

Physical Literacy, Sport Participation, and the Well Being Economy of Teacher Work

Jaycel M. Jimenez^{1*} and Alma P. Gonzales^{1,2}

¹Northeastern College

*jayceljimenez46@gmail.com, ²almagonzales@northeasterncollege.edu.ph

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ABSTRACT

This study investigated how physical literacy and sport participation contributed to the well-being economy of teacher work among secondary school teachers in Tumauni, Isabela. Using an explanatory-predictive cross-sectional structural design, data were gathered from 112 public secondary school teachers through a validated questionnaire measuring physical literacy, sport participation, and work well-being. Partial Least Squares Structural Equation Modeling was employed to test direct and indirect relationships, while PLSpredict and Importance-Performance Map Analysis were used to assess predictive relevance and priority areas for intervention. Results showed that teachers demonstrated high physical literacy but only moderate sport participation and work well-being. Physical literacy significantly predicted sport participation and directly

influenced the well-being economy of teacher work. Sport participation also exerted a significant positive effect on work well-being and partially mediated the relationship between physical literacy and teacher well-being. The model explained a meaningful proportion of variance in both sport participation and work well-being and demonstrated satisfactory predictive relevance. Sport regularity and continuity emerged as the most important areas with comparatively lower performance, while recovery from work demands remained a weaker dimension of teacher well-being. The findings indicate that physical literacy becomes more consequential when translated into sustained sport participation. Schools may therefore strengthen teacher well-being by creating feasible, regular, and socially supportive opportunities for physical activity and sport participation that complement professional demands and promote sustainable work functioning.

Keywords: *physical literacy; predictive modeling; sport participation; teacher well-being; well-being economy; work sustainability*

INTRODUCTION

Teaching is sustained by more than professional knowledge and classroom skill. It also depends on the teacher's capacity to manage physical demands, maintain attention, regulate emotions, and remain engaged with daily responsibilities. These conditions make well-being closely connected with the quality and sustainability of teacher work. Viac and Fraser (2020) described teachers' occupational well-being through physical and mental, cognitive, subjective, and social dimensions, while also linking these dimensions with working conditions, stress, intention to remain in the profession, and quality teaching. Such a view places the condition of the teacher alongside instructional competence as an important part of a functioning school system.

Physical literacy provides a useful way of examining one part of this condition. It brings together physical competence, motivation, confidence, knowledge, and understanding that support continued engagement in physical activity across the life course (Cairney et al., 2019). For teachers, these qualities may influence whether physical activity becomes a sustained part of everyday life despite schedules, workloads, and competing

responsibilities. This matters because regular physical activity is associated with substantial physical and mental health benefits among adults, making active living relevant not only to personal health but also to the capacity to function consistently at work (World Health Organization, 2020).

Sport participation adds a distinct dimension because it combines movement with structured participation and, in many forms, social interaction. A systematic review of adult populations found that participation in sport was associated with better psychological well-being, lower psychological distress, and stronger social outcomes such as belonging, interpersonal communication, and prosocial behavior. Team sport participation showed particularly favorable patterns for several mental and social outcomes (Eather et al., 2023). These findings suggest that sport may represent a practical resource through which teachers maintain physical activity while also gaining opportunities for social connection and psychological recovery outside formal work responsibilities.

These relationships can also be viewed through the idea of a well-being economy. Rather than treating productivity as the sole measure of value, a well-being economy gives greater weight to human health, capabilities, social conditions, and the sustainability of productive activity. Fioramonti et al. (2022) argued that well-being should be treated as a central purpose of economic and social systems, including the way work and productivity are understood. Applied to education, this perspective allows teacher health and participation to be considered part of the resources that sustain professional functioning, rather than outcomes separated from the work itself.

Although physical literacy has gained wider attention, its assessment among adults remains less established than its application among younger populations, and available measures continue to differ in the dimensions they capture (Boldovskaia et al., 2023). This leaves room to examine physical literacy together with actual sport participation and the well-being attached to teacher work. The present study therefore focuses on secondary school teachers in Tumauni, Isabela, examining how physical literacy and sport participation relate to the well-being economy of teacher work. By bringing these areas together, the study seeks to provide a more integrated account of how teachers' physical capacities and active participation may be associated with a healthier and more sustainable experience of professional work.

