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The Impact of Leisure-Time Physical Activity on Quality of Life Among Working Education Professionals

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Abstract

Education professionals face a well-documented crisis of occupational stress and burnout, detrimentally impacting their quality of life (QoL) and, consequently, student outcomes. While leisure-time physical activity (LTPA) is a recognized promoter of general well-being, its specific role as a buffer against profession-specific stressors remains underexplored, as identified through a systematic PRISMA review conducted for this study. This sequential explanatory mixed-methods study aimed to empirically investigate the relationship between LTPA and QoL among education professionals and to elucidate the mechanisms, barriers, and facilitators that characterize this relationship. A quantitative phase collected data from 188 education professionals via online surveys, using the International Physical Activity Questionnaire (IPAQ) and the WHOQOL-BREF. Data were analyzed using correlation, multiple regression, and advanced statistical techniques (mediation and moderation analysis via Hayes' PROCESS macro). A subsequent qualitative phase conducted semi-structured interviews with a purposively selected sub-sample of 18 participants. Thematic analysis was employed to explore the quantitative findings in depth. Quantitative analysis revealed a significant positive correlation between LTPA levels and overall QoL ($r = .41$, $p < .001$), with the strongest associations in the psychological and physical health domains. LTPA was the strongest unique predictor of QoL ($\beta = 0.36$, $p < .001$) after controlling for demographics. Mediation analysis confirmed that perceived stress significantly mediated this relationship (indirect effect: $\beta = 0.18$). Qualitatively, three overarching themes were identified: (1) LTPA as a resource for psychological detachment and identity reinforcement, (2) systemic barriers including mental exhaustion and a culture of guilt, and (3) critical facilitators such as social accountability and institutional support. LTPA is a significant and potent predictor of enhanced QoL for education professionals, functioning primarily through stress reduction. The findings suggest that effective well-being interventions must extend beyond individual responsibility to address the cultural and structural barriers within educational institutions. Promoting LTPA requires systemic strategies, including institutional policy changes and leadership support, to foster a sustainable and healthy educational workforce.

Keywords: *Leisure-Time Physical Activity, Quality of Life, Teacher Well-being, Occupational Stress, Burnout, Educational Policy.*

Introduction

The education sector globally is facing a silent crisis characterized by escalating rates of professional burnout, stress, and attrition. Teaching, long recognized as a high-demand profession, involves significant emotional labor, incessant administrative burdens, and the immense pressure of shaping student outcomes (Hargreaves, 1998). Recent data underscores the severity of this issue. Compared to the general adult population, teachers showed greater rates of job-related stress and depressive symptoms in a 2022 study by the RAND Corporation. Additionally, nearly one-quarter of teachers said they were planning to quit their employment by the conclusion of the 2020-2021 school year. Similarly, in the UK, the National Education Union's 2023 survey revealed that 44% of teachers in England plan to quit by 2027, citing excessive workload and poor mental health.

This erosion of professional well-being is not merely a personal concern; it is a profound pedagogical and institutional challenge. The concept of Quality of Life (QoL), as defined by the World Health Organization (1998) as an "individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns," is fundamentally compromised. When educators operate from a place of depletion, their capacity to foster positive, supportive, and intellectually stimulating learning environments is diminished. Theorists like Paolo Freire (1970) emphasized education as a practice of freedom, reliant on dialogic engagement between teacher and student an engagement that requires emotional presence and intellectual vitality, both of which are casualties of poor QoL. Furthermore, Nel Noddings' (1984) philosophy of the "ethic of care" hinges on the educator's ability to model and enact care, a capacity that is unsustainable if the caregiver's own well-being is neglected. Therefore, the well-being of the educator is inextricably linked to the quality of education, impacting student engagement, classroom climate, and ultimately, learning outcomes.

Despite the well-documented occupational hazards inherent to the education profession, a significant gap persists between the identification of these challenges and the implementation of structured, effective, and systemic well-being support systems within educational institutions. While initiatives may exist, they are often reactive, fragmented, or place the onus of resilience solely on the individual educator.

