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Algorithmic Mood Management and Somatic Digital Fatigue among Kazakhstani University Students

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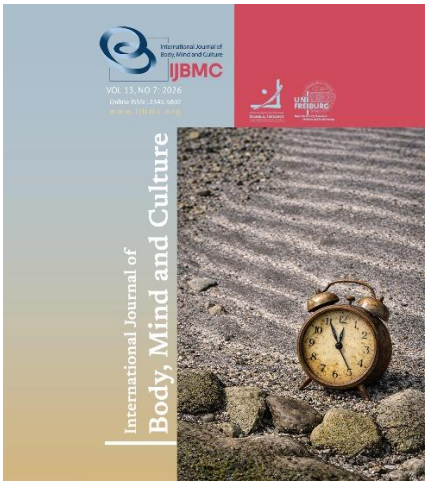

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ABSTRACT

Objective: This theoretical study develops an integrative body–mind–culture conceptual model of algorithmic mood management among Kazakhstani university students and formulates five testable propositions linking algorithmic affordances, digital emotion regulation, somatic digital fatigue, and digital well-being.

Methods and Materials: The study employed a transparent interpretive conceptual review broadly aligned with SANRA reporting principles. Materials included peer-reviewed and scholarly sources on emotion regulation, digital emotion regulation, media coping, digital well-being, algorithmic culture, short-video platform use, somatic fatigue, AI-based student mental health, and Kazakhstan-specific sociocultural scholarship. The analysis synthesized literature on AI chatbots, TikTok, Instagram Reels, YouTube Shorts, sleep disruption, digital eye strain, academic pressure, multilingual identity, family expectations, and moral-emotional norms such as «uyat» and «namys». No new empirical data were collected.

Findings: The conceptual synthesis indicates that algorithmic mood management among students operates through five interrelated pathways: algorithmic affective personalization, emotion-regulation-motivated content selection, attention capture and displacement, AI-mediated cognitive-emotional offloading, and somatic-temporal digital load. These pathways show how short-video scrolling and AI chatbot use may provide immediate emotional relief while also contributing to sleep delay, eye strain, cognitive fatigue, reduced offline agency, and culturally shaped patterns of emotional restraint.

Conclusion: Algorithmic mood management should be understood not merely as technology use, entertainment, or digital overuse, but as a body–mind–culture phenomenon. The proposed model reframes digital well-being as a culturally situated balance between emotional relief and bodily cost, offering a framework for future mixed-methods studies of Kazakhstani students' digital coping, somatic fatigue, and culturally patterned emotional self-regulation.

Keywords: Algorithmic Mood Management, Digital Emotion Regulation, Digital Well-Being, Somatic Digital Fatigue, University Students, Cultural Psychology.

Introduction

The rapid expansion of AI chatbots, personalized short-video feeds, and mobile social-media platforms has reshaped how university students manage ordinary emotional states. Students no longer encounter media only as external content; they increasingly inhabit algorithmically curated environments that recommend what to watch, when to keep scrolling, how to interpret the self, and how to respond to stress. In Kazakhstan, where mobile connectivity and social-media use are widespread, student well-being increasingly unfolds within multilingual and algorithmically mediated environments. DataReportal & WA (2024) reports high internet penetration and millions of active social-media user identities in Kazakhstan, while the UNICEF-Kazakhstan Kids Online study indicates that digital socialization begins well before university age. These contextual sources are used here only to establish the digital environment, not as evidence of psychological causality.

Kazakhstan-specific studies further suggest that digital use, student mental health, and academic life deserve closer attention. Nematova (2025) examined internet addiction and its association with mood and sleep disorders among young adults in Astana. Yertukeshova et al. (2024) examined mental health and academic achievement among 576 students in Astana and Aktobe, showing that student well-being must be understood in relation to motivation, achievement, gender, age, and academic context. These studies do not provide direct evidence for algorithmic mood management, but they justify a focused conceptual model for studying how digital media use, emotional regulation, academic pressure, and somatic fatigue may interact in Kazakhstani higher education.

This article examines that environment through the concept of algorithmic mood management. The term denotes the everyday use of algorithmically mediated platforms—including TikTok, Instagram Reels, YouTube Shorts, recommendation feeds, and AI chatbots-to modify, escape, stabilize, intensify, or reinterpret emotional states. Students may open a short-video platform when they feel lonely, anxious, tired, bored, ashamed, or academically overwhelmed; they may ask an AI chatbot for motivation, emotional explanation, study planning, translation, or reassurance. These practices can provide immediate relief, but they may also produce attentional displacement, bedtime delay, digital eye strain, cognitive load, and dependence on algorithmic responsiveness(Galanis et al., 2025; Vanden Abeele, 2021; Wadley et al., 2020).

The topic fits the interdisciplinary scope of body-mind-culture research because it joins psychological regulation, embodied fatigue, and cultural context. Emotion-regulation theory explains how individuals influence what they feel and how feelings are expressed (Aldao et al., 2010; Gross, 1998, 2015; Gross & John, 2003). Digital emotion regulation extends this work to situations in which technology itself becomes a regulatory medium (Hollenstein & Faulkner, 2024; Smith et al., 2022; Wadley et al., 2020). Media-coping research shows that people use media to manage stress, mood, and everyday distress (Wolfers & Schneider, 2021). Digital well-being research argues that well-being cannot be reduced to screen time alone but involves a dynamic balance between connectivity and disconnection, autonomy and dependence, benefit and burden (Vanden Abeele, 2021). Algorithmic-culture research demonstrates that platforms shape visibility, choice, subjectivity, and everyday affect through recommendation systems (Bhandari & Bimo, 2022; Bucher, 2017, 2018; Gillespie, 2014).

