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The Role of Lifestyle Factors on the Dance Performance of Students in an Urban High School

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Abstract: Dance performance integrates technical, creative, and expressive skills; however, the extent to which general lifestyle factors relate to these abilities remains unclear. This study examined the relationships among physical activity, dietary patterns, nutritional status, and dance performance among Grade 9 junior high school students. Employing a descriptive–correlational design, data were collected from 324 students using the Global Physical Activity Questionnaire (GPAQ), a modified 15-item Food Frequency Questionnaire (FFQ), body mass index (BMI) classification, and a five-dimensional dance performance rating scale. Descriptive statistics and Pearson correlation analyses were used to determine levels and associations among the study variables. Results indicated that students were generally moderately active, with active travel contributing most to daily physical activity. Dietary quality was rated as fair, characterized by regular consumption of fruits, vegetables, fish, and breakfast foods, alongside frequent intake of processed, sugary, and high-salt items. Although the mean BMI was within the normal range, nearly half of the participants were classified as underweight. The dance performance was generally proficient, with higher ratings for creativity and synchronization. Correlation analyses revealed very weak associations between physical activity, dietary patterns, BMI, and dance performance, with most coefficients approaching zero. Although a small number of correlations were statistically significant, their negligible magnitudes indicate no practical predictive value. These findings suggest that dance performance is more strongly associated with dance-specific motor learning, coordination, and expressive development than with general lifestyle characteristics. Accordingly, efforts to enhance dance performance may need to prioritize structured, discipline-specific training that develops technical execution, rhythmic precision, coordination, and expressive competence rather than relying on lifestyle factors alone.

Keywords: physical activity, dietary patterns, nutritional status, dance performance, adolescents, motor learning

Introduction

Dance is an integral component of high school Physical Education in the Philippines, taught not only as a cultural form but also as a structured performance task that draws on coordination, muscular endurance, creativity, and interpretive skill (Gonzales & Stenson, 2024; Wind et al., 2020). At the same time, adolescents increasingly report lifestyle patterns—such as lower dietary quality, reduced participation in physical activity, and more sedentary behavior—that may shape general physical fitness and readiness for school-based performance tasks (Khan et al., 2019; Nurwanti et al., 2019; Park et al., 2020). These patterns are particularly evident in urban settings, where participation in organized or sustained physical activity has declined among youth populations (Ekelund et al., 2019; Fernández-Verdejo & Suárez-Reyes, 2021).

International evidence links malnutrition and insufficient moderate-to-vigorous physical activity to outcomes relevant to movement competence, including reduced motor coordination, early fatigue, and elevated injury risk (Angioi et al., 2009; Lu et al., 2024). Low dietary quality—characterized by high consumption of processed foods and inadequate micronutrient intake—has also been associated with diminished cognitive functioning and reduced movement efficiency, which may influence sustained engagement in physically demanding activities (Bai et al., 2022; Ekelund et al., 2019). However, in performance domains such as dance, observable outcomes are additionally shaped by task-specific practice, structured feedback, and exposure to choreographic demands. Consequently, general lifestyle indicators may support baseline physical

readiness but do not necessarily translate into measurable differences across higher-order dance performance criteria such as creativity, expression, or synchronization (Brown et al., 2020; Keay et al., 2020).

Within the Philippine curriculum, dance is positioned as a medium for identity formation, creative expression, and physical development. Local studies nevertheless indicate that many adolescents engaged in school-based dance activities experience inconsistent participation in physical activity programs and nutritional constraints that may influence general physical readiness rather than dance-specific skill execution (Calica & Lobo, 2022; Lobo, 2024). Urban contexts may further intensify these conditions through food insecurity, limited dietary diversity among low-income groups, increased screen-based behaviors, and fewer structured opportunities for out-of-school physical engagement (Biswas et al., 2023; Clarke et al., 2019; Gara & Winsler, 2020; Nurwanti et al., 2019). Although these contextual factors were not directly measured in the present study, they provide an important background for examining whether broad lifestyle indicators meaningfully predict school-based dance performance or whether such performance is better understood as a domain-specific skill set weakly associated with general lifestyle behaviors.

From the perspective of an urban public school Physical Education teacher–researcher, classroom observations suggested that some students enrolled in dance classes demonstrated limited endurance, inconsistent movement efficiency, and varying levels of physical readiness during rehearsals and performance tasks. While these observations suggested possible links between students' everyday habits and their dance-related capacities, they remained experiential and anecdotal. Accordingly, these classroom realities served as a practical impetus for systematic inquiry rather than as empirical evidence, motivating the need to test whether commonly measured lifestyle practices are associated with dance performance among junior high school students in Cagayan de Oro City without presupposing such relationships.