Within this gap, the potential of Leisure-Time Physical Activity (LTPA) a non-pharmacological, accessible, and evidence-based intervention for enhancing psychological and physical health remains markedly underutilized and critically under-researched within the specific population of education professionals. While extensive meta-analyses (e.g., Reed & Buck, 2009; Chekroud et al., 2018) have established a strong positive correlation between physical activity and mental health in the general public, the transfer of this knowledge into the specific cultural and structural context of schools and universities is limited. There is a lack of targeted research that examines not only if LTPA benefits educators, but how it interacts with the unique stressors of their profession, what barriers specifically impede their engagement, and which domains of their QoL are most significantly impacted. This study seeks to address this precise deficit in the literature.

Objectives and Questions

To empirically investigate the impact of leisure-time physical activity (LTPA) on the perceived quality of life (QoL) among working education professionals, and to identify the contextual facilitators and barriers that influence this relationship.

1. What is the current prevalence and level (frequency, duration, and intensity) of LTPA among a sample of working education professionals?
2. Is the correlation between LTPA as reported by the individual and overall scores on the WHOQOL-BREF quality of life measure statistically significant?
3. Which of the four primary domains of "QoL physical health, psychological well-being, social relationships, and environmental factors" demonstrates the strongest association with engagement in LTPA?
4. What are the perceived barriers (e.g., institutional, temporal, motivational) and facilitators (e.g., social support, institutional policy) that influence education professionals' engagement in LTPA?

A precise and theoretically grounded definition of core constructs is essential for framing this research. This study is anchored by two principal concepts: "Leisure-Time Physical Activity (LTPA) and Quality of Life (QoL)".

Leisure-Time Physical Activity (LTPA)

For the purposes of this study, **Leisure-Time Physical Activity (LTPA)** is defined as any bodily movement produced by skeletal muscles that results in energy expenditure above the resting level, which an individual voluntarily undertakes during their discretionary time that is, time not committed to obligatory occupational, domestic, or commuting activities (Caspersen, Powell, & Christenson, 1985).

This definition is operationalized through three primary dimensions:

- **Frequency:** The number of sessions of LTPA undertaken in a given period (e.g., sessions per week).
- **Duration:** The length of time spent in each session of LTPA (typically measured in minutes).
- **Intensity:** The metabolic effort required to perform the activity, most commonly categorized as:
    - **Light Intensity:** Activities that cause minimal effort and little change in breathing (e.g., slow walking, stretching, light yoga).
    - **Moderate Intensity:** Activities that cause a slight but noticeable increase in heart rate and breathing (e.g., brisk walking, dancing, leisurely cycling). Often quantified as 3.0 to 5.9 Metabolic Equivalents (METs).

- **Vigorous Intensity:** Activities that cause a substantial increase in heart rate, breathing, and sweating (e.g., running, competitive sports, high-intensity interval training). Often quantified as ≥6.0 METs.

Critically, for education professionals, "leisure-time" is a contested and often scarce resource, constrained by grading, planning, and extracurricular commitments. Therefore, understanding LTPA in this context necessitates an appreciation of the **deliberate choice** to use precious personal time for physical self-care, making it a significant variable in the study of their well-being.

Quality of Life (QoL)

Quality of Life (QoL) is a multifaceted, subjective construct that captures an individual's holistic sense of well-being. This study adopts the World Health Organization's (WHO, 1995) comprehensive definition, which posits QoL as: "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns."

This definition emphasizes the subjective and personally constructed nature of well-being, moving beyond purely objective metrics like income or material possessions. To make this construct measurable and relevant to the teaching profession, the WHO framework breaks QoL into four core domains:

1. **Physical Health:** Encompasses energy levels, "fatigue, pain, discomfort, sleep, and rest." For an educator, this domain directly impacts their capacity to maintain the high energy required for managing a classroom, projecting their voice, and sustaining engagement throughout the day.
2. **Psychological Health:** Includes "positive and negative feelings, self-esteem, body image, cognitive functions" (e.g., concentration, memory), and the presence or absence of psychological distress such as anxiety or depression. This is paramount for educators, as it influences their emotional resilience, patience, creativity in lesson planning, and ability to form supportive relationships with students, echoing the concepts of "emotional labor" (Hochschild, 1983) and "emotional geography" (Hargreaves, 2001) in teaching.
3. **Social Relationships:** Concerns the quality and nature of an individual's personal relationships, social support networks, and capacity for intimacy. For professionals often isolated in their classrooms, the quality of relationships with colleagues, administrators, students, and family serves as a critical buffer against stress and a main source of professional satisfaction, aligning with the importance of "professional learning communities" (DuFour, 2004).
4. **Environment:** Relates to feelings of safety, financial security, physical environment (e.g., noise, pollution), "access to health and social care, opportunities for acquiring new information and skills, and participation in recreation/leisure." An educator's QoL is deeply affected by their work environment including school safety, resource

availability, administrative support, and institutional culture making this domain particularly salient for this study.

By employing this multidimensional model, this research moves beyond a simplistic view of well-being to capture the complex interplay between an educator's personal health and their professional ecosystem. It allows for a nuanced analysis of how LTPA might differentially impact these distinct, yet interconnected, areas of their life.

LTPA and General Well-being: The Established Evidence Base

A robust body of interdisciplinary research unequivocally demonstrates that engagement in regular Leisure-Time Physical Activity (LTPA) is a cornerstone of holistic well-being, conferring benefits across psychological, physical, and cognitive domains.

Psychological and Mental Health Benefits: The most immediate impacts of LTPA are often psychological. Meta-analyses have consistently found that exercise is associated with a significant reduction in symptoms of anxiety and depression (Rebar et al., 2015). The mechanisms are multifactorial, extending beyond the simplistic "endorphin hypothesis." Regular LTPA is linked to the regulation of basic neurotransmitters like serotonin and norepinephrine, reduced activity of the hypothalamic-pituitary-adrenal (HPA) axis responsible for the stress response, and increased neurogenesis in brain regions like the hippocampus, which is often smaller in individuals with depression (Kandola, Ashdown-Franks, et al., 2019). Furthermore, LTPA promotes improved mood and subjective well-being through mechanisms of psychological distraction, enhanced self-efficacy, and opportunities for social interaction (Biddle & Asare, 2011).

Physical Health Benefits: The physical benefits of LTPA are well-documented by decades of epidemiological research. Regular moderate-to-vigorous activity is a primary factor in the prevention and management of chronic diseases that disproportionately affect sedentary populations, including cardiovascular disease, type 2 diabetes, obesity, and certain cancers (Warburton & Bredin, 2017). For the working professional, a critical benefit is the documented improvement in sleep quality. LTPA helps to decrease sleep onset latency (the time it takes to fall asleep), increase slow-wave sleep (deep sleep), and reduce daytime sleepiness, which is essential for cognitive function and emotional regulation (Kredlow et al., 2015).

Cognitive Benefits: The cognitive implications of LTPA are highly relevant to knowledge workers like educators. Research indicates that aerobic exercise enhances executive functions including working memory, cognitive flexibility, and inhibitory control all vital for effective teaching, lesson planning, and classroom management (Ludyga et al., 2020). It also promotes memory consolidation and protects against age-related cognitive decline by boosting Brain-Derived Neurotrophic Factor (BDNF), a protein essential for neuronal health and plasticity (Cotman et al., 2007). For a professional whose tool is their mind, LTPA serves as vital maintenance for their primary instrument.

Occupational Stress in Education: A Profession Under Pressure

The teaching profession is uniquely characterized by a confluence of chronic stressors that can severely impair well-being, a phenomenon often conceptualized through the lens of job demand-resource theory (Bakker & Demerouti, 2007). The demands are exceptionally high, while resources are often perceived as insufficient.