Recent body-mind-culture scholarship has examined artificial-intelligence-based interventions for students' emotion regulation and rumination, including a systematic review and a quasi-experimental study of large-language-model-based support (Ghorbian & Ghobaei-Arani, 2025). The present article does not replicate that intervention-oriented approach. Its contribution is different: it focuses on students' ordinary, non-clinical, everyday use of AI chatbots and short-video platforms as mood-management environments, and asks how these practices may affect body-mind well-being through somatic digital fatigue, sleep disruption, digital eye strain, cognitive load, and culturally specific patterns of disclosure and restraint.

The central research question is: How can algorithmic mood management among Kazakhstani university students be understood as a body-mind-culture phenomenon linking algorithmic affordances, digital emotion regulation, somatic digital fatigue, and digital well-being, and what testable propositions follow from such a model? The article develops a conceptual model,

formulates five propositions, and outlines a mixed-methods research agenda rather than reporting new empirical data. This sequencing is deliberate: before a robust empirical study can be conducted, conceptual vocabulary must be clarified so that future surveys, interviews, and digital diaries do not treat student platform use as merely recreational, addictive, or informational.

The article's theoretical contribution is to move beyond three reductive explanations of student platform use. It avoids treating scrolling and chatbot use only as addiction, only as leisure, or only as technological innovation. Instead, it conceptualizes algorithmic environments as affective infrastructures in which emotional relief, bodily cost, cultural restraint, and academic aspiration are negotiated together. This positioning makes the model suitable for empirical testing while preserving the complexity expected in body-mind-culture research.

Methods and Materials

Study Design

This study was designed as a theoretical and interpretive conceptual review. It did not involve surveys, interviews, experiments, clinical procedures, digital trace data, or participant observation. Instead, the purpose was to develop an integrative body–mind–culture conceptual model of algorithmic mood management among Kazakhstani university students. The study synthesized interdisciplinary literature on digital emotion regulation, algorithmic culture, short-video platform use, AI chatbot use, digital well-being, somatic digital fatigue, student mental health, and Kazakhstan-specific sociocultural conditions.

A conceptual review design was considered appropriate because the aim of the article was not to estimate prevalence or test causal relationships, but to clarify concepts, integrate related research fields, and formulate testable propositions for future empirical studies. This approach is consistent with methodological discussions that view literature reviews as valid research methodologies when they are used to synthesize knowledge, identify conceptual gaps, and develop theoretical frameworks (Grant & Booth, 2009; Greenhalgh et al., 2018; Snyder, 2019). The reporting logic was also broadly aligned with the SANRA recommendations for narrative review quality, particularly in relation to clarity of purpose, literature search description, reasoning, and appropriate referencing (Baethge et al., 2019).

Conceptual Orientation

The review was guided by a body–mind–culture perspective. In this framework, student digital practices were not treated merely as technology use or screen exposure. Rather, they were interpreted as practices situated at the intersection of emotional regulation, bodily experience, algorithmic design, academic pressure, and cultural norms. The “mind” dimension referred to emotion regulation, mood management, attention, coping, motivation, and self-understanding. The “body” dimension referred to sleep delay, eye strain, headache, cognitive fatigue, physical tiredness, and somatic discomfort. The “culture” dimension referred to Kazakhstan-specific conditions such as multilingual media use, family expectations, academic aspiration, moral-emotional norms, and culturally patterned forms of disclosure and restraint.

The conceptual foundation of the review drew on emotion regulation theory, digital emotion regulation, media coping, digital well-being, and algorithmic culture. Emotion regulation theory explains how individuals influence emotional experience and expression (Gross, 1998, 2015; Gross & John, 2003), while digital emotion regulation extends this idea to technology-mediated practices (Hollenstein & Faulkner, 2024; Smith et al., 2022; Wadley et al., 2020). Digital well-being research was used to interpret student platform use as a dynamic balance between benefit and burden rather than as screen time alone (Büchi et al., 2019; Vanden Abeele, 2021). Algorithmic culture research helped frame personalized feeds and AI chatbots as active affective environments rather than neutral channels of communication (Bhandari & Bimo, 2022; Bucher, 2017; Gillespie, 2014).

Materials and Sources

The materials for the review consisted of peer-reviewed journal articles, academic books, systematic and scoping reviews, empirical studies, conceptual papers, and institutional reports. Sources were selected from several bodies of literature relevant to the model: emotion regulation, digital emotion regulation, media coping, digital well-being, algorithmic culture, short-video platforms, TikTok and social media use, AI chatbots and conversational agents, somatic fatigue,

sleep disruption, digital eye strain, student mental health, and Kazakhstan-specific cultural and educational research.

