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THE MOVEMENT CAMPUS: A DISCUSSION PAPER ON EVIDENCE-BASED SUPPORT FOR LIGHT-INTENSITY PHYSICAL ACTIVITY IN STUDENTS' MENTAL WELLNESS

Sudipto Kumar Ratul*, Hosni Hasan

Faculty of Sports Science and Recreation, Universiti Teknologi MARA, 40450, Shah Alam, Selangor, Malaysia

*Corresponding Author: srratul4@gmail.com

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Abstract

As the world is growing rapidly, students are facing immense challenges that affect their mental health negatively. The prevalence of psychological disorders among students is rising globally, highlighting the urgent need for accessible and effective interventions. The paper advocates for the integration of Light-intensity physical activity (LIPA) as a strategic move to improve students' mental wellness which has been underutilized over the years despite being better suited to students. Instead of collecting primary data, this paper synthesizes evidence from recent academic literatures, public health reports, and theoretical frameworks with particular emphasis on the biopsychosocial model of health. LIPA is presented as beneficial across biological, psychological, and social domains ranging from neurochemical regulation and stress reduction to enhanced mood and social connectedness. The evidence-based discussion reported that LIPA is accessible, adaptable, and suitable for diverse student populations, including those with physical or psychological constraints while moderate-to-vigorous physical activity (MVPA) may offer a few consequences like physical discomfort, financial burden, or overstimulation. The paper also outlines the limited presence of LIPA in global health guidelines and proposes practical policy recommendations tailored for educational institutions, such as faculty-led gardening and classroom shifting. These strategies aim to create a movement-friendly campus environment, reduce sedentary behaviours, and promote sustainable well-being of the student community.

Keywords: light-intensity physical activity, mental wellness, biopsychosocial model.

INTRODUCTION

In today's rapidly evolving world, students face immense pressure to achieve success, and sound mental health is crucial to conquering those hurdles. Nonetheless, scientific evidence indicates a consistent decline in the global mental health status of students (Emmerton et al., 2024). According to a report from the past decade, the prevalence of mental health issues among students increased by over 50% between 2013, with the highest rates reported among students in the United States and India (Lipson et al., 2022). In response to this crisis, educational institutions are increasingly forced to initiate proactive and evidence-based interventions to support student mental wellness (Abrams, 2022).

In the meantime, Low Intensity Physical activity (LIPA) substantially beneficial for mental health enhancement (Felez-Nobrega et al., 2021). LIPA involves minimal physical exertion, typically characterized by activities requiring less than 3 metabolic equivalents (METs), which is roughly equivalent to six times the oxygen consumption at rest while sitting. Common examples of LIPA include yoga, light household tasks such as dusting, cooking, and gardening, as well as leisurely recreational activities like fishing (Minnesota Department of Health, 2024). This paper argues that LIPA remains an underrecognized yet promising strategy for promoting student mental well-being. Given its accessibility, low cost, and minimal physical strain, LIPA warrants greater attention and integration into mental health promotion initiatives within educational settings.

THEORETICAL FRAMEWORK

This position draws on the biopsychosocial model of health (Engel, 1977), which emphasizes the interdependence of biological, psychological, and social elements in shaping overall well-being. The model offers a comprehensive framework for investigating the potential benefits of light-intensity physical activity (LIPA) for mental health, especially for college students.

By modifying important neurochemical pathways, LIPA promotes mental wellness on a biological level. It increases the activity of neurotransmitters linked to lower anxiety and happier moods, including dopamine, serotonin, and gamma-aminobutyric acid (GABA) (Cramer et al., 2018). Furthermore, LIPA stimulates the release of endorphins and regulates cortisol levels, thereby promoting relaxation and mitigating symptoms of stress and depression (Harvard Health Publishing, 2020; Hossain et al., 2024).

LIPA provides accessible and immediate mood-enhancing effects. Brief sessions of low-effort activity, such as stretching or slow walking, can alleviate depressive symptoms, reduce perceived stress, and boost self-efficacy, making it a viable strategy for individuals experiencing emotional distress (Williams et al., 2021; Mishra et al., 2013).