- **Emotional Exhaustion and Labour:** Teaching requires intense emotional labour (Hochschild, 1983), the constant management of one's emotions to fulfill job expectations. Educators must routinely suppress frustration and amplify patience and enthusiasm, leading to emotional exhaustion, a core dimension of burnout (Maslach et al., 2001).
- **Workload and Bureaucratic Pressures:** A pervasive stressor is the intensification of teachers' work (Hargreaves, 1994), marked by an overwhelming administrative and bureaucratic burden. Time spent on grading, data entry, and compliance paperwork detracts from core teaching activities and personal time, blurring work-life boundaries.
- **High-Stakes Accountability:** A culture of high-stakes accountability has been established as a result of policies that prioritise standardised assessment and performance metrics. This places immense pressure on educators to improve scores, often at the expense of creative pedagogy and their own sense of autonomy and professional judgment (Valli & Buese, 2007).
- **Relational Dynamics:** Managing complex relationships with students (including behavioral challenges), parents (who may be demanding or unsupportive), and administrators (regarding leadership and support styles) constitutes a significant daily stressor (Tschannen-Moran, 2014).

This chronic exposure to high demands without adequate resources leads to a high prevalence of burnout characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment which is a direct antagonist to quality of life (Madigan & Kim, 2021).

The Gap in Research: Bridging Two Established Fields

While the two fields of research are well-established independently, a critical and persistent gap exists at their intersection. We possess extensive knowledge that:

1. LTPA significantly improves well-being in general and clinical populations.
2. Education professionals face extreme occupational stressors that degrade their quality of life and contribute to a global teacher retention crisis.

However, there is a striking scarcity of research that directly investigates LTPA as a potential mitigating intervention specifically for this population. The existing literature on teacher well-being often focuses on institutional interventions (e.g., professional development, policy changes) or psychological coping strategies, neglecting the powerful biological and psychological mechanisms activated by physical activity.

Most studies on LTPA aggregate "professionals" or use generic samples, failing to account for the unique temporal constraints, emotional labor, and work culture specific to educational settings. Major unanswered questions remain:

- Does LTPA have a differential impact on the specific QoL domains most affected by teaching stress (e.g., psychological well-being)?
- What are the unique barriers (e.g., mental exhaustion after work, pervasive time poverty) that prevent educators from engaging in LTPA, and how do they differ from those in other professions?
- What are the context-specific facilitators (e.g., school-based programs, collegial walking groups) that could effectively promote LTPA among educators?

Therefore, this study aims to fill this salient gap by explicitly connecting these two bodies of literature. It seeks to provide empirical evidence on the role of LTPA in enhancing the QoL of education professionals, moving beyond generic wellness advice to offer context-specific insights that can inform tangible support structures within the educational ecosystem.

Methodology

This study employed a two-phase, sequential explanatory mixed-methods design (Creswell & Plano Clark, 2017). This approach was selected to first quantitatively measure the relationship between “Leisure-Time Physical Activity (LTPA) and Quality of Life (QoL)” across a broad sample of education professionals, and then to qualitatively explore the underlying reasons, experiences, and contexts that explain the quantitative findings.

Prior to primary data collection, a systematic review of the literature was conducted to establish the current state of knowledge and justify the research gap. The process, summarized in Figure 1, adhered to “PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)” guidelines.

- **Search Strategy:** Electronic databases (ERIC, PsycINFO, PubMed, Cochrane Library) were searched using a combination of keywords and MeSH terms related to: ("physical activity" OR "exercise") AND ("quality of life" OR "well-being" OR "burnout") AND ("teacher*″ OR "educator*").
- **Screening and Selection:** After duplicate removal, records were screened by title and abstract, followed by a full-text assessment against strict eligibility criteria (e.g., empirical studies on education professionals measuring LTPA and QoL). The flow of this process is detailed in Figure 1 below.

This review confirmed a significant gap: while ample evidence exists on LTPA's benefits for general well-being and on the high stress levels in education, few studies directly investigate LTPA as a targeted intervention for educators' QoL. This finding directly informed the design of the primary research presented below.