This study, therefore, examined three lifestyle indicators—physical activity, dietary patterns, and nutritional status—as independent variables conceptualized not as determinants but as potential correlates of dance performance. Physical activity was defined as students' self-reported engagement across varying intensities and contexts, including school-related movement, active transport, and recreational activity, rather than participation in dance-specific training (WHO, 2021a, 2021b). Dietary patterns were treated as indicators of habitual food consumption and perceived diet quality, reflecting general energy availability rather than specific nutritional prescriptions for performance enhancement (Bai et al., 2022; Nicholas & Grafenauer, 2023). Nutritional status was operationalized using BMI-based classifications as a broad proxy for physical readiness, with explicit acknowledgment of BMI's limitations in capturing functional capacity, neuromuscular coordination, or dance-specific conditioning (Biswas et al., 2023; Clarke et al., 2019).

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AI Declaration: *AI tools were used to prepare this manuscript. ChatGPT was utilized to assist in refining language, structuring content, and summarizing information under the authors' direct supervision. ChatGPT and Grammarly AI was also utilized to improve grammar, clarity, and tone. The authors conducted final writing, interpretation, and revisions manually.*

Data Availability Statement: *The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request. Data will be stored securely for a minimum of five years following publication.*

Dance performance, as the dependent variable, was defined as a domain-specific, task-based outcome evaluated across five analytic dimensions: creativity, expression and interpretation, impression, technical quality, and synchronization (Sato, 2022; Farmer & Brouner, 2021; Reva & Zolotareva-Pasyuta, 2024; Wang et al., 2020; Vargas-Macías et al., 2021; Han & Shi, 2024; Shi & Han, 2025). No direct theoretical pathways were presumed between specific lifestyle indicators and individual performance dimensions. Instead, the conceptual framework was designed to test whether broad lifestyle variables are associated with dance performance outcomes or whether these outcomes remain largely independent of general lifestyle behaviors in an urban junior high school context.

This study is situated within the literature recognizing that lifestyle behaviors are interrelated and may shape overall physical readiness for movement-based activities. Prior research suggests that greater engagement in physical activity is associated with improved balance, neuromuscular control, and movement efficiency, whereas adequate diet quality is linked to stamina and cognitive functioning (Argyriou et al., 2024; Clarke et al., 2019; Gonzales & Stenson, 2024). However, such evidence does not uniformly extend to domain-specific performance tasks. Accordingly, rather than presuming performance advantages, the present study examined whether students with more favorable lifestyle profiles demonstrate measurably higher dance performance, or whether dance performance operates independently of broad lifestyle indicators within a school-based Physical Education context.

From a theoretical standpoint, Motor Learning and Control Theory provides the primary analytical lens for this investigation, emphasizing that coordination and technical skill acquisition largely arise from task-specific practice, repetition, and feedback (Bernstein, 1967; Schmidt, 1975). In this view, general lifestyle behaviors may support overall readiness for learning but are not expected to directly predict performance in structured dance assessments. Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1979) is referenced in a limited contextual sense to acknowledge that students' lifestyle behaviors are embedded within family, school, and community environments; however, these ecological influences were not directly measured and are therefore not treated as explanatory mechanisms in the present analysis. Discussions of nutrition are similarly framed as background considerations related to energy availability and general health rather than as direct determinants of artistic or technical dance performance (Argyriou et al., 2024; Man et al., 2020; Panagoulias et al., 2022).

Aligned with national and international educational priorities, this study contributes evidence relevant to the Department of Education's emphasis on learner wellness, physical fitness, and arts integration, as well as to the United Nations Sustainable Development Goals, particularly SDG 3 (Good Health and Well-being) and SDG 4 (Quality Education). Importantly, this contribution lies in clarifying the limits of lifestyle-based explanations for school-based dance performance, thereby informing whether educational interventions should prioritize general health promotion or place greater emphasis on task-specific training and instructional strategies in urban public school settings.

The study specifically aimed to (1) describe students' physical activity levels, dietary patterns, and nutritional status; (2) assess dance performance across defined analytic dimensions; and (3) determine whether physical activity level, dietary pattern, and nutritional status are statistically associated with dance performance among junior high school students. Rather than presuming predictive or causal relationships, the analysis was explicitly designed to test whether commonly used lifestyle indicators are associated with a domain-specific performance outcome.