LIPA promotes chances for significant social interaction. Group walks, communal gardening, and group yoga are examples of activities that foster a sense of belonging and peer contact, two things that are protective against mental illness. These social dimensions of LIPA help inhibit isolation and strengthen emotional resilience (Pegasus Senior Living, 2025).

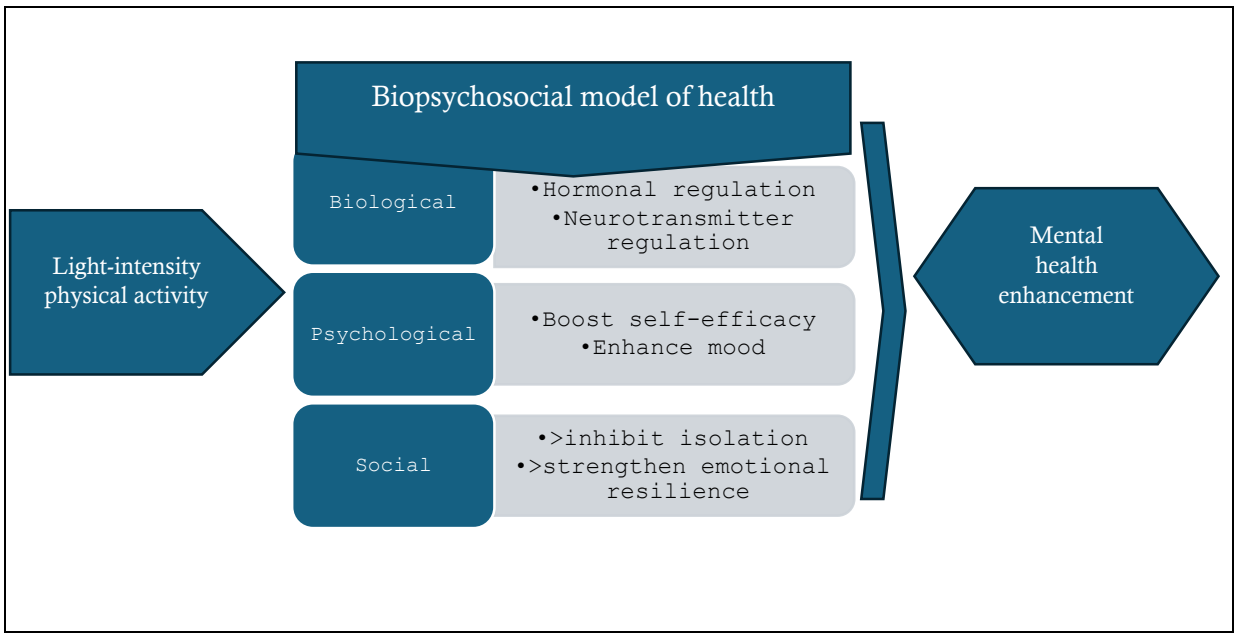

Figure 1: The Biopsychosocial Model of Health and Its Relationship with Light-Intensity Physical Activity (LIPA) and Mental Health

RATIONALE

This paper was developed in response to the growing concern over declining mental health among students and the need for inclusive, low-barrier strategies to address this issue. The argument presented is founded on a critical review of existing literature, highlighting the biological, psychological, and social benefits of light-intensity physical activity (LIPA) as supported by the biopsychosocial model of health.

Instead of collecting primary data, this paper synthesizes evidence from recent academic studies, public health reports, and theoretical frameworks to urge for broader institutional acknowledgment of LIPA as a mental wellness intervention. The literature selection process was directed by relevance to student populations, physical activity intensity levels, and mental health outcomes. Special priority was given to research gaps in recent global health guidelines, such as the underrepresentation of LIPA in policy recommendations.

The rationale is to propose viable, evidence-based strategies such as faculty-based gardening and rotating classrooms that can be implemented in educational settings to increase student physical activity and reduce sedentary behaviour.

DISCUSSION AND SUPPORTING ARGUMENTS

Physical activity (PA) has been widely recognized as a key enhancer of mental health by numerous researchers (Mahindru et al., 2023). Its positive effects are attributed to a combination of neurophysiological, psychosocial, and behavioural mechanisms. Neuro-physiologically, PA influences brain function by regulating cortisol levels and stimulating the release of endorphins, both of which contribute to improved mood and reduced stress (Vellaa et al., 2023; Mikkelsen et al., 2017; Ahmed et al., 2021). Psychosocially, it serves as a distraction from negative emotional states, while behaviourally, it supports healthier routines such as improved sleep patterns and self-regulation.