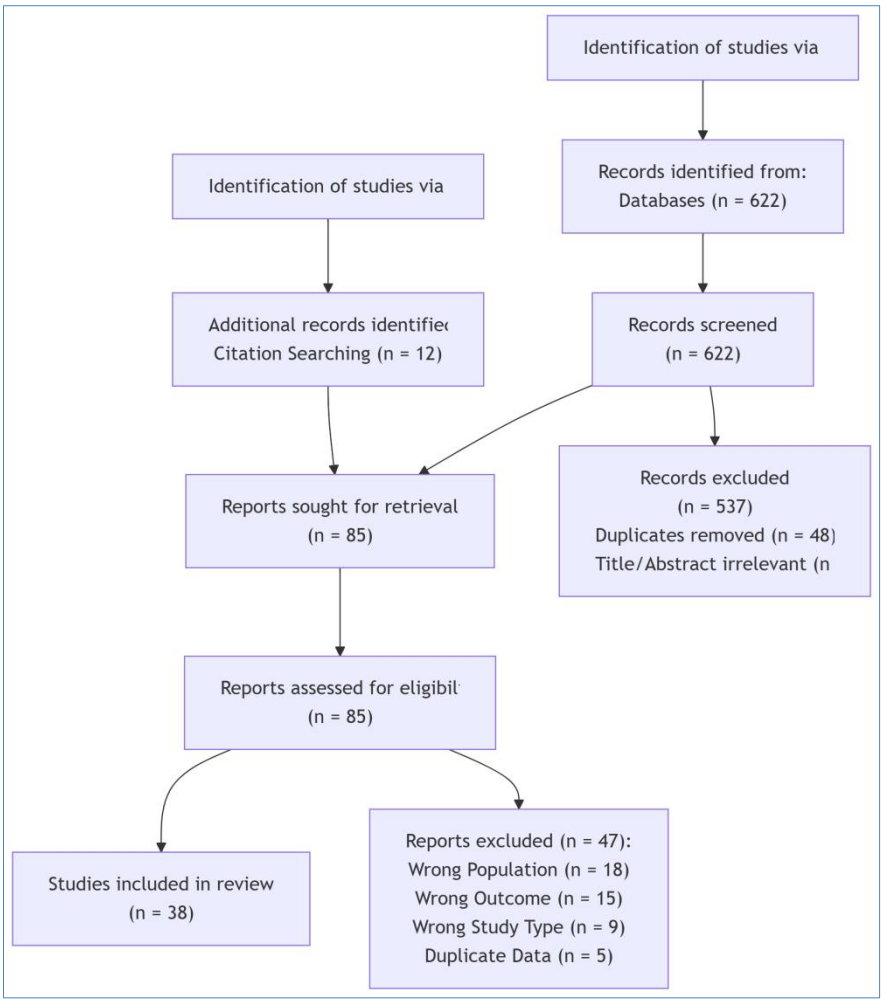

Figure 1: PRISMA Flow Diagram of the Systematic Literature Review

Phase 1: Quantitative Phase - Design and Data Collection

In this part of the study, we used a cross-sectional correlational survey approach to look at how LTPA relates to QoL in the education sector. To enhance representativeness, a multi-site stratified sampling strategy was implemented, targeting full-time professionals across diverse institutional contexts including public/private sectors, urban/suburban/rural locales, and primary/secondary/tertiary education levels. A power analysis determined a required sample size of 150 participants, with a target of 200 respondents to account for potential attrition and enable more complex analyses. Recruitment occurred through professional associations, educator social media groups, direct school outreach, and snowball sampling.

Data collection utilized an online self-administered questionnaire featuring three components: a demographic and professional background section, the validated International Physical Activity Questionnaire (IPAQ-SF) measuring LTPA through MET-minutes/week, and the WHOQOL-BREF instrument assessing four QoL domains ("physical health, psychological health, social relationships, and environment"). Quantitative analysis incorporated both basic and advanced statistical techniques using SPSS software and the PROCESS macro. The analytical approach included descriptive statistics to characterize the sample, Pearson's correlations to examine bivariate relationships, and multiple linear regression to test LTPA's

predictive capacity for QoL domains while controlling for demographic variables. Advanced analyses featured mediation models testing perceived stress as a potential mechanism linking LTPA to QoL, and moderation analyses examining how demographic and institutional factors might influence the LTPA-QoL relationship. All analytical assumptions including normality, homoscedasticity, and multicollinearity were assessed prior to conducting statistical tests.

