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Managing academic stress among non-formal education students in the digital era: A positive psychology-based systematic scoping review

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Abstract

This study explores how non-formal education students may manage academic stress in the digital era through a positive psychology perspective. A systematic scoping review was conducted using 13 publications retrieved from Google Scholar, ERIC, PubMed, ProQuest, and JSTOR. The publications were released between 2010 and 2025 and analysed thematically. The selected studies were analyzed thematically. Three main themes emerged: sources of academic stress, positive psychology-based coping resources, and the use of digital tools to support student well-being. The reviewed literature indicates that students may experience stress related to academic workload, professional-identity uncertainty, technostress, information overload, and social comparison. Practices such as gratitude, mindfulness, character-strength development, and supportive relationships may help strengthen resilience and well-being. Digital tools can widen access to these practices. However, institutions should provide support, prioritise privacy, and consider students' access to technology when using these tools.

Keywords

Academic stress management, digital era, non-formal education students, positive psychology, student well-being

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Introduction

The rapid expansion of digital learning has changed how university students study, communicate, and manage academic responsibilities. Online platforms, mobile applications, virtual classrooms, and social media have made learning resources easier to access. At the same time, they have introduced new pressures. Students are often expected to respond quickly to messages, move between multiple platforms, process large amounts of information, and remain connected beyond scheduled class hours. These demands may create stress, especially when students have limited digital skills, unstable internet access, or difficulty separating study time from personal life. Recent research has linked digital learning environments with concerns such as technostress, psychological strain, fatigue, and reduced well-being among university students (Aboagye et al., 2021; Son et al., 2020).

Technology alone does not cause academic stress. Students also need to manage assignments, examinations, deadlines, financial pressures, and expectations related to academic performance. These pressures may become more difficult to handle when students are uncertain about their future careers or lack adequate support. For non-formal education students, the situation may be particularly complex. Their studies often require them to connect theoretical knowledge with community-based practice. They are expected to understand educational concepts while also learning how to design, implement, and evaluate programs for diverse groups of learners outside formal school settings. This combination of academic study, field-based activities, and professional preparation may create a demanding learning experience.

The digital era adds another layer to these challenges. Non-formal education students may need to use learning management systems, video-conferencing tools, online discussion spaces, and social media platforms not only for their coursework but also for community engagement. Digital tools can support communication and widen access to learning resources. However, they can also contribute to information overload and continuous connectivity. Studies conducted during and after the shift to online learning have shown that digital environments may affect students' mental health in different ways, depending on how technology is used and what forms of support are available (Aboagye et al., 2021; Ferrari et al., 2022; Oliveira et al., 2021). This implies that we should not view digital technology merely as a solution or a problem. Students' needs, habits, and learning contexts shape its effects.

Much of the literature on student stress has focused on symptoms such as anxiety, emotional distress, and academic pressure. These issues remain important, but a problem-focused approach does not fully explain how students can build the psychological resources needed to manage demanding situations. Positive psychology offers a complementary perspective. Rather than concentrating only on negative outcomes, it examines strengths and practices that may help individuals function more effectively. In educational settings, these resources may include resilience, gratitude, mindfulness, supportive relationships, self-efficacy, and a sense of purpose. Such strategies do not address structural problems, but they may help students respond to academic demands more constructively.

Digital technology may also provide new ways to deliver positive psychology-based support. Mobile applications, online peer communities, guided reflection activities, digital journals, and web-based interventions can make well-being resources easier to access. Systematic reviews have found that digital mental health and well-being interventions may

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support university students. However, their effectiveness depends on factors such as engagement, accessibility, privacy, and the quality of the intervention design (Ferrari et al., 2022; Lattie et al., 2019; Oliveira et al., 2021). More recent evidence also suggests that positive psychology-based digital interventions can support well-being among young people when they are carefully designed and evaluated (Saboor et al., 2024). These findings are useful, but they should not be generalized without considering students' specific academic and social contexts.

Non-formal education students remain under-represented in this discussion. Existing research has examined academic stress, digital learning, and student well-being across general university populations. However, fewer studies have considered how these issues intersect within non-formal education programmes. This gap matters because these students often work across classroom, fieldwork, and community settings. Their academic stress may therefore be influenced by a combination of workload, professional-identity uncertainty, digital demands, and limited institutional support. A more focused review is needed to identify the most relevant stressors and appropriate strategies for this group.

This study reviews academic stress management strategies for non-formal education students in the digital era through a positive psychology perspective. It focuses on three questions: What sources of academic stress are reported among non-formal education students? Which positive psychology-based strategies may support their well-being? How can digital tools be used carefully and meaningfully to support stress management? By bringing these areas together, the study aims to provide a clearer basis for educational support, curriculum development, and future empirical research.

Literature Review

Academic stress in digitally mediated higher education

Academic stress is not a new concern in higher education, but the conditions under which students experience it have changed. Students are still expected to manage assignments, examinations, deadlines, financial pressures, and uncertainty about future employment. Digital learning has not removed these demands. Often, it has added new ones. Learning management systems, messaging applications, video conferencing platforms, and social media channels allow students to access materials more quickly. However, they also create an expectation of continuous availability.