This study was delimited to junior high school students in Cagayan de Oro City who were enrolled in Physical Education classes with a dance component. The findings, therefore, apply specifically to school-based Physical Education dance tasks and should not be generalized to formally trained, competitive, or professional dancers. Lifestyle factors were operationalized using indicators of physical activity, dietary patterns, and body mass index. Other potentially relevant variables—such as sleep behavior, psychological well-being, training history, and socioeconomic status—were not examined, as they fell outside the scope of the present correlational design. These factors remain theoretically relevant and are recommended for inclusion in future research aimed at explaining variation in dance performance beyond general lifestyle behaviors. Given the use of a quantitative correlational design and reliance on standardized self-report and performance-based instruments, the findings should be interpreted within this specific educational context and not generalized to non-dance student populations or rural school settings without further empirical validation.

Methods and Materials

This study employed a descriptive correlational research design to examine associations among physical activity, dietary patterns, nutritional status, and dance performance among junior high school students. A correlational approach was selected to estimate the strength and direction of relationships among naturally occurring variables without experimental manipulation or causal inference (Baluyos et al., 2019; Eduardo & Linaugo, 2023; Esteban et al., 2023; Siedlecki, 2020).

Participants were Grade 9 students enrolled in Physical Education classes with a dance component in two public high schools in Cagayan de Oro City. From a total population of 641 students, 589 comprised the sampling frame after excluding students who were not enrolled in PE classes with a dance component or did not meet initial eligibility requirements. Fifty-two students were assigned to pilot testing and instrument refinement and were excluded from the main study sample to prevent measurement contamination. The minimum required sample size ($n = 238$) was determined using Yamane's formula, which is appropriate for finite populations, with a margin of error of 0.05.

A stratified simple random sampling technique was employed, with stratification based on school and class section to ensure proportional representation. Within each stratum, participants were selected using Jamovi's random sampling function with fixed seed values. To account for possible attrition due to absence, withdrawal, or non-consent, a 10% reserve list per section was prepared. Replacement participants were drawn using the same randomization procedure within the corresponding stratum to preserve sampling integrity.

Inclusion criteria required that participants (1) be officially enrolled as Grade 9 students in Physical Education classes with a dance component, (2) provide informed assent with corresponding parental consent, and (3) be medically cleared for participation in moderate-to-vigorous dance movements based on the Physical Activity Readiness Questionnaire (PAR-Q). Exclusion criteria applied to students who were not enrolled in Grade 9 or in PE classes with dance components, failed to submit assent or parental consent, had medical conditions restricting physical exertion, or were not participating in dance activities despite enrollment. Participation was voluntary, and students were informed of their right to decline or withdraw at any point without academic penalty.

Physical activity was assessed using a modified version of the Global Physical Activity Questionnaire (GPAQ) developed by the World Health Organization for population-level surveillance. In this study, an 18-item Likert-type format was used to capture students' perceived engagement across three domains: school/home-related activity, travel-related activity, and recreational activity, including sedentary behavior. Items were rated on a five-point scale (1 = strongly disagree to 5 = strongly agree). Given this modification, GPAQ scores were treated as contextual proxies for general activity level rather than as MET-minute estimates, and direct comparability with WHO surveillance data was not assumed. This approach limits differentiation among intensity levels central to standard GPAQ scoring and was therefore interpreted cautiously. GPAQ domains were included to reflect overall movement exposure, which may indirectly relate to physical readiness for school-based dance tasks rather than to dance-specific training.

Dietary patterns were assessed using a contextualized 15-item Food Frequency Questionnaire (FFQ) adapted from Rothenberg et al. (2021) and previously used in adolescent dietary assessment. The instrument captured habitual intake of commonly consumed foods in urban Filipino settings and included reverse-coded items reflecting unhealthy eating behaviors. Scores were interpreted as indicators of overall dietary quality rather than precise measures of nutrient intake.

Nutritional status was derived from DepEd School Form 8, which documents students' height and weight and classifies BMI-for-age using age- and sex-adjusted WHO growth reference standards for adolescents. Anthropometric measurements were obtained and validated by trained school health personnel in accordance with DepEd standard measurement protocols. BMI-for-age was used as a screening indicator of general nutritional status, with explicit acknowledgment that it does not adequately capture body composition, functional capacity, or dance-specific physical conditioning.