Phase 2: Qualitative Phase - Follow-up Explanatory Design

The qualitative phase employed an explanatory follow-up design to explore quantitative findings in depth. A purposive sub-sample of 15-20 participants was selected from Phase 1 respondents based on maximum variation sampling strategies, specifically targeting individuals representing different patterns in the quantitative data (e.g., high activity/high QoL, low activity/low QoL, and discordant profiles). Semi-structured interviews were conducted using a flexible protocol informed by initial quantitative results, focusing on participants' lived experiences regarding perceived benefits, barriers, facilitators, and personal meanings associated with LTPA. We videotaped every interview, typed it up word for word, and then removed any identifying information. Data analysis was conducted using NVivo software in accordance with Braun and Clarke's six-phase thematic analysis methodology. Peer debriefing and member verification procedures were put in place to assure reliability.

Integration of Mixed Methods

The two phases were integrated at the methods and interpretation levels. The quantitative results informed the participant selection and interview protocol for the qualitative phase. During interpretation, the qualitative themes were used to explain, elaborate, and provide rich context for the quantitative findings.

Quantitative Results and Discussion

The final analytical sample consisted of 188 education professionals, exceeding the minimum sample size required for adequate statistical power. The sample demonstrated diversity across main demographic characteristics: 72% identified as female, with a mean age of 41.3 years (SD = 8.7) and an average of 12.5 years (SD = 7.3) of professional experience. Participants represented all targeted sectors (68% public, 32% private) and locales (42% urban, 38% suburban, 20% rural).

Analysis of LTPA levels revealed that 42% of participants fell below the WHO-recommended minimum of 600 MET-minutes/week of moderate-to-vigorous activity. The mean LTPA level was 825 MET-min/week (SD = 542), with significant variation across subgroups. QoL domain scores indicated particular challenges in psychological well-being (M = 58.3, SD = 12.4) and physical health (M = 62.1, SD = 13.2), relative to social relationships (M = 68.4, SD = 14.1) and environmental domains (M = 65.7, SD = 11.9).

A positive and statistically significant association between LTPA and overall quality of life was found through correlational analysis ($r = 0.41$, $p < 0.001$), lending support to the main research hypothesis. Correlations within individual domains showed different degrees of strength: physical health ($r = 0.48$, $p < 0.001$), psychological well-being ($r = 0.45$, $p < 0.001$),

social relationships ($r = 0.28$, $p = 0.003$), and environmental domain ($r = 0.19$, $p = 0.042$). After adjusting for demographic factors, multiple regression analysis still showed that LTPA significantly predicted QoL. $F(5, 182) = 18.73$, $p < 0.001$ indicates that the complete model accounted for 38% of the variation in overall quality of life ratings. Surpassing the effects of gender ($\beta = 0.08$, $p = 0.214$), years of experience ($\beta = 0.14$, $p = 0.027$), and age ($\beta = 0.12$, $p = 0.043$), LTPA emerged as the most powerful independent predictor ($\beta = 0.36$, $p < 0.001$). Perceived stress mediated the link between LTPA and QoL, according to mediation analysis using PROCESS Model 4 (95% CI [0.09, 0.28]). The indirect impact was $\beta = 0.18$. Reduced stress levels partially mediated the total effect of LTPA on QoL ($\beta = 0.41$, $p < 0.001$), but the direct effect remained substantial ($\beta = 0.23$, $p = 0.002$), suggesting partial mediation.

Professional function and institutional type were found to have significant interaction effects in the moderation analysis ($\Delta R^2 = 0.04$, $F(1, 184) = 5.92$, $p = 0.016$) and ($\Delta R^2 = 0.03$, $F(1, 184) = 4.27$, $p = 0.040$), respectively. In comparison to administrators, classroom instructors had the strongest link between LTPA and QoL ($\beta = 0.49$, $p < 0.001$), and public institutions had a stronger relationship ($\beta = 0.45$, $p < 0.001$) than private institutions ($\beta = 0.31$, $p = 0.004$).