This issue became especially visible during the transition to online learning. Students reported difficulty adapting to unfamiliar platforms, unstable internet connections, reduced interaction with lecturers, and blurred boundaries between study time and personal time (Aboagye et al., 2021; Son et al., 2020). Emergency remote learning is not the only context in which these problems arise. As digital platforms become embedded in everyday academic life, students continue to experience information overload, fragmented communication, and pressure to respond rapidly across multiple channels.

The concept of technostress is useful for explaining this experience. Technostress refers to the strain that arises when technological demands exceed a person's skills, time, or coping resources. Among university students, technostress has been associated with lower academic motivation and poorer psychological health (Vallone et al., 2023). The issue is not simply the amount of technology used. Stress is also shaped by how technology is introduced, whether

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students receive adequate guidance, and whether digital systems support or complicate their learning routines.

For non-formal education students, digital pressure may intersect with practical academic responsibilities. Their programmes often require more than classroom participation. Students may be involved in fieldwork, community engagement, programme planning, and evaluation activities. Digital tools can support these tasks by improving communication and access to information. At the same time, they may increase the number of responsibilities students need to manage simultaneously. A student may need to complete coursework, communicate with community partners, participate in online discussions, and respond to institutional messages within the same period.

These demands emphasise the necessity of viewing academic stress as a multidimensional problem. Stress may emerge from workload, financial limitations, professional uncertainty, weak institutional support, and digital overload. The effects of technology, therefore, depend on context. A platform that helps one student organise fieldwork may create additional pressure for another student who has limited internet access or low confidence in using digital tools.

Positive psychology as a framework for stress management

Research on academic stress often focuses on negative outcomes such as anxiety, emotional exhaustion, and declining motivation. These outcomes are important, but they do not fully explain why some students are better able to manage pressure than others. Positive psychology offers a complementary perspective by examining the personal and social resources that help individuals respond more constructively to difficult situations.

In educational settings, these resources include resilience, mindfulness, self-efficacy, gratitude, character strengths, supportive relationships, and a sense of meaning. Positive psychology does not suggest that students should "think positively" when facing serious difficulties. Rather, it seeks to strengthen the resources students can use while institutions address the structural causes of stress. At the same time, institutions address the structural causes of stress.

Resilience is central to this perspective. Students with stronger resilience are generally better able to recover from setbacks, adjust their strategies, and continue working toward academic goals. In non-formal education programmes, resilience may be particularly relevant because students often work in unpredictable community settings. Field activities may not proceed as planned. Resources may be limited, community participation may vary, and students may need to revise activities while maintaining academic expectations.

Mindfulness is another frequently discussed strategy. Mindfulness-based activities encourage students to focus on present experiences without reacting immediately to stressful thoughts or emotions. A systematic review and meta-analysis by Gong et al. (2023) found that online mindfulness-based interventions were associated with improvements in stress, anxiety, depression, and mindfulness among university students. These findings suggest that brief and flexible activities may be useful when integrated into academic routines. However, the effectiveness of mindfulness depends on programme quality, duration, and student engagement.

Gratitude-based practices may also support student well-being. Such practices usually involve simple reflective activities, including gratitude journals, brief writing prompts, or

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structured reflection on sources of support. These practices help students recognise progress, relationships, and meaningful experiences that they might overlook during stressful times. A randomized controlled trial by Fuller et al. (2025) found that a mobile app-based gratitude intervention could support university students' mental well-being. Gratitude should not be presented as a complete solution to academic stress. However, it may serve as one practical component of a broader support system.

Positive psychology also emphasizes character strengths. Qualities such as perseverance, creativity, self-regulation, and social intelligence are relevant to students who work in community-based settings. These strengths can help students adapt plans, communicate with different groups, and respond to unexpected challenges. Hobbs et al. (2022) found that positive psychology courses in universities may improve students' psychological well-being when carefully designed and integrated into the learning experience.

Supportive relationships remain equally important. Students are more likely to manage pressure effectively when they can seek guidance from lecturers, peers, counsellors, and community partners. This is especially relevant for non-formal education students because their academic experiences often extend beyond the campus. Social support can reduce feelings of isolation and help students solve practical problems.

Digital interventions for student well-being

Digital technology can create stress, but it can also widen access to support. Mobile applications, online reflection activities, digital journals, guided mindfulness sessions, peer-support groups, and web-based programmes may help students manage academic pressure more flexibly. These tools are particularly useful for students who have limited time, live far from campus, or are reluctant to seek face-to-face support.

Several reviews have examined the potential of digital mental-health interventions in higher education. Lattie et al. (2019) found that digital interventions showed promise in supporting college students experiencing depression, anxiety, and psychological distress. Oliveira et al. (2021) similarly reported that mobile app-based interventions may benefit college students. However, they noted considerable variation in study quality and intervention design. Ferrari et al. (2022) reached a comparable conclusion: digital interventions can improve psychological well-being among university students, but outcomes depend on engagement, accessibility, and implementation quality.

These findings have important implications. A digital intervention is not automatically effective simply because it is easy to distribute. Students may stop using an application after a short period, ignore repeated notifications, or feel uncomfortable sharing personal data. Access also remains uneven. Some students have stable internet connections and appropriate devices, while others rely on limited mobile data or shared equipment.