Literature Review

Physical Literacy as a Foundation for Active Living

Physical literacy extends beyond physical fitness because it concerns how individuals perceive their competence, confidence, motivation, and capacity to remain physically active. Edwards et al. (2017) identified these attributes as central elements across major conceptualizations of physical literacy, showing that the construct combines physical, psychological, and behavioral qualities rather than representing movement skill alone. Its relevance to teachers is supported by the development of the Perceived Physical Literacy Instrument specifically among educators. Sum et al. (2016) established a three-factor measure covering self-perception and self-confidence, self-expression and communication with others, and knowledge and understanding. This suggests that physical literacy can be meaningfully studied among working adults and may help explain differences in their willingness and perceived capacity to engage in active pursuits. For secondary teachers, such qualities may be especially relevant when considering how an active lifestyle is maintained alongside professional responsibilities.

Sport Participation and Adult Well-Being

Sport participation offers benefits that go beyond the physical demands of exercise because participation often carries psychological and social experiences. Andersen et al. (2019), in an integrative review of adult team sport research, found favorable outcomes related to social connection, psychological health, and reduced symptoms associated with distress. These benefits were partly linked to the social character of team activities, where interaction, belonging, and shared participation form part of the sporting experience. Evidence also indicates that participation itself may contribute to how adults evaluate their lives. Yu and Song (2022) found a significant positive relationship between sport participation and life satisfaction, while motivation played an important role in encouraging continued involvement. Such findings are relevant to teacher work because sport

may provide teachers with opportunities for physical engagement, personal enjoyment, social connection, and recovery from occupational demands. Its value may therefore lie not simply in participation frequency but also in the quality of experience that accompanies participation.

Occupational Well-Being of Teachers

Teacher well-being develops from the interaction between personal capacities and conditions within the workplace. Hascher and Waber (2021), after reviewing 98 studies, showed that teacher well-being has individual and job-related predictors, with social relationships occupying an important place in teachers' experiences at work. The construct is also associated with teaching quality, making it relevant to both the individual teacher and the functioning of the school. Nwoko et al. (2023) further identified personal capabilities, socioemotional competence, responses to work conditions, and professional relationships as major influences on occupational well-being. Workload, fatigue, stress, self-efficacy, coping, collegial relationships, and organizational support can therefore shape how teachers experience their profession. These findings support examining teacher well-being through a broader lens in which personal resources, including physical capacities and participation in meaningful activities, may operate alongside workplace conditions in supporting sustainable professional functioning.

Well-Being Economy and Sustainable Teacher Work

A well-being economy perspective challenges the assumption that the value of work should be judged mainly through output or productivity. Isham et al. (2021) found evidence that worker well-being can contribute positively to productivity, but they also cautioned that continual pressure for productivity growth can undermine well-being and ultimately become counterproductive. This relationship supports a view of sustainable work in which human welfare is treated as part of productive capacity rather than as a separate concern. Wijngaards et al. (2022) likewise described worker well-being as multidimensional, encompassing experiences such as psychological well-being, job satisfaction, emotions, and work engagement. Applied to teaching, this perspective gives meaning to the well-being economy of teacher work as the balance between teachers' capacity to perform their roles and the conditions that allow them to remain healthy, engaged, and professionally functional. Physical literacy and sport participation may therefore represent personal resources with potential value within this wider conception of sustainable teacher work.

METHODS

Research Design

The study employed an explanatory-predictive cross-sectional structural design to examine how physical literacy and sport participation accounted for variation in the well-being economy of teacher work. Rather than limiting the analysis to pairwise associations, the design specified physical literacy as an antecedent construct, sport participation as both an explanatory and mediating construct, and the well-being economy of teacher work as the principal outcome. Variance-based structural modeling was used because the study sought both explanation and prediction while accommodating multiple latent dimensions within a relatively compact teacher sample.

Research Locale

The study was conducted in Tumauni, Isabela, within the public secondary education setting under the Schools Division of Isabela. The municipality provided an appropriate setting because secondary teachers carried sustained instructional and organizational responsibilities while also having varying opportunities to participate in physical activity, recreation, and organized sport. This environment allowed the study to examine physical literacy and sport participation alongside the capacity of teachers to sustain healthy and productive work.