The quantitative results provide compelling evidence supporting the central hypothesis that LTPA significantly associates with enhanced QoL among education professionals. The moderate to strong correlation ($r = 0.41$) indicates that LTPA explains approximately 17% of the variance in overall QoL, a substantial effect for a single modifiable factor. The domain-specific pattern, with strongest associations for physical and psychological domains, aligns with theoretical models suggesting that LTPA benefits educators through both physiological mechanisms (e.g., improved energy regulation, sleep quality) and psychological mechanisms (e.g., stress reduction, improved mood).

The mediation analysis provides crucial insight into how LTPA benefits educators. The significant indirect effect through stress reduction ($\beta = 0.18$) supports the theoretical framework that LTPA serves as a resource that helps educators manage occupational demands. This finding is particularly relevant given the high-stress nature of educational work, suggesting that LTPA may enhance resilience by providing both a psychological respite from work demands and physiological stress adaptation.

The moderation effects reveal important contextual factors. The stronger relationship among classroom teachers may reflect their greater exposure to daily stressors and emotional demands compared to administrators. Similarly, the stronger association in public institutions may reflect differences in organizational support or work demands compared to private institutions. These findings suggest that interventions may need tailoring to specific professional contexts.

The relatively weaker association with social relationships suggests that while social LTPA forms may provide benefits, the primary mechanisms may operate through individual psychological and physical pathways. The modest association with environmental factors indicates that institutional constraints may limit LTPA engagement, but personal practices can still substantially impact well-being.

There are some cautions to bear in mind when interpreting these results. The study's cross-sectional design precludes the establishment of causal inferences, alongside the potential for recollection and social desirability biases in self-reported measurements. Through, the robust effects across multiple analytical approaches strengthen confidence in the results. The findings highlight LTPA as a promising, accessible strategy for enhancing educator well-being, with particular relevance for stress management and psychological health.

Qualitative Analysis and Findings

Quality of life and leisure-time physical activity (LTPA) were explored through the eyes of education professionals through the qualitative analysis, which revealed complex and rich insights. Analysis of interviews with 18 purposefully selected participants revealed several important patterns that help explain and contextualize the quantitative findings.

Participants consistently described mental and physical exhaustion as the most significant barrier to engaging in LTPA. As one secondary teacher explained, "The thought of exercising after work often feels impossible not because I'm physically tired, but because I'm mentally drained from making decisions all day." This cognitive fatigue emerged as a more substantial barrier than simple time constraints, with many educators describing their work as consuming both their time and mental energy reserves.

The psychological benefits of LTPA emerged as particularly valuable for educators. Many participants described physical activity as providing essential mental separation from work demands. A primary school teacher noted, "When I'm swimming, I can't think about lesson plans or student issues. It forces me to be present in my body instead of my overactive mind." This experience of psychological detachment appeared to serve as a crucial recovery mechanism, with several participants reporting improved patience and emotional regulation in their professional roles.

A strong pattern emerged around the tension between professional identity and personal well-being. Many educators, particularly women and those in early-career stages, described feeling guilt about taking time for themselves. A special education teacher shared, "There's always more work to be done more planning, more grading. Taking an hour for exercise feels like I'm being selfish when I could be preparing for my students." This cultural norm of self-sacrifice was reinforced by institutional expectations and colleague behaviors in many educational settings.

The social dimension of LTPA emerged as both a significant facilitator and benefit. Participants who engaged in group-based activities reported higher adherence and enjoyment. A university lecturer stated, "My Saturday morning hiking group with other teachers is my lifeline. We exercise, but we also debrief our weeks and support each other professionally." These social connections provided both accountability for maintaining activity and valuable emotional support.

Institutional factors significantly influenced LTPA engagement. Participants working in schools that explicitly supported staff well-being reported fewer barriers and higher activity levels. A teacher whose school implemented wellness initiatives noted, "When our principal

started walking meetings and encouraged us to use planning time for quick activity breaks, it changed the whole culture. Exercise became part of our professional practice rather than personal time theft."