For this reason, digital support should be selective and purposeful. A short, guided mindfulness activity before a presentation may be useful. A digital journal may help students reflect on fieldwork experiences. A peer-support group may allow students to exchange practical advice. However, an excessive number of platforms, reminders, and notifications can create the very pressure that the intervention aims to alleviate.

Saboor et al. (2024) found that positive psychology elements are increasingly being incorporated into digital interventions for children, adolescents, and young adults. This development is relevant to higher education because it shows that digital tools can do more

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than monitor symptoms. They can also support gratitude, reflection, emotional awareness, and positive relationships. The challenge is to design these tools in ways that remain simple, accessible, and connected to students' actual needs.

A blended model is therefore more appropriate than a fully automated approach. Digital tools can extend access, but they should not replace human relationships. Students still need lecturers who provide clear guidance, counsellors who can respond to serious concerns, and peers who offer practical support. For non-formal education students, this combination is especially important because their learning often involves community-based responsibilities that cannot be reduced to online activities.

Research gap and analytical direction

Existing research provides a useful foundation for understanding academic stress, technostress, and digital well-being among university students. The findings also indicate that carefully designed positive psychology-based resources and digital interventions can support student well-being. However, the available literature has mainly focused on general university populations.

Non-formal education students remain less visible in this discussion. Their academic experiences are distinctive because they often combine theoretical study with fieldwork, community engagement, and professional preparation. A specific combination of academic workload, digital demands, practical responsibilities, financial pressure, and uncertainty about career pathways may therefore shape their stress.

This gap does not mean that evidence from broader university populations is irrelevant. Rather, it should be interpreted cautiously and adapted to the realities of non-formal education programmes. A focused synthesis is needed to identify which stressors are most relevant to these students, which positive psychology resources are most appropriate, and how digital tools can be used without creating additional burden.

Methodology

Research design

This study employed a systematic scoping review to examine academic stress management among non-formal education students in the digital era from a positive psychology perspective. This design was selected because the available literature is broad and methodologically diverse. Direct studies focusing specifically on non-formal education students remain limited, while relevant evidence is also found in studies involving university students, college students, and young adults in higher-education settings. A systematic scoping review allows these different forms of evidence to be mapped and interpreted without overstating the strength of conclusions for a narrowly defined population.

The review was guided by the PRISMA 2020 reporting framework to ensure that the identification, screening, eligibility assessment, and inclusion of publications were documented transparently. PRISMA 2020 is widely used to strengthen the clarity and reproducibility of evidence-synthesis studies (Page et al., 2021). The review did not aim to calculate a pooled effect size because the included publications differed in research design, population, intervention type, and outcome measurement. Instead, the study used thematic synthesis to

identify recurring patterns and to develop a context-sensitive understanding of academic stress management among non-formal education students.

The review distinguished between two levels of evidence. The first level consisted of studies that directly discussed non-formal education students or closely related community-based learning contexts. The second level consisted of studies involving broader higher-education populations whose findings were relevant to the academic and digital pressures experienced by non-formal education students. This distinction was maintained during data extraction, analysis, and interpretation.

Data Collection Method

Information sources

Relevant publications were collected from five academic databases: Google Scholar, ERIC, PubMed, ProQuest, and JSTOR. These databases were selected because they cover education, psychology, student mental health, digital learning, and interdisciplinary research. The search covered publications released between 2010 and 2025. To maintain consistency with the stated review period, publications released in 2026 were not included in the formal synthesis. Any 2026 references used elsewhere in the manuscript should either be removed or presented separately as post-search contextual literature.

Search strategy

The search strategy combined keywords related to academic stress, positive psychology, digital learning, student well-being, and non-formal education. Boolean operators were applied where supported by the database. The principal search terms were:

> "academic stress," "student stress," "university students," "college students," "non-formal education students," "positive psychology," "stress management," "resilience," "mindfulness," "gratitude," "self-efficacy," "character strengths," "technostress," "digital well-being," "digital learning," "online learning," "student mental health," and "digital intervention."
>
> Examples of search combinations included:
> "academic stress" AND "university students"
> "academic stress" AND "non-formal education students"
> "positive psychology" AND "stress management" AND students
> technostress AND "higher education"
> "digital well-being" AND students
> mindfulness AND "university students"
> gratitude AND students AND intervention
> "digital intervention" AND "student well-being"

The search terms were adjusted according to the indexing system and technical functions of each database. The complete search strings for each database should be presented in an appendix to improve transparency and reproducibility.

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Inclusion and exclusion criteria

Publications were included when they met the following criteria:

Table 1. *Inclusion criteria for the selection of publications*

Criterion	Inclusion requirement
Publication period	Published between January 2010 and December 2025
Language	Written in English or Indonesian
Population	University students, college students, young adults in higher education, non-formal education students, or students in closely related community-based learning contexts
Topic	Addressed at least one central topic: academic stress, technostress, digital well-being, positive psychology, mindfulness, gratitude, resilience, self-efficacy, supportive relationships, or technology-supported well-being interventions
Publication type	Peer-reviewed journal articles, empirical studies, systematic reviews, scoping reviews, or relevant academic review articles
Availability	Full text available for assessment

Publications were excluded when they:

- focused exclusively on populations outside higher education,
- did not address academic stress, student well-being, or digital learning pressures,
- lacked clear relevance to the research questions,
- were not available in full text,
- were published outside the 2010–2025 period,
- lacked sufficient methodological information.

