioning in working adults: a randomized controlled trial. *Journal of Behavioral Medicine*, 46(5), 720-731. https://doi.org/10.1007/s10865-022-00385-4
- Rojas-Osorio, M., & Alvarez-Risco, A. (2019). Intention to use smartphones among Peruvian university students. *International Journal of Interactive Mobile Technologies*, *13*(3). https://doi.org/10.3991/ijim.v13i03.9356
- Roux, E., Beccaria, G., & McIlveen, P. (2024). The role of cognitive flexibility in job search behaviour: a research agenda. *International Journal for Educational and Vocational Guidance*, 1-18. https://doi.org/10.1007/s10775-024-09669-4
- Singh, M. (2025). Antecedents of Cognitive Flexibility in Ambidextrous Leadership: A m-TISM Perspective. Global Journal of Flexible Systems Management, 26(2), 403-420. https://doi.org/10.1007/s40171-025-00445-z
- Suthatorn, P., & Charoensukmongkol, P. (2023). Effects of trust in organizations and trait mindfulness on optimism and perceived stress of flight attendants during the COVID-19 pandemic. *Personnel Review*, 52(3), 882-899. https://doi.org/10.1108/PR-06-2021-0396
- Vaswani, D. (2020). Psychological stress in myocardial infarction patients. Indian Journal of Cardiovascular Disease in Women WINCARS, 5(01), 27-37. https://doi.org/10.1055/s-0040-1708575

- Wang, S. (2025). Can Digital Mindfulness Stimulate the Effects of EFL Learners' Cognitive Awareness on Cognitive Load in Computer Assisted Writing Classrooms? *International Journal of Human–Computer Interaction*, 41(8), 4801-4812. https://doi.org/10.1080/10447318.2024.2353449
- Wang, Y.-C., Cai, R., Zhang, T., & Lu, Y. D. (2024). Event attendees' crafting behaviors for Alpowered autonomous driving at events: A monitor and acceptance theory perspective. *International Journal of Hospitality Management, 122, 103855. https://doi.org/10.1016/j.ijhm.2024.103855
- Yu, T., Zhang, Y., Teoh, A. P., Wang, A., & Wang, C. (2023). Factors influencing university students' behavioral intention to use electric car-sharing services in Guangzhou, China. Sage Open, 13(4), 21582440231210551. https://doi.org/10.1177/21582440231210551
- Yu, X., Zhao, X., & Hou, Y. (2023). Cognitive flexibility and entrepreneurial creativity: the chain mediating effect of entrepreneurial alertness and entrepreneurial self-efficacy. Frontiers in psychology, 14, 1292797. https://doi.org/10.3389/fpsyg.2023.1292797