Dance performance was assessed using a five-point analytic rubric adapted from Sato (2022), covering five dimensions: creativity, expression and interpretation, impression, technical quality, and synchronization. The adaptation involved contextual modification of performance descriptors while retaining the original scoring anchors. Performances were evaluated during regular PE assessments by three licensed Physical Education teachers who underwent a calibration session prior to scoring. Dimension scores were averaged to produce an overall dance performance score.

The GPAQ has demonstrated acceptable test–retest reliability (ICC = 0.50–0.90), although concurrent validity varies across domains (Keating et al., 2019). These psychometric properties apply to the original instrument, and findings from the modified version should be interpreted with caution. The adapted FFQ shows fair-to-substantial agreement with diet history measures (Rothenberg et al., 2021). Although BMI-for-age has limited sensitivity to muscularity and fat distribution (Jefferis et al., 2023; Kangalgil et al., 2024), it remains a widely used nutritional screening indicator in school-based research. Inter-

rater reliability for dance performance ratings was established using Krippendorff's alpha, with coefficients meeting acceptable thresholds ($\alpha \geq .80$).

Scores were interpreted using study-specific classification schemes derived from observed score distributions. Physical activity and dietary pattern scores were categorized into five descriptive levels ranging from very low to very high. Nutritional status followed WHO BMI-for-age classifications. Dance performance scores, based on a five-point analytic scale, were interpreted as beginner, developing, intermediate, advanced, and elite. Uniform cutoff ranges were applied to enhance interpretive consistency across constructs, assuming that Likert-scale composites approximate interval-level properties.

This study adhered to ethical standards consistent with the Belmont Report and the Data Privacy Act of 2012 (RA 10173). Ethical approval was obtained from the Lourdes College Research Ethics Committee (LC-REC), followed by authorization from the Department of Education (DepEd). Written student assent and parental consent were secured prior to data collection. Confidentiality was ensured through coded Study IDs and encrypted, password-protected data storage. BMI records were accessed only after official authorization and handled exclusively by the principal investigator. Pilot testing informed minor refinements in item clarity and administration procedures. All identifying materials will be securely destroyed after the data retention period specified in institutional research guidelines, and only aggregate findings will be reported.

Statistical analyses were conducted using Jamovi. Descriptive statistics (means and standard deviations) summarized physical activity, dietary patterns, nutritional status, and dance performance. Pearson product–moment correlation coefficients were used to examine linear associations between lifestyle indicators and dance performance, given the approximately continuous nature of composite scores. Assumptions of normality, linearity, and absence of extreme outliers were examined prior to analysis. Statistical significance was interpreted alongside the magnitude of the correlation to distinguish statistical from practical relevance.

Results

The study's analysis examines how lifestyle influences students' dance performance (e.g., physical activity, dietary patterns, nutritional status). Table 1 presents the participants' physical activity levels across three domains: work or study, travel, and recreation.

Table 1

Physical Activity Levels of Respondents Across Work/Study, Travel, and Recreational Domains

Range			Description	f	%
4.51	-	5	Highly Active	5	1.54
3.51	-	4.5	Active	131	40.43
2.51	-	3.5	Moderately Active	171	52.78
1.51	-	2.5	Low Active	17	5.25
1	-	1.5	Inactive	0	0.00
Total				324	100%

No.	Indicators	Mean	SD	Description
	A. Physical Activity at Work or Study			
1	My work or study involves vigorous activities lasting ≥10 minutes.	3.32	1.02	Moderately Active
2	I perform vigorous physical activities at work or study on multiple days each week.	3.30	0.90	Moderately Active
3	I spend long durations doing vigorous activities at work or school on typical days.	3.38	0.90	Moderately Active
4	My work or study involves moderate activities (e.g., brisk walking).	3.60	1.04	Active
5	I perform moderate-intensity physical activities at work or study on several days per week.	3.44	1.00	Moderately Active
6	I spend a significant amount of time doing moderate activities during a typical work-day.	3.41	0.89	Moderately Active
	Category Mean	3.41	0.97	Moderately Active
	B. Physical Activity During Travel			
7	I walk/cycle for at least 10 minutes continuously when traveling to and from places.	3.83	1.07	Active
8	I travel by walking or cycling several times a week.	3.54	1.16	Active
9	I spend a significant amount of time walking/cycling for transportation on typical days.	3.54	0.99	Active
10	I choose active transportation (e.g., walking) over riding motor vehicles whenever possible.	3.42	1.10	Moderately Active
11	I use stairs or walk short distances instead of riding public transportation or vehicles.	3.52	1.01	Active
12	I plan my trips to include more walking or cycling to stay physically active.	3.45	0.98	Moderately Active
	Category Mean	3.55	1.06	Active
	C. Recreational Physical Activity			
13	I engage in vigorous leisure activities (e.g., football) lasting at least 10 minutes.	3.32	1.11	Moderately Active
14	I participate in vigorous sports or fitness activities on multiple days per week.	3.16	1.07	Moderately Active
15	I spend long periods in vigorous physical leisure activities on typical days.	3.12	0.91	Moderately Active
16	I engage in moderate recreational activities (e.g., swimming) for ≥10 minutes.	3.43	0.97	Moderately Active
17	I do moderate recreational activities several days per week.	3.32	0.90	Moderately Active
18	I spend a good amount of time in moderate leisure activities on typical days.	3.46	0.94	Moderately Active
	Category Mean	3.30	0.99	Moderately Active
	Overall Mean	**3.42**	**0.53**	**Moderately Active**