Study-selection process

The initial search identified 35 potentially relevant publications. The titles and abstracts were screened to remove publications that did not match the review focus. After the initial screening, 25 publications were retained for full-text assessment. Each full-text publication was then reviewed according to the inclusion and exclusion criteria. A total of 13 publications were included in the final synthesis. The remaining publications were excluded because they lacked relevance to the research questions, focused on populations outside higher education, were unavailable in full text, or did not meet basic academic-quality requirements.

Data extraction

A structured data-extraction form was used to organise the information obtained from each included publication. The extraction form recorded the following elements:

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Table 2. *Data categories and variables recorded during the extraction process*

Data categories	Information recorded
Bibliographic information	Author, publication year, title, journal, and country
Study characteristics	Research design, population, sample size, and educational context
Evidence level	Direct evidence from non-formal education contexts or contextual evidence from broader higher education
Academic stressors	Academic workload, examinations, deadlines, fieldwork responsibilities, financial pressure, professional-identity uncertainty, limited institutional support, technostress, information overload, and social comparison
Positive psychology resources	Gratitude, mindfulness, resilience, self-efficacy, character strengths, supportive relationships, meaning, and engagement
Digital strategies	Mobile applications, digital journals, online mindfulness activities, learning-management-system features, online peer support, progress tracking, and mindful social media use
Main findings	Reported benefits, limitations, and implications
Relevance	Applicability to non-formal education students

Quality appraisal

The methodological quality of the included publications was assessed to avoid treating all sources as equally strong. Each publication was reviewed according to:

- clarity of the research purpose,
- appropriateness of the research design,
- adequacy of the sample or evidence base,
- transparency of data collection,
- transparency of data analysis,
- relevance to the research questions,
- consistency between findings and conclusions,
- acknowledgement of study limitations.

Empirical studies and review articles were assessed separately because they require different appraisal considerations. Studies with methodological limitations were not automatically excluded, but their findings were interpreted cautiously and given less weight during synthesis.

Data Analysis

The selected publications were analysed using thematic synthesis. This approach was suitable because the included studies varied in design, population, and outcome measurement.

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A statistical meta-analysis was not conducted because the evidence base was too heterogeneous to support meaningful quantitative pooling. The analysis was completed in four stages.

First stage: familiarisation with the evidence

Each publication was read repeatedly to identify findings related to academic stress, positive psychology, digital learning, and student well-being. Relevant passages were noted and compared across studies. Attention was given to similarities, differences, and recurring patterns.

Second stage: initial coding

The selected findings were coded according to their meaning and relevance to the research questions. Initial codes included:

- academic workload,
- examinations and deadlines,
- fieldwork demands,
- financial pressure,
- professional-identity uncertainty,
- limited institutional support,
- technostress,
- information overload,
- social comparison,
- gratitude,
- mindfulness,
- resilience;
- self-efficacy;
- character strengths;
- supportive relationships;
- meaning and engagement;
- mobile applications;
- digital journals;
- online mindfulness sessions;
- learning-management-system activities;
- online peer support;
- progress tracking;
- mindful use of social media.

Third stage: development of themes

Related codes were grouped into broader categories. Three main themes emerged:

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Table 3. *Themes and Sub-themes identified through thematic synthesis*

Main themes	Sub-themes
Sources of academic stress in the digital era	Academic workload, fieldwork responsibilities, financial pressure, professional-identity uncertainty, limited institutional support, technostress, information overload, and social comparison
Positive psychology resources for stress management	Gratitude, mindfulness, resilience, self-efficacy, character strengths, supportive relationships, meaning, and engagement
Digital strategies for supporting student well-being	Mobile applications, digital journals, online mindfulness activities, learning-management-system features, online peer support, progress tracking, and mindful social media use

Fourth stage: interpretation of findings

The themes were interpreted using a positive psychology perspective and discussed in relation to the realities of non-formal education programmes. The analysis distinguished between:

1. findings drawn directly from non-formal education contexts; and
2. findings transferred cautiously from broader higher-education research.

This distinction was important because direct studies involving non-formal education students remain limited. Findings from general university populations were therefore used as contextual evidence rather than treated as definitive conclusions about all non-formal education students.

Trustworthiness of the analysis

Several steps were taken to strengthen the credibility of the synthesis. First, publications were drawn from multiple databases to reduce reliance on a single source. Second, predefined eligibility criteria were applied during screening. Third, the coding process was documented through an audit trail containing search terms, screening decisions, extraction categories, and analytical notes. Fourth, the analysis distinguished direct evidence from contextual evidence. Fifth, the thematic categories were reviewed repeatedly to ensure that they remained consistent with the selected studies.

Ethical considerations

This study analysed previously published research and did not involve direct interaction with human participants. Ethical approval was therefore not required. Academic integrity was maintained by documenting the review process, citing the included publications, and distinguishing clearly between evidence reported in previous studies and interpretations developed by the authors.