The review also included contextual sources on Kazakhstan's digital environment and student well-being. DataReportal & WA (2024) was used only to describe the general digital and social-media environment in Kazakhstan used to contextualize early digital socialization. Kazakhstan-specific academic studies were included to ground the model in the local higher education context, including research on internet dependency among Kazakhstani students and the relationship between mental health and academic achievement (Yertukeshova et al., 2024). These sources were not treated as direct evidence for algorithmic mood management but as contextual justification for developing a culturally situated conceptual model.

Search Strategy

A structured but interpretive search strategy was used to identify relevant literature. Searches were conducted through academic databases and scholarly search platforms, including Scopus, Web of Science, PubMed, PsycINFO, Google Scholar, JSTOR, and citation chaining from core theoretical and review articles. The search combined keywords related to digital emotion regulation, algorithmic media, digital well-being, somatic fatigue, AI chatbot use, student mental health, and Kazakhstan.

Search terms included combinations of the following: "algorithmic mood management," "digital emotion regulation," "emotion regulation and social media," "media coping," "digital well-being," "digital overuse," "TikTok use," "short-video addiction," "problematic short-video use," "AI chatbot mental health," "conversational agent," "student mental health," "somatic fatigue," "digital eye strain," "sleep quality," "bedtime procrastination," "Kazakhstani students," "Kazakhstan internet addiction," "Kazakhstan student mental health," "uyat," "namys," "family expectations," and "academic pressure."

Because the article was a conceptual review rather than a systematic review or meta-analysis, the aim of the search was not exhaustive coverage of every available study. Instead, the aim was to identify theoretically and empirically relevant sources that could support the construction of a coherent body–mind–culture model.

Inclusion and Exclusion Criteria

Sources were included if they met at least one of the following criteria: they provided a theoretical foundation for emotion regulation, digital emotion regulation, digital well-being, media coping, or algorithmic culture; they offered empirical evidence on short-video use, problematic social media use, sleep disruption, digital eye strain, fatigue, or student mental health; they examined AI chatbots or conversational agents in relation to psychological support, emotion regulation, or student well-being; or they provided Kazakhstan-specific cultural, educational, or digital context relevant to student life.

Sources were excluded if they made unsupported popular claims about "digital addiction" without empirical or theoretical grounding; if they focused only on technical aspects of algorithms without relevance to psychological, embodied, or cultural interpretation; if they presented clinical claims without adequate evidence; or if they treated students as passive technology users without attention to agency, context, or cultural meaning. Newspaper articles, non-academic opinion pieces, and unverifiable online materials were not used as core evidence. Official reports were used only for contextual background.

Analytical Procedure

The analysis proceeded in five stages.

First, key affective practices associated with student digital media use were identified from the literature. These included distraction, mood repair, emotional escape, comfort-seeking, reassurance, study planning, social comparison, avoidance, self-reflection, and late-night scrolling. These practices were interpreted through the lens of emotion regulation and digital emotion regulation (Gross, 2015; Hollenstein & Faulkner, 2024; Wadley et al., 2020).

Second, these affective practices were mapped onto algorithmic affordances. Personalized feeds, infinite scroll, autoplay, push notifications, recommendation loops, and chatbot conversational responsiveness were examined as platform features that may shape students' emotional choices and regulatory habits. This stage drew on algorithmic culture and TikTok research, especially work on the "algorithmized self" and the ordinary affective power of algorithms (Bhandari & Bimo, 2022; Bucher, 2017; Montag et al., 2021).

Third, embodied consequences were integrated into the model. Sleep delay, digital eye strain, physical fatigue, cognitive fatigue, headache, neck discomfort, and attentional depletion were treated as somatic consequences that may accompany digital mood management. This stage drew on research on digital eye strain, sleep quality, short-video use, and fatigue (Buysse et al., 1989; Chalder et al., 1993; Kaur et al., 2022; Michielsen et al., 2003; Zhao & Kou, 2024).

Fourth, Kazakhstan-specific cultural moderators were added. These included multilingual media use, academic pressure, family expectations, urban–rural mobility, and moral-emotional norms such as *uyat* and *namys*. These moderators were included to avoid treating digital emotion regulation as a culturally neutral process. The analysis drew on Kazakhstan-specific scholarship on identity, language, family obligation, social belonging, and student well-being (Akiner, 1995; Dave, 2007; Privratsky, 2013; Werner, 1998; Yertukeshova et al., 2024).

Fifth, the integrated concepts were synthesized into a body–mind–culture model of algorithmic mood management. The model connected four levels: algorithmic affordances, digital emotion regulation practices, somatic digital fatigue, and digital well-being outcomes. Cultural moderators were positioned across all levels. The final stage reformulated the model into five testable propositions that can guide future empirical research using surveys, interviews, and digital diaries.

Model Development

The proposed model was developed through interpretive synthesis rather than statistical aggregation. Evidence from different disciplines was compared and reorganized around the central question of how Kazakhstani students may use algorithmic environments to regulate mood and how these practices may produce both psychological relief and bodily cost. The model was designed to show that algorithmic mood management is not simply a matter of overuse, entertainment, or addiction. Instead, it is a situated body–mind–culture process in which emotional needs, platform affordances, embodied consequences, and cultural expectations interact.