The Self-Determination Theory and the Theory of Ecological Dynamics further demonstrate that PA conducted in group settings or natural environments enhances these benefits by promoting enjoyment, social connection, and engagement with varied environmental challenges (Manninen et al., 2022; Davids et al., 2013). Structured activities such as strength training, cardiovascular workouts, and multimodal exercise programs have shown effectiveness in addressing specific psycho-emotional issues, including depression, stress, anxiety, anger, and frustration. Particularly, LIPA has been found especially effective in managing stress and anxiety, due to its low physiological demand and calming effects (Singh et al., 2023; Hachenberger et al., 2023; Gökalp & Öztürk, 2021).

Moreover, an immediate improvement in an individual's mood following simple activities such as slow walking or light household chores has been evident (Mental Health Foundation, n.d.). These findings suggest that even minimal engagement in LIPA can have significant and immediate psychological benefits, particularly for populations under constant academic or emotional stress.

Although some researchers have found no significant difference between the effects of light-intensity physical activity (LIPA) and moderate-to-vigorous physical activity (MVPA) on mental health (Larun et al., 2006), comparing these activity types remains challenging due to limited research specifically focused on LIPA. Few studies have examined LIPA's impact on mental health outcomes, leading to a lack of clarity in the literature (Amagasa et al., 2018). In contrast, a substantial body of evidence supports the positive role of moderate- to high-intensity physical activity in enhancing psychosocial well-being (Committee on Physical Activity and Physical Education in the School Environment, 2013). Nevertheless, all forms of physical activity, including LIPA, contribute significantly to both mental and overall health.

In certain situations, LIPA may even offer distinct advantages over MVPA. For instance, individuals with physical disabilities or impairments may find it difficult to engage in higher-intensity exercise. Among students, MVPA can often be exhausting, occasionally painful, and may lead to discomfort, which can decrease motivation or trigger a fear of injury (Alkhawaldeh et al., 2024; Brown et al., 2024). Moreover, excessive participation in high-intensity activities has been associated to psychological overstimulation in some cases (Rose, 2021). In such contexts, LIPA serves as a more feasible and sustainable approach for breaking sedentary behaviour and preventing health decline (Khoja et al., 2016).

Despite its potential advantages, LIPA remains undervalued in public health recommendations. It is notably absent from the World Health Organization's 2020 Guidelines on Physical Activity and Sedentary Behaviour and is not highlighted in the WHO Global Action Plan on Physical Activity (World Health Organization, 2020; World Health Organization, n.d.). Recognizing the value of LIPA, especially in academic and inclusive settings, is impactful for developing equitable and accessible health strategies that promote mental well-being across diverse student populations.

According to the World Health Organization, adults are recommended to participate in 150–300 minutes of moderate-intensity physical activity (MVPA) or 75–150 minutes of vigorous-intensity activity per week, while adolescents are advised to participate in at least 60 minutes of MVPA daily

(Bull et al., 2020). However, adherence to these guidelines remains low, with only 20% of adolescents and approximately 70% of adults meeting the recommended levels (World Health Organization, 2020). Among students, global engagement in physical activity is estimated to range between 25% and 40%, with rates just slightly over 35% in high-income Western regions. This concerning trend underscores the urgent need for educational institutions and even academic staff to take proactive measures in promoting physical activity among students (Grujičić et al., 2022; Edelmann et al., 2022).

Several studies have identified a range of barriers that hinder student participation in physical activity. These include a lack of accessible facilities, the physical distance between academic areas and designated exercise spaces, misalignment between academic schedules and fitness opportunities, financial burdens linked with accessing exercise resources, limited motivation or encouragement from faculty, and the absence of institutional policies that promote awareness and participation in physical activity. Despite these hazards, natural design can play a significant role in fostering active behaviours. For instance, establishing a green, movement-oriented campus that is organically incorporated into students' everyday schedules might act as a strong incentive and lessen the need for strictly structured fitness regimens (Alkhawaldeh et al., 2024 and Brown et al., 2024).