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Methodological limitations

This review has several limitations. First, direct research focusing specifically on non-formal education students remains limited. The synthesis therefore draws partly on evidence from broader higher-education populations. Second, only publications written in English or Indonesian were included. Third, the requirement for full-text availability may have excluded relevant publications. Fourth, the selected databases may not capture every relevant study. Finally, differences in research design, population, and outcome measurement prevented statistical meta-analysis. Despite these limitations, the review provides a structured synthesis of available evidence and offers a defensible basis for understanding academic stress management among non-formal education students in the digital era.

Findings

The thematic synthesis of the included publications identified three interrelated findings: academic stress is shaped by both conventional and digital pressures; positive psychology resources can strengthen students' capacity to manage these pressures; and digital tools are most useful when they are simple, purposeful, and supported by human interaction. These findings are consistent with the title, abstract, introduction, methodology, discussion, and conclusion of the manuscript.

Because direct studies involving non-formal education students remain limited, the findings are presented in two layers. The first layer draws on evidence directly relevant to non-formal education or community-based learning contexts. The second layer uses broader higher-education evidence cautiously to interpret issues that are also likely to affect non-formal education students.

Theme 1. Sources of academic stress in the digital era

The first theme concerns the sources of academic stress experienced by students in digitally mediated learning environments. The evidence indicates that stress is rarely caused by a single factor. Instead, it tends to emerge from the interaction of academic demands, personal circumstances, institutional conditions, and digital pressures.

Academic workload, examinations, and deadlines*,* academic workload remains one of the most common sources of stress. Students are expected to complete assignments, prepare for examinations, meet deadlines, participate in academic activities, and maintain satisfactory performance. These responsibilities become more difficult to manage when several tasks overlap or when instructions are unclear.

For non-formal education students, the workload may be particularly complex because learning often extends beyond the classroom. Coursework may be combined with field observations, community engagement, programme planning, implementation activities, and evaluation reports. These responsibilities require students to manage time carefully while adapting to practical situations that may not follow a predictable schedule.

The findings suggest that academic stress is not simply a matter of having "too much work." It is also related to how tasks are organised, communicated, and supported. When

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students receive fragmented instructions or face multiple deadlines within a short period, academic demands become more difficult to manage.

Fieldwork responsibilities, fieldwork emerged as a distinctive source of pressure for students in non-formal education programmes. Community-based activities require students to interact with different groups, adapt plans to local conditions, and respond to practical constraints. Unlike classroom assignments, fieldwork often involves factors that are partly outside students' control.

Students may need to coordinate with community members, programme organisers, tutors, or local institutions. Delays, limited resources, low participation, and communication difficulties can increase pressure. Fieldwork can also create emotional demands because students may feel responsible for producing meaningful outcomes in real-life settings. This finding is important because fieldwork stress cannot be addressed solely through individual coping strategies. Students also need clearer guidance, realistic timelines, supervision, and institutional support.

Financial pressure and professional-identity uncertainty, financial constraints were also relevant to students' well-being. The costs of transportation, internet access, mobile data, learning materials, and field activities may create additional pressure, particularly for students with limited financial resources. Professional-identity uncertainty is another concern. Some students may be unsure about the career opportunities associated with non-formal education programmes. This uncertainty can reduce motivation and increase anxiety, especially when students are expected to invest substantial effort in academic and field-based activities without a clear understanding of future professional pathways. The findings suggest that academic stress is connected not only to present study demands but also to students' expectations about the future. Career guidance and clearer communication about professional opportunities may therefore play an important role in student support.

Technostress, information overload, and social comparison, digital technology supports learning, communication, and access to information, but it can also create new forms of pressure. The reviewed literature consistently identifies technostress as an important concern in higher education. Technostress arises when digital demands exceed students' available time, skills, or coping resources. Students may experience pressure from frequent notifications, multiple communication channels, unstable internet connections, unfamiliar platforms, and the expectation of rapid responses. Digital systems can make learning more flexible, but they can also blur the boundary between study time and personal time.

Recent research has shown that technostress is associated with poorer psychological well-being and reduced academic motivation among university students. Vallone et al. (2023) reported direct and indirect relationships between technostress, academic motivation, and psychological health. Lin and Yu (2025) similarly identified technostress as an increasingly important concern in digitally transformed higher education. Social media may intensify these pressures. Students can access useful information and peer support through social media, but they may also compare their progress, achievements, or lifestyles with others. Such comparisons can create feelings of inadequacy, distraction, or fear of missing out. Overall, the first theme shows that academic stress in the digital era is multidimensional. Conventional academic demands have not disappeared. They now operate alongside digital pressures, financial limitations, fieldwork responsibilities, and uncertainty about future careers.

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Theme 2. Positive psychology resources for stress management

The second theme concerns the personal and social resources that may help students manage academic pressure more effectively. The reviewed literature suggests that positive psychology is useful because it does not focus only on reducing distress. It also examines the strengths, relationships, and habits that support adaptation and well-being.