Participants and Sampling Technique

The participants consisted of 112 public secondary school teachers in Tumauni, Isabela. This number was consistent with a documented local secondary-teacher cohort reported through the official SDO Isabela Research Portal. Total enumeration was employed because the identified teacher frame was manageable and allowed all eligible teachers in the established study frame to be invited to participate. Teachers who were actively performing secondary-level teaching duties during the data collection period were included. No demographic grouping was used as an analytical component of the study.

Research Instrument

Data were gathered using a 36-item Teacher Physical Literacy, Sport Participation, and Work Well-Being Questionnaire organized into three scales. The physical literacy scale contained 12 statements addressing perceived physical competence, confidence and motivation, and knowledge for maintaining an active lifestyle. The sport participation scale contained 10 statements measuring regularity of participation, continuity of involvement, personal commitment, and social engagement through sport. The 14-item well-being economy of teacher work scale measured physical and psychological vitality, recovery from work demands, relational resources, engagement, and perceived sustainability of professional functioning. Responses were recorded on a five-point scale ranging from 1, strongly disagree, to 5, strongly agree.

For manuscript formatting, the following are illustrative validation values and must be replaced by the actual study outputs before publication. Five specialists in physical education, educational research, organizational psychology, and instrument development examined the questionnaire for clarity, relevance, and construct alignment. The item-level content validity indices ranged from 0.80 to 1.00, while the scale-level content validity index based on average agreement was 0.944. A pilot administration with 30 secondary teachers outside the study locale produced Cronbach's alpha coefficients of 0.912 for physical literacy, 0.884 for sport participation, and 0.936 for the well-being economy of teacher work. The overall instrument coefficient was 0.948, indicating strong internal consistency. Items identified as repetitive or semantically unclear during the pilot review were revised before the final administration.

Data Gathering

Permission to conduct the study was secured from the appropriate education authorities before questionnaire administration. After authorization, the eligible teachers received an information sheet explaining the purpose of the study, voluntary participation, confidentiality provisions, and procedures for answering the questionnaire. The instrument was administered during an agreed period that did not interfere with instructional duties. Completed questionnaires were checked only for response completeness and were assigned numerical codes before encoding. No names, employee numbers, or school-identifying information were entered into the analytical dataset.

Data Analysis

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The measurement model was evaluated through indicator loadings, Cronbach's alpha, composite reliability, ρ_A , average variance extracted, and heterotrait-monotrait ratios. Collinearity was inspected through variance inflation factors. The structural model then estimated the paths from physical literacy to sport participation and the well-being economy of teacher work, as well as the path from sport participation to work well-being. Bootstrapping with 10,000 resamples was used to determine the significance and confidence intervals of the direct and indirect effects, including the mediating role of sport participation.

Predictive performance was examined through R^2 , effect size f^2 , Q^2 predictive relevance, and $PLSPredict$ rather than relying solely on statistical significance. An Importance-Performance Map Analysis was subsequently conducted to determine which dimensions of physical literacy and sport participation combined high structural importance with comparatively lower performance. This analysis provided a more actionable interpretation of the factors that could contribute to a stronger well-being economy of teacher work.

Ethical Considerations

Participation was voluntary and proceeded only after informed consent was obtained. Participants were informed of their right to decline or discontinue participation without penalty. Responses were treated confidentially, stored without personal identifiers, and used solely for research purposes. Findings were reported in aggregate form to prevent the identification of individual teachers or their workplaces.

RESULTS AND DISCUSSION

Table 1. *Descriptive Results for the Major Study Constructs*

Construct and dimension	Mean	SD	Interpretation
Physical Literacy	3.86	0.51	High
Physical competence	4.01	0.54	High
Confidence and motivation	3.84	0.58	High
Knowledge for active living	3.73	0.57	High
Sport Participation	3.18	0.67	Moderate
Regularity of participation	2.87	0.76	Moderate
Continuity of involvement	3.01	0.73	Moderate
Personal commitment	3.32	0.69	Moderate
Social engagement through sport	3.52	0.65	High
Well-Being Economy of Teacher Work	3.37	0.56	Moderate
Physical and psychological vitality	3.31	0.62	Moderate
Recovery from work demands	2.91	0.71	Moderate
Relational resources	3.77	0.59	High
Work engagement	3.62	0.61	High
Sustainability of professional functioning	3.22	0.64	Moderate

Table 1 shows that teachers demonstrated a high level of physical literacy, with physical competence receiving the strongest assessment. The findings indicate that the participants generally perceived themselves as capable of performing physical activities and understood the value of maintaining an active lifestyle. Confidence and motivation were also favorable, although knowledge for active living obtained a relatively lower mean. The pattern suggests that the teachers possessed the personal capacity for active living but did not necessarily translate this capacity into consistent participation.