Table1. Comparative Advantages of Light-Intensity Physical Activity (LIPA) over Moderate-to-Vigorous Physical Activity (MVPA) among Students

Light intensity physical activity (LIPA)	Moderate-vigorous physical activity (MVPA)
Relaxing and mentally refreshing	Often physically demanding and tiring
Adaptable and suitable for all populations	May carry a higher risk of injury
Effective for breaking up sedentary behaviour	Can occasionally cause discomfort or soreness
Low risk of psychological overstimulation	May lead to overstimulation if excessive
Generally low-cost or free	May involve expenses (e.g., equipment, gym fees)

POLICY RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES

Several studies have proposed various strategies to motivate students and improve their physical activity (PA) levels. While most existing recommendations are school based, a few targeted approaches for university students have also been identified. A systematic review found that interventions such as social media promotion, monitoring students' physical activity engagement, and implementing exercise plans with different intensities over a specified period were effective strategies (Johannes et al., 2024). Another study emphasized the importance of promoting gender equity in PA, given the consistently lower engagement rates among female students (Ahmed et al., 2024). Additional recommendations have included active transportation policies, equipment support, environmental design, and collaborative programs with local sports clubs (Pate et al., 2011). However, there remains a noticeable gap in policy recommendations specifically focused on light-intensity physical activity (LIPA).

Considering the earlier arguments and past suggestions, faculty-oriented gardening emerges as a promising policy option to promote LIPA and support students' mental well-being. Gardening offers an integrated solution that not only encourages physical movement but also fosters a direct connection with nature and contributes to a healthier campus environment. To implement this initiative, each

faculty or department could allocate space for a garden, taken care by students. Progress could be monitored by faculty authorities, turning the initiative into a goal-oriented task. To further motivate participation, an annual exhibition and prize-giving ceremony could be organized to recognize the best-maintained gardens.

However, implementing a gardening strategy may pose challenges, particularly due to space limitations that are common in many institutions. In such cases, shifting classrooms presents a practical alternative for promoting physical activity, offering students regular opportunities for movement throughout the academic day. This strategy is specifically relevant for institutions with limited space for outdoor activities, such as private universities. Shifting classrooms can provide a short physical break between long lectures, allowing students to reset and return with a refreshed mindset. A structured schedule specifying the location for each class session can support smooth implementation. Furthermore, the strategy can be enhanced by incorporating shifting seating positions within classrooms during lectures to maintain physical engagement.

Table 2. Overview of Policy Recommendation and Integration

Policy	Supporting theory	Implementation	Expected outcomes
Gardening	Theory of Ecological Dynamics	>Allocate a designated garden space for specific student groups. >Monitor student's participation and progress. >Organize an annual exhibition.	>May motivate students engaging in PA. >Foster connection with nature. >Promote a healthier and green campus environment
Shifting Classroom/ Seating	Self-Determination theory	>Develop a structured schedule with designated classrooms for each session. >Introduce shifting seating arrangements during lectures.	>Breaks prolonged sedentary behavior and Keep students moving throughout the day. >May allow students to return with refreshed mindset. >Improve concentration during prolonged academic sessions

CONCLUSION

The current study concludes that light-intensity physical activity (LIPA) is a highly suitable strategy for encouraging student activity and addressing the growing mental health burden. LIPA presents a low-cost, low-risk, and highly adaptable tool for enhancing mental well-being. Unlike more demanding exercise regimes, LIPA offers psychological benefits without imposing physical strain, making it adaptable for a wider demographic of students. Despite its potential, LIPA remains underrepresented in institutional policies and global health recommendations. This paper highlights the need for educational institutions to adopt evidence-based, practical strategies such as faculty-based gardening and dynamic classroom arrangements to normalize movement and reduce sedentary time throughout the academic day.

While this study has successfully outlined the advantages of LIPA over moderate-to-vigorous physical activity (MVPA), the limited number of studies specifically examining the mental health outcomes of LIPA remains a noted limitation. Therefore, future research should prioritize clinical trials to further explore and validate the mental health benefits of LIPA among students. Finally, the study calls on higher education stakeholders to recognize and capitalize on the mental wellness potential of light-intensity movement in the pursuit of a healthier student community and inclusive campus life.

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