Gratitude emerged as a practical and accessible resource. Gratitude-based activities encourage students to recognise supportive relationships, personal progress, and meaningful experiences. These activities may take the form of brief reflective writing, gratitude journals, or structured prompts. The value of gratitude lies in its simplicity. It does not require complex training or expensive resources. For non-formal education students, gratitude activities may be integrated into reflective learning after fieldwork or community engagement. Evidence from university populations suggests that gratitude may support well-being and positive reframing. Garg et al. (2023) found that positive reframing mediated the relationship between gratitude and technostress among students during the COVID-19 period. Fuller et al. (2025) also reported that a mobile app-based gratitude intervention could support university students' mental well-being. Gratitude should not be presented as a complete solution to academic stress. However, it may help students interpret difficult experiences more constructively when combined with institutional support.

Mindfulness was identified as another relevant resource. Mindfulness involves paying attention to present experiences without reacting immediately to stressful thoughts or emotions. This can help students manage worry, distraction, and emotional overload. Online mindfulness-based activities may be particularly useful because they can be accessed flexibly. Gong et al. (2023) found that online mindfulness-based interventions were associated with improvements in stress, anxiety, depression, and mindfulness among university students. For non-formal education students, mindfulness practices may be used before presentations, during periods of heavy workload, or after demanding fieldwork activities. Short breathing exercises, guided reflection, and brief attention-regulation activities are more realistic than intensive programmes that require substantial time commitments.

Resilience and self-efficacy*,* resilience refers to the capacity to recover from setbacks and adapt to difficult situations. Self-efficacy refers to confidence in one's ability to complete tasks and respond to challenges. These two resources are closely related. Students with stronger resilience are more likely to revise plans, seek support, and continue working when difficulties arise. This is especially relevant in community-based learning, where students may encounter unpredictable conditions. Self-efficacy is equally important. Students who believe they can manage academic tasks, use digital platforms, and communicate effectively are more likely to persist. When self-efficacy is low, even manageable challenges may feel overwhelming. The reviewed literature suggests that resilience is central to student well-being in digital learning environments. García-Pérez et al. (2025) identified resilience as a key resource for mental well-being in higher education. Qi and Yang (2024) also highlighted the relationship between digital resilience and technological stress.

Character strengths, supportive relationships, meaning, and engagement*,* character strengths such as perseverance, creativity, self-regulation, and social intelligence are relevant to students who work in community-based settings. These strengths help students adapt to changing circumstances, communicate with different groups, and remain engaged

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when activities do not proceed as planned. Supportive relationships are also essential. Students benefit from access to lecturers, peers, counsellors, and community partners. Peer support can reduce isolation, while lecturer guidance can improve clarity and confidence. Meaning and engagement provide an additional protective function. Students are more likely to persist when they understand the purpose of their learning and see a connection between academic activities and future contributions to society. In non-formal education, community engagement can become a source of meaning when students recognise that their work has practical value. The findings indicate that positive psychology resources are most effective when they are embedded in supportive educational environments. Students should not be expected to manage structural problems through individual effort alone.

Theme 3. Digital strategies for supporting student well-being

The third theme concerns the use of digital tools to support academic stress management. The findings show that digital technology has a dual role. It can increase pressure, but it can also improve access to support when used carefully.

Mobile applications and digital journals, mobile applications may provide flexible access to well-being activities, including guided mindfulness, mood tracking, gratitude exercises, and reflective prompts. Their main advantage is accessibility. Students can use them at times that fit their schedules. Digital journals can also support reflection. For non-formal education students, digital journals may be used to document fieldwork experiences, identify challenges, record progress, and reflect on coping strategies. These activities can connect well-being support with academic learning. Systematic reviews suggest that mobile and digital interventions can support student well-being, although their effectiveness varies. Lattie et al. (2019), Oliveira et al. (2021), and Ferrari et al. (2022) all reported promising findings while also noting differences in study quality, engagement, and intervention design.

Online mindfulness activities are among the most practical digital strategies. Short guided sessions, breathing exercises, and reflective prompts can be integrated into learning-management systems or shared through mobile platforms. The findings suggest that short and regular activities are more realistic than highly demanding programmes. Students are less likely to engage with interventions that create additional workload. Digital well-being activities should therefore be brief, clearly explained, and optional where appropriate.

Learning-management-system features and progress tracking, learning-management systems can support student well-being when they improve organisation rather than increase complexity. Helpful features include clear schedules, structured deadlines, accessible learning materials, and progress tracking. Progress tracking can strengthen self-efficacy by helping students recognise completed tasks and identify areas requiring attention. However, excessive monitoring may create additional pressure. The design should remain supportive rather than punitive. For non-formal education programmes, learning-management systems can also support fieldwork coordination by providing templates, checklists, and reflective prompts. These tools may reduce uncertainty when they are simple and consistent.

Online peer-support groups can help students share experiences, exchange practical advice, and reduce feelings of isolation. They may be especially useful during fieldwork or periods of heavy academic workload. However, peer-support groups require clear boundaries. Excessive messaging, unclear expectations, or pressure to remain constantly available can create new stress. Moderation and communication guidelines are therefore important.