The model consists of four conceptual levels. The first level, algorithmic affordances, includes personalized feeds, infinite scroll, autoplay, recommendation loops, push notifications, and chatbot responsiveness. The second level, digital emotion regulation practices, includes distraction, mood repair, comfort-seeking, avoidance, self-reflection, reassurance, and AI-assisted planning. The third level, somatic digital fatigue, includes sleep delay, eye strain, headache, mental fatigue, physical tiredness, and attention depletion. The fourth level, digital well-being outcomes, includes intentional use, autonomy, emotional balance, study functioning, offline agency, and perceived overuse. Cultural moderators such as academic pressure, family expectations, multilingual content, *uyat*, and *namys* operate across these levels.

Trustworthiness and Rigor

Several strategies were used to strengthen the trustworthiness of the conceptual review. First, the review drew on multiple literature clusters rather than relying on a single disciplinary tradition. Second, theoretical claims were linked to established frameworks in emotion regulation, digital well-being, and algorithmic culture. Third, empirical claims about sleep, fatigue, digital eye strain, chatbot use, and short-video use were supported by peer-reviewed studies rather than popular commentary. Fourth, Kazakhstan-specific cultural interpretations were presented as contextual moderators rather than universal assumptions about all students.

The analysis also avoided causal overclaiming. Because this study did not collect empirical data, the proposed relationships among algorithmic mood management, somatic fatigue, and digital well-being are presented as conceptual pathways and testable propositions, not as confirmed causal findings. The model is intended to guide future mixed-methods research rather than replace empirical testing.

Ethical Considerations

This article did not involve human participants, interviews, surveys, observations, experiments, clinical procedures, or collection of personal data. Therefore, ethics committee approval and informed consent were not required. All materials used in the study were published academic sources, books, reports, or publicly available scholarly materials. The study followed principles of academic integrity by distinguishing between established evidence, conceptual interpretation, and testable propositions.

Limitations of the Method

The main limitation of this method is that the study is conceptual rather than empirical. Therefore, it cannot determine the prevalence of algorithmic mood management among Kazakhstani students, measure the strength of associations among variables, or establish causal relationships. Another limitation is that Kazakhstan-specific cultural concepts such as *uyat* and *namys* may vary by region, gender, class, language, ethnicity, religion, and family context. Consequently, these concepts are treated as possible cultural moderators, not fixed or uniform characteristics of all students.

Future empirical research should test the proposed model using mixed methods. Quantitative surveys could measure platform use, digital emotion regulation motives, sleep quality, fatigue, digital eye strain, emotion regulation strategies, and perceived digital well-being. Qualitative interviews and digital diaries could explore how students describe the emotional and cultural meanings of short-video scrolling, AI chatbot use, academic pressure, family expectations, and bodily fatigue. Such research would allow the propositions developed in this article to be tested in the specific sociocultural context of Kazakhstani higher education.

Findings and Results

Findings of the Conceptual Synthesis

The conceptual synthesis indicates that algorithmic mood management among Kazakhstani university students can be understood as a body–mind–culture process in which algorithmic affordances, digital emotion regulation practices, somatic digital fatigue, and culturally situated forms of student well-being interact with one another. The reviewed literature suggests that students' use of short-video platforms and AI chatbots should not be interpreted only as entertainment, distraction, addiction, or technological innovation. Rather, these practices may function as everyday emotion-regulation strategies through which students attempt to manage boredom, loneliness, academic pressure, fatigue, uncertainty, shame, and the need for reassurance (Hollenstein & Faulkner, 2024; Smith et al., 2022; Wadley et al., 2020).

The synthesis generated five interrelated conceptual findings. These findings are presented as theoretical pathways rather than empirical results. They are intended to clarify how algorithmic mood management may operate and to guide future mixed-methods research among Kazakhstani university students.

Algorithmic Affective Personalization

The first conceptual finding is that algorithmic platforms may personalize not only information but also affective experience. Short-video platforms such as TikTok, Instagram Reels, and YouTube Shorts are designed around recommendation systems that respond to users' behavior, including viewing time, pauses, likes, searches, repeated returns, comments, and shares. As a result, the student's emotional environment is increasingly shaped through algorithmic feedback loops. The feed may appear to "know" the user's boredom, sadness, humor, avoidance, stress, or desire for motivation.

This process can make platforms emotionally useful because students may quickly encounter content that feels relevant to their current mood. However, it can also narrow emotional experience by repeatedly offering mood-congruent content. For example, a student who watches anxiety-related, sad, motivational, or escapist content may receive more of the same, which may intensify rather than diversify emotional processing. This finding is consistent with research on algorithmic culture and the "algorithmized self," which suggests that users may come to understand themselves partly through how platforms classify, predict, and reflect them (Bhandari & Bimo, 2022; Bucher, 2017; Montag et al., 2021).

In the proposed model, algorithmic affective personalization is therefore understood as a pathway through which platforms become affective infrastructures. They do not merely deliver content; they organize the emotional conditions in which students regulate mood, compare themselves with others, avoid distress, or seek comfort.

Emotion-Regulation-Motivated Platform Use

The second conceptual finding is that students may use algorithmic platforms with explicit or implicit emotion-regulation motives. Digital emotion regulation research shows that people use digital technologies to influence emotions, moods, and stress in everyday life (Hollenstein & Faulkner, 2024; Smith et al., 2022; Wadley et al., 2020). In the university context, short-video scrolling and chatbot use may serve several regulatory

functions: distraction from academic pressure, mood repair after interpersonal stress, comfort during loneliness, avoidance of difficult tasks, reassurance before exams, or temporary escape from family and social expectations.