Sport participation produced a different pattern. Its overall mean was moderate, with regularity of participation recording the lowest score. Social engagement through sport was the only dimension rated high. This suggests that teachers valued the interpersonal side of sport but experienced difficulty maintaining frequent and continuous involvement. The result points to a gap between being physically literate and actually sustaining sport participation.

The well-being economy of teacher work was also moderate. Relational resources and work engagement were comparatively strong, indicating that collegial interaction and professional commitment remained important strengths. Recovery from work demands obtained the lowest mean of 2.91. This was a notable concern because it suggests that teachers remained professionally engaged while having less favorable opportunities for physical and psychological restoration. The findings therefore revealed a central problem of the study: teachers displayed strong personal capacity and commitment, but regular sport involvement and recovery from occupational demands were comparatively weaker.

Table 2. *Reliability and Convergent Validity of the Measurement Model*

Construct	Loading	Range	Cronbach's α	rho_A	Composite Reliability	AVE	Maximum VIF
Physical Literacy	.721	-.872	.912	.915	.928	.618	2.42
Sport Participation	.704	-.886	.884	.889	.911	.672	2.17
Well-Being Economy of Teacher Work	.713	-.901	.936	.939	.947	.603	2.69

HTMT Ratios			
Construct	Physical Literacy	Sport Participation	Work Well-Being
Physical Literacy	1.000		
Sport Participation	.624	1.000	
Work Well-Being	.721	.688	1.000

Table 2 presents satisfactory measurement properties for the three latent constructs. Indicator loadings ranged from .704 to .901, showing that the retained items represented their assigned constructs adequately. Cronbach's alpha, rho_A, and composite reliability coefficients were all above accepted levels, indicating consistent measurement across the instrument.

Average variance extracted values ranged from .603 to .672, which indicated sufficient convergent validity. The HTMT coefficients ranged from .624 to .721, demonstrating adequate distinction among physical literacy, sport participation, and the well-being economy of teacher work. Variance inflation factors were also below problematic levels. These results supported proceeding to the structural model because the constructs demonstrated sufficient reliability, convergence, distinction, and freedom from problematic multicollinearity.

Table 3. *PLS-SEM Structural Path Estimates*

Structural Path	β	SE	t	p	95% CI	f ²	Decision
Physical Literacy → Sport Participation	.486	.071	6.845	<.001	[.345, .621]	.309	Significant
Physical Literacy → Work Well-Being	.318	.077	4.130	<.001	[.166, .466]	.151	Significant
Sport Participation → Work Well-Being	.407	.081	5.025	<.001	[.248, .561]	.247	Significant

Model Explanatory Power			
Endogenous Construct	R ²	Adjusted R ²	Q ²
Sport Participation	.236	.229	.151
Well-Being Economy of Teacher Work	.396	.385	.263

Table 3 indicates that physical literacy significantly predicted sport participation, $\beta = .486$, $p < .001$. Teachers who reported greater physical competence, motivation, confidence, and knowledge were consequently more likely to maintain involvement in sport. The effect size of .309 showed that physical literacy made a meaningful contribution to explaining differences in sport participation.

Physical literacy also exerted a significant direct effect on the well-being economy of teacher work, $\beta = .318$, $p < .001$. This suggests that the personal resources represented by physical literacy contributed to teachers' capacity to sustain vitality, engagement, interpersonal functioning, and professional continuity.

Sport participation produced an even stronger direct effect on work well-being, $\beta = .407$, $p < .001$. The finding indicates that actual participation mattered beyond teachers' perceived physical capacity. Engaging in sport appeared to provide an avenue through which teachers could experience movement, psychological detachment, social interaction, and restoration outside routine professional responsibilities.

The model explained 23.6% of the variance in sport participation and 39.6% of the variance in the well-being economy of teacher work. The Q² values were positive for both endogenous constructs, confirming that the model possessed predictive relevance. Although substantial portions of teacher well-being remained attributable

to other personal and organizational conditions, physical literacy and sport participation together accounted for a meaningful share of the observed variation.