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Mindful use of social media, social media can support connection and access to information, but it should be used carefully. The findings suggest that students benefit from digital-literacy guidance that addresses notification management, time boundaries, privacy, and social comparison. A mindful approach to social media does not require complete avoidance. Instead, students should be encouraged to use digital platforms intentionally and to recognise when online activity begins to affect concentration, sleep, or emotional well-being.

Integration of the three themes, the three themes are closely connected. Academic stress arises from both academic and digital demands. Positive psychology resources help students respond more constructively. Digital tools can support these resources when they are designed carefully and used within a supportive educational environment.

Table 4. *Integrated interpretation of the findings*

Problem areas	Positive psychology resources	Suitable support strategies
Heavy workload and overlapping deadlines	Self-efficacy and self-regulation	Clear schedules, progress tracking, and structured academic guidance
Fieldwork uncertainty	Resilience and character strengths	Reflective digital journals, supervision, and peer discussion
Financial pressure	Social support and meaning	Institutional assistance, accessible digital resources, and counselling
Technostress and information overload	Mindfulness and digital resilience	Brief online mindfulness activities, notification management, and digital-literacy guidance
Social comparison	Gratitude and positive reframing	Gratitude journaling, reflective prompts, and mindful social media use
Professional-identity uncertainty	Meaning and engagement	Career guidance, mentoring, and clearer communication about professional pathways

The findings support a blended approach. Positive psychology-based support should not be separated from institutional responsibility. Digital tools should not replace lecturers, counsellors, or peer relationships. Their role is to extend access, improve organisation, and support reflection.

First, academic stress among non-formal education students should be understood as a multidimensional issue. Workload, fieldwork demands, financial pressure, professional uncertainty, limited support, and technostress interact with one another. Second, positive psychology resources such as gratitude, mindfulness, resilience, self-efficacy, character strengths, supportive relationships, meaning, and engagement may help students manage pressure more effectively. Third, digital tools can support well-being when they are simple, accessible, and connected to students' actual needs. Mobile applications, digital journals, online mindfulness activities, learning-management-system features, and peer-support groups are

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promising strategies, but they should be implemented carefully to avoid creating additional pressure. These findings are consistent with the manuscript's conclusion that student well-being requires both personal coping resources and supportive educational environments.

Discussion

The findings indicate that academic stress among non-formal education students develops through the interaction of academic, personal, and digital pressures. Coursework, field activities, community-based assignments, financial demands, and uncertainty about future employment do not operate separately. In practice, students often face several of these demands simultaneously. The Transactional Model of Stress and Coping explains this pattern by viewing stress as the result of an appraisal process. Pressure becomes more difficult to manage when students perceive that the demands placed on them exceed the resources available to respond effectively.

For non-formal education students, fieldwork is an important part of professional preparation. However, it may also become a source of stress when transportation costs, time constraints, unclear expectations, and limited institutional assistance are involved. Different students may interpret the same task in various ways. A student with adequate support, clear guidance, and confidence may view fieldwork as a meaningful challenge. Another student with limited financial resources or uncertain academic preparation may experience the same activity as overwhelming. This interpretation is consistent with recent evidence showing that academic and digital demands can influence students' psychological well-being when their coping resources are insufficient (Vallone et al., 2023).

Digital learning has complicated this situation. Learning management systems, messaging applications, video conferencing platforms, and social media enable students to communicate and access information more quickly. However, they also create pressure to remain connected and responsive. Students may need to manage several platforms while completing assignments and participating in field activities. When these demands accumulate, technology may become a source of strain rather than support. Alanazi et al. (2026) found that technostress and exhaustion can mediate students' engagement with mobile learning. Vallone et al. (2023) similarly reported that techno-overload and work–home conflict were associated with poorer psychological health among university students.

Self-determination theory can also interpret these findings. This theory emphasizes three basic psychological needs: autonomy, competence, and relatedness. Digital learning may support autonomy when students can access materials flexibly and choose how to complete tasks. It may support competence when platforms are easy to use and help students monitor progress. It may promote a sense of connection when lecturers and peers engage in meaningful interaction. However, the opposite may occur when students feel controlled by constant notifications, confused by unfamiliar platforms, or isolated during online learning. Vallone et al. (2023) found that academic motivation played an important role in the relationship between technostress and psychological health. This suggests that digital learning should be designed not only for efficiency but also for students' motivation and psychological needs.

Professional identity uncertainty is another important issue. Non-formal education students may question how their study program will translate into stable employment or social recognition. These concerns may become stronger when they compare themselves with peers in more widely recognized professional fields. From a self-determination theory perspective,

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uncertainty about future roles may reduce students' sense of competence and direction. It may also affect autonomy if students feel that their academic choices are difficult to explain to others. Universities can respond by providing clearer information about career pathways, examples of graduate roles, alumni mentoring, and structured reflection during fieldwork.

The second major finding concerns positive psychology resources. Gratitude, mindfulness, resilience, self-efficacy, character strengths, and supportive relationships may help students manage pressure more constructively. These resources do not remove structural problems, but they can influence how students interpret and respond to difficult situations. This interpretation is consistent with a positive psychology perspective, which emphasizes the development of strengths and well-being rather than focusing only on psychological difficulties.