This finding is important because it changes how student platform use should be interpreted. A student who scrolls late at night may not simply be wasting time; they may be attempting to calm down, avoid shame, recover from pressure, or delay emotionally demanding responsibilities. Similarly, a student who uses an AI chatbot may not only be seeking information; they may be seeking reassurance, organization, emotional explanation, or a nonjudgmental conversational space.

The conceptual synthesis suggests that these practices may have both adaptive and maladaptive forms. Short and intentional use may provide emotional recovery, planning, humor, social connection, or cognitive reframing. However, prolonged or compulsive use may replace sleep, study, face-to-face support, reflection, and embodied rest. Therefore, the emotional function of platform use is more important than the amount of screen time alone. This interpretation is consistent with digital well-being research, which defines well-being as a dynamic balance between benefit and burden rather than a simple measure of online exposure (Büchi et al., 2019; Vanden Abeele, 2021).

Attention Capture and Academic Displacement

The third conceptual finding concerns the relationship between algorithmic mood management, attention capture, and academic displacement. Short-video platforms provide rapid, emotionally salient, low-effort content. This can be attractive to students experiencing fatigue, boredom, exam anxiety, or lack of motivation. However, the same design features that make short videos emotionally relieving may also fragment attention and displace study routines.

The conceptual synthesis suggests that algorithmic mood management may become problematic when emotional relief is repeatedly obtained through attentional displacement. In such cases, students may use short videos to avoid academic tasks, delay sleep, or interrupt sustained concentration. This does not mean that short-video use automatically causes academic problems. Rather, the risk increases when platform use becomes a habitual response to stress and replaces more effortful forms of coping, such as planning, help-seeking, rest, or problem-solving.

Empirical studies on problematic mobile phone use, bedtime procrastination, sleep quality, and short-video addiction support the plausibility of this pathway. Cui et al. (2021) found longitudinal relationships among problematic mobile phone use, bedtime procrastination, sleep quality, and depressive symptoms among college students. Zhao & Kou (2024) also found that short-video addiction was associated with poorer sleep quality among college students, with physical inactivity and procrastination functioning as mediating mechanisms. These studies support the proposed pathway linking algorithmic mood management with procrastination, sleep delay, and next-day fatigue.

AI-Mediated Cognitive and Emotional Offloading

The fourth conceptual finding is that AI chatbots may function as tools for cognitive and emotional offloading. Unlike short-video feeds, AI chatbots provide conversational responsiveness. Students may use them to organize study plans, generate explanations, translate academic material, rehearse difficult conversations, clarify emotions, or receive encouragement. In this sense, AI chatbots may support problem-solving, planning, and cognitive reframing.

At the same time, the synthesis suggests that ordinary chatbot use should be distinguished from structured clinical or psychoeducational interventions. Research on mental-health chatbots shows that conversational agents can offer supportive and psychoeducational features, and some intervention studies have reported reductions in depressive or anxiety symptoms among young adults (Abd-Alrazaq et al., 2019; Fitzpatrick et al., 2017). However, everyday student use of chatbots is usually informal, self-directed, and not necessarily supervised by professionals. A chatbot may produce fluent responses without understanding a student's cultural background, family obligations, offline support, language preferences, academic context, or embodied condition.

Therefore, AI-mediated offloading may have two possible directions. When used for task-oriented purposes, such as planning, study organization, translation, or drafting, it may support academic functioning. When used primarily for companionship, reassurance, or emotional dependence, it may become more ambiguous, especially if offline social support is

low. This does not mean that companionship-oriented chatbot use is necessarily harmful; rather, it should be studied carefully as a possible form of algorithmic self-soothing.

Somatic-Temporal Digital Load

The fifth conceptual finding is that algorithmic mood management has a bodily and temporal cost. Students may experience scrolling or chatbot interaction as psychologically restful, while the body experiences sleep delay, eye strain, headache, neck discomfort, fatigue, reduced physical activity, or next-day cognitive tiredness. This finding is central to the body–mind–culture orientation of the article.

Digital eye strain research shows that prolonged digital device use is associated with ocular and extra-ocular symptoms, including dry eyes, blurred vision, headache, neck pain, back discomfort, and general fatigue (Kaur et al., 2022). Sleep research also supports the relevance of bedtime delay and poor sleep quality in student digital media use. Established measures such as the Pittsburgh Sleep Quality Index and fatigue scales provide tools for future empirical testing of these somatic outcomes (Buysse et al., 1989; Chalder et al., 1993; Michielsen et al., 2003).

The conceptual synthesis suggests that late-evening and night-time algorithmic mood management may be especially important. Students often turn to short videos or chatbots at moments of emotional vulnerability: before sleep, after studying, during loneliness, or when worrying about academic performance. These moments may provide emotional relief, but they may also extend wakefulness, increase screen exposure, and reduce bodily recovery. Therefore, somatic digital fatigue should be treated as a core component of digital well-being, not as a secondary side effect.