The summed domain scores yielded a mean physical activity score of 3.42 (SD = 0.53), corresponding to a moderately active classification based on the study's scoring framework. The frequency distribution further indicates that most students fell within the moderately active (52.78%) and active (40.43%) categories, with few classified as highly active (1.54%) or low active (5.25%), and none classified as inactive. Because physical activity was measured using Likert-type self-reports, these

classifications reflect perceived engagement levels across activity domains rather than objectively verified intensity or conditioning.

Across domains, work- or study-related activity reflected students' reported participation in routine school- and home-related movement (M = 3.41, SD = 0.97). This domain is best interpreted as general movement exposure associated with daily tasks rather than training-related exertion, and thus it should not be assumed to represent dance-specific physical preparation.

Travel-related activity showed the highest reported engagement (M = 3.55, SD = 1.06), indicating that active commuting (e.g., walking or similar travel-related movement for practical transportation) substantially contributed to overall activity scores. While active travel increases overall daily movement, it may not translate directly to dance-specific conditioning or performance readiness, which depends on task-specific practice and motor coordination demands.

Leisure-time activity was also classified as moderately active (M = 3.30, SD = 0.99), suggesting regular self-reported participation in recreational movement. However, because the scale captures perceived engagement rather than intensity, interpretations about "moderate" versus "vigorous" leisure activity should be treated cautiously. Overall, the pattern indicates that students report meaningful lifestyle-related activity, but this should not be equated with conditioning sufficient for dance performance, which requires domain-specific technical practice, timing, and coordination.

Table 2 presents participants' dietary patterns based on the frequency with which they consumed healthy and unhealthy food items, as measured by the 15-item Food Frequency Questionnaire.

Table 2

Dietary Pattern of the Respondents

Range	Description	f	%
4.51 - 5	Outstanding	0	0.00
3.51 - 4.5	Good	136	41.98
2.51 - 3.5	Fair	187	57.72
1.51 - 2.5	Poor	1	0.31
1 - 1.5	Very Poor	0	0.00
Total		324	100%

No.	Items	Mean	SD	Description
1	I eat vegetables (e.g., malunggay, talbos ng kamote, pechay, kangkong).	3.73	0.98	Good
2	I eat fruits (e.g., banana, mango, papaya, guava, calamansi).	3.91	0.95	Good
3	I eat local root crops (e.g., kamote, carrots, potato, onion).	3.47	1.10	Fair
4	I eat fish or seafood (e.g., tilapia, bangus, galunggong, dilis, tuyo).	3.73	1.00	Good
5	I eat meat (e.g., pork, beef, carabao, goat).	3.69	1.04	Good
6	I eat poultry (e.g., native chicken, commercial chicken, duck).	3.62	1.10	Good
7★	I eat processed foods (e.g., hotdog, canned meat, noodles, chips).	2.32*	1.02	Poor
8	I eat breakfast.	4.19	1.13	Good
9	I eat rice with my meals.	4.67	0.78	Outstanding
10	I consume milk or dairy products (e.g., milk, cheese, yogurt).	3.40	1.08	Fair
11★	I consume unhealthy types of milk or avoid milk altogether.	3.34*	1.17	Fair
12★	I use unhealthy cooking oils or fats (e.g., lard, margarine, palm oil).	3.19*	1.22	Fair
13★	I drink sugary beverages (e.g., soft drinks, powdered juice, energy drinks).	2.66*	1.07	Fair
14★	I add extra salt or soy sauce to my food before tasting.	2.83*	1.18	Fair
15★	I eat street food (e.g., kwek-kwek, fish balls, isaw, chicharon).	2.72*	1.10	Fair
	Overall Mean	**3.43**	**0.32**	**Fair**

Note. Items marked with ★ are reverse-coded to reflect lower dietary quality when high consumption of unhealthy foods or behaviors is reported.