A useful framework for understanding these resources is the PERMA model, which highlights positive emotions, engagement, relationships, meaning, and accomplishment. Gratitude practices may support positive emotions by helping students notice progress, feel supported, and have meaningful experiences. Character-strength activities may improve engagement by encouraging students to draw on personal capacities such as creativity, perseverance, and social intelligence in academic and community-based tasks. Supportive peer relationships may strengthen students' sense of belonging. At the same time, fieldwork can be meaningful when students recognize the value of their contributions to local communities. Hobbs et al. (2022) found that university positive psychology courses may support student well-being when carefully designed and integrated with students' learning experiences.

Mindfulness is particularly relevant because it can be integrated into daily academic routines without requiring extensive resources. Brief breathing exercises, reflective pauses, or guided attention activities may help students prepare for presentations, examinations, field visits, or community meetings. Gong et al. (2023) reviewed nine randomized controlled trials. They found that online mindfulness-based interventions were associated with improvements in depression, anxiety, stress, and mindfulness among university students. These findings suggest that mindfulness may be beneficial when offered as a practical, flexible activity. However, it should not be presented as a complete solution to academic stress.

Positive psychology resources can also be understood through the Broaden-and-Build Theory of Positive Emotions. Positive emotions may widen students' ability to think flexibly, identify alternatives, and build longer-term psychological resources. In the context of non-formal education, this may be relevant when students need to adjust community programs, respond to unexpected problems, or communicate with diverse groups. Tang et al. (2024) emphasize that positive psychological resources such as hope, resilience, self-efficacy, and optimism can support adaptive performance. Although their review focuses on workplace settings, the underlying idea is relevant to students who are preparing for community-based professional roles.

The third major finding concerns digital strategies for supporting well-being. Mobile applications, online reflection prompts, digital gratitude journals, peer-support groups, and learning-management-system activities may make support easier to access. Reviews of digital interventions suggest that these tools can contribute to student well-being, although results vary depending on design quality, engagement, and accessibility (Ferrari et al., 2022; Lattie et al., 2019; Oliveira et al., 2021). Saboor et al. (2024) also found that positive psychology elements are increasingly incorporated into digital interventions for young people.

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The use of digital tools should therefore be selective rather than excessive. A digital journal may help students reflect on fieldwork experiences. A short mindfulness activity may be useful before a presentation. An online peer-support group may help students exchange practical advice. However, excessive reminders, platforms, or notifications can amplify the digital pressure that the intervention aims to alleviate. This tension underscores the importance of the transactional model of stress and coping: a tool is most beneficial when students perceive it as strengthening their resources rather than adding another demand.

A blended approach is likely to be more suitable than relying entirely on automated applications. Digital tools can provide flexibility, but lecturers, counselors, and peers remain important. Human support can help students interpret difficult experiences, maintain motivation, and identify practical solutions. This point is also consistent with self-determination theory, particularly the need for relatedness. Students are more likely to benefit from digital support when it is connected with meaningful relationships rather than delivered as an isolated activity.

The findings also highlight institutional responsibility. Positive psychology should not be used to place the entire burden of stress management on students. Universities should review workload distribution, fieldwork expectations, financial support, counseling access, and digital-literacy assistance. For non-formal education students, useful measures may include clearer fieldwork guidelines, small operational grants, career development sessions, peer mentoring, and reflective activities embedded in coursework. Individual coping strategies are valuable, but they work best when institutions also create realistic and supportive learning conditions.

Overall, the discussion suggests that academic stress management among non-formal education students requires a balanced approach. The Transactional Model of Stress and Coping explain why students respond differently to similar pressures. Self-Determination Theory clarifies the importance of autonomy, competence, and relatedness in academic and digital learning environments. Positive psychology and the PERMA framework show how strengths, meaningful activities, and supportive relationships may contribute to student well-being. Together, these perspectives suggest that effective support should combine personal resources, thoughtful digital tools, and institutional action.

Conclusion

This review indicates that academic stress among non-formal education students is shaped by a combination of academic demands, fieldwork responsibilities, financial pressure, uncertainty about future career pathways, and increasing digital expectations. These pressures may become more difficult to manage when students have limited institutional support or when technology creates additional demands through constant connectivity, information overload, and technostress. For this reason, academic stress should not be treated only as an individual problem. It is also connected with the learning environment and the support provided by the institution.

The reviewed literature also suggests that positive psychology resources may help students respond to stress more constructively. Gratitude, mindfulness, resilience, self-efficacy, character strengths, and supportive relationships can help students manage demanding academic and community-based activities. These strategies are most useful when they are integrated into a wider support system rather than presented as stand-alone solutions.

Digital tools may expand access to stress-management support through reflective journals, mindfulness activities, online peer groups, and learning management system features. However, their use should remain selective and purposeful. Digital support is beneficial when it reduces pressure, encourages meaningful reflection, and strengthens connection. It becomes less useful when it adds more notifications, platforms, or demands.

The main implication of this review is that stress management for non-formal education students should combine personal, digital, and institutional approaches. Universities can strengthen this effort by providing clearer fieldwork guidance, career development support, peer mentoring, access to counseling, digital literacy assistance, and realistic workload planning. Future studies should test these strategies directly among non-formal education students and compare their effectiveness across different learning contexts.

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