Cultural Moderation in the Kazakhstani Student Context

The sixth conceptual finding is that algorithmic mood management is culturally situated. Kazakhstani university students navigate digital media within a complex sociocultural environment shaped by multilingual content, family expectations, academic aspiration, urban–rural mobility, post-Soviet educational structures, and moral-emotional concepts such as *uyat* and *namys*. These cultural factors may influence when students disclose distress, how they interpret failure, how they seek support, and whether they turn to private algorithmic spaces for emotional relief.

Earlier scholarship on Kazakh identity, language, religion, and social networks shows that language, family obligation, collective belonging, and moral expectations are important for understanding social life in Kazakhstan (Akiner, 1995; Dave, 2007; Privratsky, 2013; Werner, 2014). Recent Kazakhstan-specific studies also indicate that student well-being, academic achievement, and internet dependency should be understood within the local educational context (Yertukeshova et al., 2024).

In this model, culture is not treated as a fixed background variable. Instead, it operates as a moderator that shapes the meaning and consequences of digital emotion regulation. For example, students who feel unable to discuss distress openly with family or peers may find algorithmic spaces less judgmental. Multilingual media environments may also provide students with different emotional vocabularies: Kazakh-language content may provide cultural familiarity, Russian-language content may provide regional humor or commentary, and English-language content may provide globalized mental-health terminology. These multilingual and moral-emotional conditions may influence how students interpret their own feelings and choose digital tools for coping.

Integrated Body–Mind–Culture Model

Taken together, the conceptual findings support an integrative body–mind–culture model of algorithmic mood management. In this model, algorithmic affordances shape the digital environments available to students; students use these environments for digital emotion regulation; these practices may produce both emotional relief and somatic digital fatigue; and the balance between benefit and burden is moderated by cultural conditions.

At the body level, the model includes sleep delay, digital eye strain, physical fatigue, headache, posture discomfort, and cognitive tiredness. At the mind level, it includes mood repair, distraction, avoidance, reassurance, self-reflection, comparison, and emotion regulation. At the culture level, it includes academic pressure, family expectations, multilingual identity, moral-emotional restraint, and culturally patterned forms of disclosure. Digital well-being emerges from the interaction of these levels rather than from any single factor.

This integrated model reframes digital well-being among Kazakhstani university students as a culturally situated balance between emotional relief and bodily cost. It suggests that future research should not ask only how much time students spend on digital platforms, but why they use them, when they use them, what emotional functions these platforms serve, what bodily consequences follow, and how cultural norms shape the meaning of digital coping.

Testable Propositions Derived from the Findings

Based on the conceptual synthesis, five testable propositions are proposed for future empirical research:

Proposition 1: Greater perceived algorithmic personalization is associated with stronger mood-congruent content exposure, which may increase the risk of emotional narrowing, especially among students with low offline social support.

Proposition 2: Emotion-regulation-motivated use of short-video platforms or AI chatbots is associated with short-term subjective relief, but prolonged use that replaces sleep, study, or face-to-face support is associated with poorer recovery and higher next-day fatigue.

Proposition 3: Problematic short-video use is associated with poorer study self-regulation and higher academic procrastination, with bedtime procrastination and sleep debt functioning as possible mediating mechanisms.

Proposition 4: AI chatbot use for task-oriented purposes is associated with neutral or positive study-related outcomes, whereas companionship-oriented use may be associated with lower subjective well-being when offline social support is weak.

Proposition 5: Late-evening and night-time algorithmic mood-management use is associated with bedtime procrastination, poorer subjective sleep quality, greater digital eye strain, and higher next-day fatigue, especially among students experiencing high academic pressure.

The conceptual synthesis shows that algorithmic mood management among Kazakhstani university students is a multilayered phenomenon. It involves algorithmic personalization, digital emotion regulation, attention capture, AI-mediated offloading, somatic fatigue, and cultural moderation. Short-video platforms and AI chatbots may provide emotional relief and practical support, but they may also contribute to sleep disruption, eye strain, cognitive fatigue, procrastination, and reduced offline agency.

The key contribution of these findings is to move beyond a simplistic interpretation of student platform use as either harmful overuse or harmless entertainment. Instead, the findings show that algorithmic mood management should be understood as a body–mind–culture process. It is a form of digital coping in which emotional needs, algorithmic design, bodily limits, academic pressure, family expectations, and cultural norms interact. Future empirical research should test these propositions through surveys, interviews, digital diaries, and culturally adapted measures among Kazakhstani university students.

Discussion and Conclusion

The conceptual synthesis presented in this article suggests that algorithmic mood management among Kazakhstani university students should be understood as a body–mind–culture phenomenon rather than as a narrow pattern of screen use, entertainment, or digital overuse. The proposed model shows that students' interactions with short-video platforms and AI chatbots may simultaneously involve emotional relief, attentional displacement, bodily fatigue, and culturally shaped forms of self-regulation. This interpretation is consistent with digital emotion regulation research, which argues that digital technologies can function as tools for influencing emotions, moods, and stress in everyday life (Wadley et al., 2020). It also aligns with recent models of adolescent digital emotion regulation that distinguish between emotions generated by digital environments and emotions regulated through digital means (Hollenstein & Faulkner, 2024).