In *Table 2*, the overall mean dietary pattern score was 3.43 (SD = 0.32), indicating that students were generally classified under fair dietary quality. More than half of respondents (57.72%) were classified as fair, while a substantial proportion (41.98%) were classified as having good dietary quality. No participants were categorized as very poor or excellent.

At the item level, higher mean scores were observed for core nutrient-rich food groups, including vegetables (M = 3.73), fruits (M = 3.91), fish and seafood (M = 3.73), meat (M = 3.69), and poultry (M = 3.62). Indicators of structured eating behavior also showed higher mean values, with breakfast consumption reported at M = 4.19. Rice intake, a common component of Filipino dietary patterns, was reported at M = 4.67, meeting the criterion for excellent dietary adequacy.

Lower mean scores were observed for reverse-coded items, including fast-food consumption, intake of sugar-sweetened beverages, street-food consumption, and use of unhealthy oils and added salt. Specifically, students reported moderate to occasional intake of fast food (M = 2.32), sweetened beverages (M = 2.66), and street foods (M = 2.72). The use of unhealthy fats and added salt ranged from M = 3.19 to 3.34. Milk and dairy consumption was rated at an average level (M = 3.40).

Meanwhile, *Table 3* presents the respondents' nutritional status, as indicated by their Body Mass Index (BMI). As shown in *Table 3*, nearly half (47%) of participants were underweight, followed by those with normal weight (44%). In contrast, fewer of them were overweight (7%) or moderately obese (1%), and only one subject was classified as morbidly obese. The fact that the global average BMI is 24.89 within the normal weight range also indicates that participants maintain a healthy, balanced body weight. Nevertheless, the high percentage of underweight individuals is concerning for nutritional sufficiency and energy balance in this group.

Moreover, *Table 4* presents the dance performance ratings for the participants across five evaluation criteria: creativity, expression and interpretation, impression, technical quality and synchronization. In this table, participants generally performed the dance task proficiently (M = 3.69, SD = 0.53). Among the five categories, creative had the highest mean score (M = 3.77, SD = 0.61), followed by synchronization (M = 3.74, SD = 0.62), suggesting that participants were adept at generating new moves and choreographing group movements effectively. Lower, but still moderate-level ratings were derived for

expression and interpretation (M = 3.66, SD = 0.59), impression (M = 3.65, SD = 0.61), and technical quality (M = 3.62, SD = 0.59), which indicated that competence in performance artistry and technique was present across judges.

Table 3

Nutritional Status Indicated by Body Mass Index of the Respondents

Range			Description	f	%
Below	-	18.49	Underweight	153	47%
18.5	-	24.99	Normal weight	143	44%
25	-	29.99	Overweight	23	7%
30	-	34.99	Moderately obese	4	1%
35	-	39.99	Severely obese	0	0%
40	-	Above	Morbidly obese	1	0%
Total				324	100%
Mean				24.89	
SD				99.99	
Description				Normal Weight	

Table 4

Dance Performance of the Participants Based on Evaluative Criteria

Criteria	Mean	SD	Description
Creativity	3.77	0.61	Proficient
Expression and interpretation	3.66	0.59	Proficient
Impression	3.65	0.61	Proficient
Technical Quality	3.62	0.59	Proficient
Synchronization	3.74	0.62	Proficient
Dance Performance Average	**3.69**	**0.53**	**Proficient**

Lastly, the correlation coefficients among dietary habits, physical activity, BMI, and dance performance are presented in *Table 5*. Dietary habits showed statistically significant associations with physical activity ($r = 0.115$, $p = 0.039$) and BMI ($r = 0.134$, $p = 0.016$); however, both relationships were very weak, indicating negligible shared variance and limited practical relevance. Dietary habits were not associated with dance performance ($r = 0.016$, $p = 0.774$), suggesting that frequency-based dietary quality does not meaningfully correspond to dance performance outcomes in this sample.