The physical benefits of LTPA were particularly valued for their impact on professional performance. Many participants described improved energy levels, better sleep quality, and reduced physical symptoms of stress. A school administrator explained, "I realized that my afternoon fatigue was actually improved by moving my body, not by resting. Now I use my lunch break for a quick walk instead of working through it, and I return to my afternoon tasks with more focus and energy."

These qualitative findings help explain the quantitative results by illustrating the mechanisms through which LTPA benefits educator well-being. The psychological detachment and stress reduction described by participants align with the mediation effects observed statistically, while the institutional and cultural barriers help explain the variations in LTPA engagement across different educational contexts. The social benefits described provide context for the relationship between LTPA and social domain QoL scores, suggesting that the quantitative measures may underestimate the importance of social support aspects of physical activity.

Evidence from both qualitative and quantitative sources points to the notion that in order to help educators practise self-care through activities like LTPA, interventions need to tackle both the behavioural changes that occur on an individual level and the systemic and cultural elements that impact these changes.

Conclusion

This study aimed to examine the intricate link between leisure-time physical activity (LTPA) and quality of life (QoL) among employed educational professionals. The findings provide compelling evidence that LTPA is not merely a personal hobby but a significant and statistically potent factor strongly associated with a higher perceived QoL in this critical population. The research confirms that educators who engage in regular LTPA report markedly better outcomes across all QoL domains, with the most profound benefits observed in psychological well-being (e.g., reduced stress, improved mood, greater resilience) and physical health (e.g., increased energy, reduced fatigue, better sleep). Furthermore, the mixed-methods approach illuminated the central paradox facing educators: while they recognize the transformative benefits of LTPA, their engagement is severely hampered by unique profession-specific barriers, chiefly pervasive mental exhaustion and a culture of self-sacrifice that frames personal time as a luxury rather than a necessity. The identification of foremost facilitators, particularly social support and institutional endorsement, provides a clear pathway for meaningful intervention.

Implications

The results of this study carry significant, actionable implications for various stakeholders committed to improving the educational ecosystem.

- **For Practice:**

- **Individual Level:** Educators should be empowered to reframe LTPA as a fundamental component of their professional sustainability and ethical practice a non-negotiable investment in their capacity to teach effectively and care for others. Strategies like activity scheduling ("exercise appointments") and identifying accountable partners can help overcome motivational barriers.
- **Institutional Level:** School and university leadership must transition from passive wellness advocacy to active structural support. Concrete actions include: instituting "Wellness Wednesdays" with early student dismissal to create space for staff activities, providing subsidized gym memberships or on-site fitness facilities, organizing non-compulsory staff sports teams or walking groups, and encouraging "walking meetings." Critically, leadership must model this behavior to cultivate a culture where disengaging from work for self-care is not only accepted but celebrated.

- **For Policy:**
  - **Initial Teacher Education (ITE):** Accreditation standards for ITE programs must be updated to include mandatory modules on educator self-care and well-being science. This would equip new teachers with foundational knowledge about burnout prevention and practical strategies (like LTPA) to manage stress *before* they enter the classroom, framing well-being as a core professional competency.
  - **Professional Development and Retention:** District and national policy should allocate funding for ongoing, evidence-based well-being initiatives, moving beyond one-off workshops. Policies should also protect teachers' time by scrutinizing administrative burdens, ensuring that contractual planning periods are sacrosanct, thereby creating the temporal space necessary for LTPA.
- **For Further Research:**
  - **Longitudinal Studies:** Research tracking the same educators over multiple years is needed to establish causal pathways between LTPA, burnout reduction, and career longevity.
  - **Intervention Studies:** The field would benefit greatly from experimental designs that implement and evaluate the efficacy of specific LTPA programs (e.g., a 12-week onsite yoga program) on measurable outcomes like cortisol levels, absenteeism, and teacher retention rates.
  - **Qualitative Depth:** Future research could employ ethnographic methods to further explore the intersection of school leadership styles, institutional culture, and the feasibility of engaging in LTPA.

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