A central contribution of the model is that it reframes algorithmic platforms as affective infrastructures. Short-video feeds do not merely display content; they organize emotional attention through personalization, repetition, and recommendation. The student is not only choosing media but is also being addressed by an algorithmic environment that learns from pauses, viewing duration, likes, searches, and repeated returns. This interpretation is supported by research on TikTok and the "algorithmized self," which shows how users may come to understand themselves through the platform's predictive and personalized logic (Bhandari & Bimo,

2022). It is also consistent with broader work on the algorithmic imaginary, which argues that users develop beliefs, expectations, and emotional responses toward platform algorithms in everyday life (Bucher, 2017).

The first implication of this model is that emotional relief and emotional narrowing may coexist. Algorithmic personalization can make digital platforms feel immediately relevant to a student's mood, especially during loneliness, boredom, academic stress, or fatigue. However, the same personalization may repeatedly return mood-congruent content, thereby limiting affective diversity and reinforcing patterns of sadness, anxiety, comparison, or avoidance. This does not mean that personalized platforms necessarily harm students; rather, the model suggests that their psychological effects depend on motive, timing, duration, content pattern, and the availability of offline support. This interpretation is consistent with digital well-being research, which emphasizes that well-being should be understood as a dynamic balance between benefits and burdens rather than as a simple function of screen time (Vanden Abeele, 2021).

The second implication concerns student agency. Students should not be treated as passive victims of algorithmic platforms. They actively use short videos, feeds, and chatbots to cope with pressure, seek comfort, organize study tasks, avoid distress, and interpret emotional states. At the same time, their agency is shaped by platform affordances such as infinite scroll, autoplay, notifications, recommendation loops, and chatbot responsiveness. This dual perspective avoids both technological determinism and individual moralism. It recognizes that students may use platforms strategically for emotion regulation, while also acknowledging that platform design can intensify attention capture and reduce reflective choice. Such a balanced interpretation is consistent with media coping research, which shows that people use media to manage stress, recover from strain, and regulate everyday emotional experience (Wolfers & Schneider, 2021).

The third implication is that AI chatbot use should be interpreted carefully. Chatbots may support cognitive and emotional offloading by helping students plan assignments, translate information, organize thoughts, rehearse communication, or receive nonjudgmental reassurance. Research on mental-health chatbots shows that conversational agents can provide psychoeducational and supportive functions, and some controlled studies have reported positive effects on depressive or anxiety symptoms among young adults (Abd-Alrazaq et al., 2019; Fitzpatrick et al., 2017). However, ordinary student use of AI chatbots is different from structured clinical or psychoeducational intervention. In everyday use, chatbot responses may be fluent and responsive without being culturally sensitive, clinically accountable, or aware of a student's offline support, family obligations, language background, or embodied condition. Therefore, the model treats AI-mediated support as potentially useful but also as requiring empirical and ethical examination.

The fourth implication is that algorithmic mood management must be studied through the body as well as the mind. Students may experience scrolling or chatbot interaction as psychological rest, while their bodies accumulate digital cost through sleep delay, digital eye strain, headache, neck discomfort, fatigue, or reduced next-day concentration. Digital eye strain research shows that prolonged digital device use is associated with visual and extra-ocular symptoms such as dry eyes, blurred vision, headache, stiff neck, backache, and general fatigue (Kaur et al., 2022). Studies of college students also indicate that problematic short-video use can be associated with poorer sleep quality, with procrastination and physical inactivity functioning as mediating factors (Zhao & Kou, 2024). These findings support the model's concept of somatic digital fatigue as a core pathway linking digital emotion regulation with bodily well-being.

The body–mind–culture perspective is especially important because emotional relief may be purchased at the cost of bodily recovery. Late-night scrolling, reassurance-seeking through chatbots, and repeated short-video loops may reduce immediate distress while delaying sleep, increasing eye strain, and weakening next-day academic functioning. This interpretation is also consistent with longitudinal research showing relationships among problematic mobile phone use, bedtime procrastination, sleep quality, and depressive symptoms among college students (Cui et al., 2021). Thus, somatic digital fatigue should not be treated as a secondary consequence of digital media use; it is a central mechanism through which digital coping may become burdensome.

The fifth implication concerns cultural context. The model argues that digital emotion regulation among Kazakhstani students is culturally situated. Students in Kazakhstan may navigate multilingual digital environments, academic competition, family expectations, urban–rural mobility, and moral-emotional norms related to respectability, restraint, shame, dignity, and responsibility. Earlier scholarship on Kazakhstan shows that language, ethnicity, collective belonging, family networks, and social obligation are important for understanding everyday life and identity formation in the country (Akiner, 1995; Dave, 2007; Privratsky, 2013; Werner, 1998). Therefore, student digital coping should not be interpreted through a culturally thin model that treats emotion regulation as an isolated individual process.

Within this cultural context, algorithmic environments may become relatively low-risk spaces for emotional expression. A student who hesitates to disclose distress to parents, teachers, or peers may turn to short videos, anonymous communities, or AI chatbots for comfort, humor, explanation, or reassurance. Concepts such as *uyat* and *namys* should not be stereotyped or treated as fixed traits of all Kazakhstani students, but they may function as culturally meaningful moderators of emotional expression and help-seeking. The model therefore proposes that future empirical research should examine how family expectations, academic aspiration, language choice, and moral-emotional norms shape the motives and consequences of digital mood management.