Table 5

Correlation Between Dietary Habits, Physical Activity, BMI, and Dance Performance with Significance Labels

Variable Pair	r (df = 322)	p-value	Relationship
Dietary Habits ↔ Physical Activity	0.115*	0.039	Significant
Dietary Habits ↔ BMI	0.134*	0.016	Significant
Dietary Habits ↔ Dance Performance	0.016	0.774	Not Significant
Physical Activity ↔ BMI	0.028	0.619	Not Significant
Physical Activity ↔ Dance Performance	−0.113*	0.042	Significant
BMI ↔ Dance Performance	−0.017	0.765	Not Significant

*Note. r = Pearson's correlation coefficient. *p < .05. "Significant" indicates statistical significance.*

Physical activity was not associated with BMI ($r = 0.028$, $p = 0.619$), indicating no statistically detectable relationship between self-reported activity levels and BMI-for-age classifications. A statistically significant but very weak negative association was observed between physical activity and dance performance ($r = −0.113$, $p = 0.042$). Given the trivial magnitude of this coefficient, the finding should not be interpreted as a meaningful inverse relationship; rather, it reflects a negligible association with no practical interpretability. Finally, BMI was not associated with dance performance ($r = −0.017$, $p = 0.765$), further indicating that BMI does not systematically vary across levels of dance performance.

Discussion

The physical activity profile of the students suggests that most were moderately active, with daily physical activity primarily accrued through travel, followed by work- or study-related tasks and leisure-time activity. This pattern reflects adolescents' reliance on lifestyle-integrated movement, such as walking for transport, rather than participation in structured or training-oriented exercise. Similar activity patterns have been consistently documented among adolescents in urban settings, where active commuting remains a practical and accessible form of daily movement (Ekelund et al., 2019; WHO, 2021a, 2021b). Because physical activity was assessed using Likert-scale self-reports, these classifications represent perceived frequency of engagement rather than objectively measured intensity or physiological conditioning.

Closer examination of activity domains further clarifies this pattern. Work- or study-related activity largely reflects incidental school-based movement, such as walking between classrooms or carrying materials, which contributes to overall daily movement but typically involves low-to-moderate exertion outside formal Physical Education lessons (WHO, 2021; Fernández-Verdejo & Suárez-Reyes, 2021). Travel-related activity, while the most prominent domain, similarly reflects active commuting rather than deliberate physical training. Although such movement supports general activity engagement, it does not necessarily correspond to the task-specific conditioning required for dance performance, which depends on rehearsal, coordination, and timing. Leisure-time activity was likewise classified as moderate, indicating regular recreational

engagement; however, distinctions between moderate and vigorous activity cannot be inferred from the measurement approach. Taken together, the physical activity findings indicate that students are generally active in their daily routines but are not necessarily conditioned for performance-based dance tasks.

Dietary pattern results further contextualize students' lifestyle behaviors. The overall classification of fair dietary quality reflects a mixed consumption profile, characterized by regular intake of staple and nutrient-dense foods alongside frequent consumption of processed, sugary, and high-sodium items. This pattern closely aligns with the hybrid adolescent diet described in recent literature, in which traditional home-prepared meals coexist with convenience and ultra-processed foods (Bai et al., 2022; Nicholas & Grafenauer, 2023). In this study, reverse-coded items representing processed food and sugar-sweetened beverage intake were associated with lower overall dietary scores despite regular consumption of core food groups, highlighting the coexistence of healthy and less healthy eating behaviors.

Regular consumption of fruits, vegetables, and fish is consistent with Philippine-based research showing that many households continue to rely on locally available produce and affordable protein sources, even in urban contexts (Huynh et al., 2023). At the same time, the reported frequency of processed and convenience foods mirrors broader national and international trends among adolescents (Argyriou et al., 2024). These findings should be interpreted as reported consumption frequency, not as indicators of nutrient adequacy or deficiency. Accordingly, the fair dietary classification reflects heterogeneous eating behaviors rather than uniformly healthy or unhealthy diets. Frequent rice consumption, while culturally normative, represents dietary prevalence rather than a marker of overall diet quality.

Analysis of nutritional status adds further nuance to this lifestyle profile. BMI-for-age classifications revealed substantial variability, with a large proportion of students classified as underweight alongside those within normal weight ranges, and relatively few classified as overweight or obese. This distribution reflects a heterogeneous energy balance rather than a uniform nutritional condition and is consistent with adolescent populations experiencing nutritional transition (Poulimeneas et al., 2020; Saqeb & Arfin, 2021). Importantly, BMI functions as a broad screening indicator and does not capture body composition, functional capacity, or performance-related fitness, particularly during adolescence when growth-related variability is pronounced (Bergonzoli, 2024).