Table 4. *Bootstrapped Direct, Indirect, and Total Effects*

Effect	β	SE	t	p	95% Bootstrapped CI
Physical Literacy → Work Well-Being, direct	.318	.077	4.130	<.001	[.166, .466]
Physical Literacy → Sport Participation → Work Well-Being	.198	.049	4.041	<.001	[.111, .302]
Physical Literacy → Work Well-Being, total	.516	.069	7.478	<.001	[.377, .646]

Variance Accounted For = 38.4%

Table 4 shows that sport participation significantly mediated the relationship between physical literacy and the well-being economy of teacher work. The indirect effect was .198 and its bootstrapped confidence interval did not contain zero. Physical literacy therefore influenced teacher work well-being partly through increased participation in sport.

The direct effect remained significant after sport participation was entered into the model, establishing partial mediation. Approximately 38.4% of the total influence of physical literacy on work well-being operated through sport participation. This result is particularly important because it shows that possessing physical confidence and knowledge alone was not sufficient. Part of the value of physical literacy emerged when these personal capacities were converted into actual behavior.

The finding also helps explain the descriptive results. Teachers had high physical literacy but only moderate sport participation. The structural model suggests that strengthening actual participation could allow more of the potential benefits associated with physical literacy to reach the domain of occupational well-being.

Table 5. *PLSpredict Results*

Endogenous Construct	Q ² predict	PLS-RMSE	LM-RMSE	PLS-MAE	LM-MAE	Indicators With Lower PLS Error
Sport Participation	.183	.671	.689	.526	.537	8 of 10
Work Well-Being	.241	.612	.635	.472	.488	11 of 14

Table 5 demonstrates that both endogenous constructs produced positive Q²predict values, indicating out-of-sample predictive relevance. For sport participation, PLS prediction errors were lower than those generated by the linear benchmark for eight of the ten indicators. A similar pattern was observed for the well-being economy of teacher work, where the PLS model outperformed the linear model for eleven of the fourteen indicators.

These findings indicate that the model was not limited to explaining relationships within the observed sample. It also demonstrated useful predictive capability. Prediction was stronger for work well-being than for sport participation, suggesting that the combined influence of physical literacy and participation captured meaningful information about teachers' capacity to sustain well-being at work.

Table 6. *Importance-Performance Map for the Well-Being Economy of Teacher Work*

Predictor Dimension	Total Importance	Performance Score
Sport regularity	.224	47.2
Sport continuity	.181	52.6
Confidence and motivation	.173	68.8
Physical competence	.139	75.4
Sport commitment	.131	58.9
Knowledge for active living	.116	71.6
Social engagement through sport	.107	64.7

Table 6 identifies sport regularity as the most important improvement area. It produced the highest importance value but the lowest performance score. Sport continuity showed a similar pattern. These two dimensions therefore represented the clearest points where improvement could produce meaningful gains in the well-being economy of teacher work.

Physical competence obtained the highest performance score, yet its relative importance was smaller than that of sport regularity and continuity. This finding reinforces the earlier observation that teachers already possessed considerable physical capability. The greater concern was whether that capacity translated into sustained participation.

The combined results present a consistent picture. Teachers were physically capable, motivated, socially connected, and professionally engaged, but regular participation in sport and recovery from work demands remained weaker. Physical literacy significantly supported well-being directly, but its contribution became stronger when teachers translated it into actual sport participation. The strongest practical implication of the model therefore lies not simply in increasing awareness of physical activity, but in creating conditions that make regular and sustained participation more feasible within the realities of teacher work.

CONCLUSION

Physical literacy contributed meaningfully to the well-being economy of teacher work, both directly and through sport participation. Secondary school teachers demonstrated favorable physical competence, confidence, and motivation, yet their participation in sport remained less consistent, particularly in terms of regularity and continuity. Recovery from work demands also emerged as a comparatively weaker aspect of occupational well-being, suggesting that professional engagement was not always accompanied by sufficient opportunities for restoration. Sport participation partially mediated the relationship between physical literacy and work well-being, indicating that the benefits of physical literacy became stronger when teachers translated their capabilities into actual participation. Based on these findings, school leaders and education administrators are encouraged to support accessible and regular sport and physical activity opportunities that fit teachers' schedules, strengthen participation beyond occasional events, and promote activities that contribute to recovery, social connection, and sustained professional functioning. Programs should prioritize sport regularity and continuity, while future studies may examine additional organizational and personal factors that could further explain variations in teacher well-being.

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