The proposed model also contributes to research on digital well-being by shifting attention from screen time to function, context, and consequence. A short period of scrolling may support recovery after academic strain, while a long late-night session may delay sleep and intensify fatigue. A chatbot may support study planning, but repeated dependence on automated reassurance may reduce offline agency. A platform may provide social connection, but it may also increase comparison, shame, or performance pressure. This interpretation follows Vanden Abeele (2021) view of digital well-being as a dynamic construct and is consistent with work showing that perceived digital overuse is associated with subjective well-being and social digital pressure (Büchi et al., 2019).

For university psychologists and counselors, the model suggests that digital well-being assessment should include the emotional function of platform use, not only its duration. Practitioners should ask whether students use short videos or AI chatbots for mood repair, avoidance, reassurance, companionship, study planning, comparison, or escape. Such questions may help identify whether digital use is serving recovery, avoidance, or dependence. This is important because emotion regulation theory emphasizes that strategies are not universally adaptive or maladaptive; their consequences depend on context, timing, flexibility, and fit with the situation (Gross, 2015; Gross & John, 2003).

For educators and student-affairs professionals, the model suggests that academic pressure and somatic digital fatigue should be addressed together. Students who appear distracted or unmotivated may be managing stress, sleep disruption, fatigue, shame, or fear of failure through digital coping. Digital well-being education should therefore include emotion regulation, sleep hygiene, attention recovery, AI literacy, screen breaks, and culturally sensitive help-seeking. This approach avoids moralizing student technology use and instead treats digital coping as a meaningful but potentially costly adaptation to academic and cultural pressures.

For researchers, the model provides a framework for future mixed-methods studies. Quantitative research could test associations among perceived algorithmic personalization, digital emotion regulation motives, problematic short-video use, AI chatbot motives, sleep quality, fatigue, digital eye strain, and subjective digital well-being. Qualitative interviews and digital diaries could clarify how students describe the emotional meaning of scrolling, chatbot use, academic pressure, family expectations, and bodily fatigue. Such research should include culturally adapted measures and careful translation into Kazakh and Russian, especially for constructs related to shame, honor, fatigue, emotional disclosure, and family responsibility.

Several limitations should be acknowledged. First, this article is conceptual and does not report original empirical data. Therefore, the proposed pathways should be interpreted as theoretically grounded propositions rather than confirmed causal findings. Second, the model treats Kazakhstani university students as a meaningful analytic group while recognizing that students differ by region, language,

gender, class, ethnicity, religion, university type, and family background. Third, cultural concepts such as *uyat* and *namys* should be examined empirically rather than assumed to operate uniformly across all students. Fourth, the model may not fully capture students who use digital platforms primarily for creativity, activism, entrepreneurship, language learning, religious education, or community building rather than mood management.

Despite these limitations, the model offers a useful contribution by integrating algorithmic culture, digital emotion regulation, somatic fatigue, and cultural psychology. It moves beyond the idea that student platform use is simply a problem of addiction, leisure, or technological novelty. Instead, it frames algorithmic mood management as a situated process in which digital platforms become part of how students regulate emotion, manage bodily limits, negotiate cultural expectations, and sustain academic life.

Revised Conclusion

This article developed an integrative body–mind–culture model of algorithmic mood management among Kazakhstani university students. The conceptual synthesis suggests that students' use of TikTok, Instagram Reels, YouTube Shorts, recommendation feeds, and AI chatbots may function as everyday digital emotion regulation. These platforms may help students manage boredom, loneliness, anxiety, fatigue, academic pressure, uncertainty, and the need for reassurance. However, the same practices may also contribute to attention displacement, bedtime delay, digital eye strain, cognitive fatigue, and reduced offline agency.

The main contribution of the article is to show that algorithmic mood management should not be understood only as entertainment, addiction, digital overuse, or technological innovation. It is better understood as a body–mind–culture phenomenon. At the mind level, it involves emotion regulation, mood repair, avoidance, reassurance, comparison, and self-understanding. At the body level, it involves sleep, fatigue, eye strain, posture discomfort, and bodily recovery. At the cultural level, it involves academic pressure, family expectations, multilingual media use, moral-emotional restraint, and culturally patterned forms of disclosure and help-seeking.

The proposed model links four levels: algorithmic affordances, digital emotion regulation practices, somatic digital fatigue, and digital well-being outcomes. It also identifies cultural moderators that may shape the meaning and consequences of digital coping among Kazakhstani students. The five propositions derived from the model offer a foundation for future empirical testing through surveys, interviews, digital diaries, and culturally adapted measurement tools.

In conclusion, digital well-being among university students should not be defined only by the amount of time spent online. It should be understood as the capacity to use digital environments without losing sleep, bodily comfort, emotional autonomy, study functioning, and meaningful offline life. For Kazakhstani students, this balance is shaped not only by individual choices but also by algorithmic design, academic aspiration, family expectations, multilingual digital culture, and moral-emotional norms. Future research should test the proposed model empirically and examine how students can use algorithmic environments in ways that support emotional regulation while reducing somatic digital fatigue.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The manuscript is a theoretical and conceptual review and did not involve human participants, animals, interviews, surveys, experiments, or clinical procedures.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors equally contribute to this study.

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