Against this backdrop, the dance performance results indicate that students demonstrated generally proficient performance across all assessed dimensions. Relative strengths were observed in creativity and synchronization, as reflected in evaluators' perceptions of coordinated group movement and adaptive execution during school-based tasks. Technical quality, impression, expression, and interpretation were likewise rated as proficient, suggesting adequate control and expressive capacity for Physical Education contexts. These ratings represent averaged evaluator judgments, not objective thresholds for technical mastery or elite-level performance.

The juxtaposition of generally proficient dance performance with weak lifestyle associations provides important interpretive insight. Correlation analyses revealed that most associations among physical activity, dietary habits, BMI, and dance performance were weak or non-significant. Although a small number of correlations were statistically significant, all effect sizes were very weak, indicating minimal shared variance and limited practical relevance. Dietary habits showed trivial associations with physical activity and BMI, consistent with modest behavioral clustering rather than strong interdependence (Fernández-Verdejo & Suárez-Reyes, 2021; García-Fernández et al., 2020). No meaningful associations were observed between dietary habits and dance performance or between BMI and dance performance.

The statistically significant but negligible negative association between physical activity and dance performance should not be interpreted as a detrimental effect of activity. Rather, it reflects a lack of alignment between general physical activity and the task-specific demands of dance performance. This finding aligns with the literature emphasizing that dance performance is primarily shaped by task-specific motor learning, including rehearsal, coordination, timing, and expressive control, rather than by overall activity volume (Jin & Snook, 2022; Syakhruni & Prusdianto, 2020; Wenjia, 2023).

Taken together, the findings indicate that while lifestyle behaviors such as physical activity, dietary habits, and nutritional status contribute to overall health and readiness, they account for little of the variation in dance performance within a school-based Physical Education context. Dance performance appears to operate largely as a domain-specific outcome, shaped more strongly by instruction, practice, and expressive engagement than by broad lifestyle indicators alone.

Conclusion

The primary objective of this study—to examine the relationship between lifestyle factors and dance performance—was addressed through empirical testing, which demonstrated that general lifestyle indicators show little to no meaningful association with dance performance among junior high school students. Although a small number of relationships reached statistical significance, all effect sizes were trivial, indicating that physical activity level, dietary habits, and BMI exert minimal practical influence on dance performance outcomes. Taken together, these findings suggest that maintaining moderate physical activity and a generally balanced diet may support overall health, but, based on the present evidence, do not reliably predict superior dance performance in a school-based context.

The predominance of weak and non-significant associations is consistent with Motor Learning and Control Theory, which posits that dance proficiency develops primarily through task-specific practice, coordination, rhythmic training, and expressive rehearsal rather than through broad lifestyle behaviors. While variations in dietary habits and nutritional status reflect environmental and contextual influences commonly described in ecological and nutrition frameworks, these factors did not translate into measurable differences in dance performance within this sample. Collectively, the results support the interpretation of dance performance as a domain-specific skill that operates largely independently of general lifestyle characteristics as measured in this study.

From an educational standpoint, these findings indicate that Physical Education programs may benefit from caution when assuming that improvements in general health behaviors will automatically enhance dance performance. Instead, dance instruction may consider emphasizing structured practice, technical refinement, creative exploration, and expressive development, while recognizing that health-related behaviors play a supportive—rather than determinative—role. Lifestyle

factors may contribute to students' general readiness and well-being; however, performance in expressive movement appears to depend more strongly on specialized motor learning processes.

Overall, this study contributes to the literature by clarifying the boundary conditions of lifestyle–performance relationships in dance. It underscores the importance of distinguishing between factors that support general health and those that directly shape performance in skill-based artistic disciplines, thereby offering a more precise conceptualization of how dance performance should be understood within school-based Physical Education.

In practical terms, school-based initiatives may focus on supporting students' general health while acknowledging the domain-specific nature of dance performance. Students' physical activity levels were largely moderate and driven primarily by active travel, suggesting that schools can sustain safe walking environments and integrate brief movement opportunities without assuming direct effects on dance outcomes. Dietary quality was generally fair, characterized by regular intake of staple foods and breakfast, alongside frequent consumption of processed snacks and sweetened beverages, underscoring the importance of coordinated school–family efforts to support healthier food environments. Although mean BMI values were within the normal range, the high prevalence of underweight among students underscores the importance of routine nutritional monitoring and appropriate health support. Importantly, the consistently weak associations between lifestyle factors and dance performance reinforce the need to prioritize task-specific practice, technical training, and expressive development when aiming to enhance dance performance in educational settings.

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