

Health Condition as Outcomes of Well-being Autonomy and Physical Activity Engagement among Junior High School Students

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Abstract

Junior high school students consistently exhibit poor health conditions. This study aimed to determine the significance of well-being autonomy and physical activity engagement on health condition as an outcomes. Employing predictive research design and using simple random sampling in selecting the 150 respondents, results showed that with a combined degree of 57.04%, both well-being autonomy and physical activity significantly predict the criterion variable. Hence, the Self-Determination Theory is affirmed. Future research may explore other variables not covered in this study to account the 42.96% in variance in health condition as outcomes. Additionally, the Department of Education may propagate well-being and physical activity engagement at all school levels.

Keywords: Health condition as outcomes; well-being autonomy; physical activity engagement; junior high school students

1. Introduction

Junior high school students exhibit consistently low health condition. According to the National Center for Health Statistics (2020), national datasets on adolescent health indicate that health condition metrics for this age group remain below standard expectations. Similarly, the Youth Risk Behavior Surveillance System (Center for Disease and Control, 2019) reported that many adolescents do not meet established health benchmarks.

In the United States, findings from the National Health and Nutrition Examination Survey indicate that adolescents' health metrics regularly fall short of established benchmarks (National Center for Health Statistics, 2021). Similarly, a study by Wang et al. (2020) on urban youth in China found that junior high school students reported below-average health indicators, and a national survey in India by Singh et al. (2019) further confirms that adolescent health condition as outcomes remain consistently low.

In a study conducted in the Philippines, junior high school students tend to experience poor health conditions. The University of the Philippines Diliman found that many students face significant health challenges (Tan 2022). Ateneo de Manila University reported that adolescent health metrics in ASEAN universities are below acceptable levels (Wattanapisit et al. 2023). The University of Cebu demonstrated that students also display poor health conditions (Sumicad et al. 2024).

Poor health conditions can significantly impact academic performance among students. A study involving 22,730 children and youth in San Jose, California, found that chronic health conditions were independently associated with lower performance in English Language Arts and math assessments (Crump et al. 2013). This urgency coupled with the scarcity of research published specially in the Philippines triggered the conduct of this study.

This study examines the combined influence of well-being autonomy and physical activity engagement among junior high school students on health condition as outcomes. Aligned with Sustainable Development Goal 4 (Quality Education), the research provides insights that connect education and health for holistic student development.

The findings benefit various stakeholders starting with the Department of Education. Officials from this Department may refine policies to integrate mental well-being and physical education into the curriculum effectively. Additionally, school administrators may implement initiatives that promote a balanced approach

to mental and physical health. Moreover, physical education teachers can enhance their strategies to address students' emotional and physical needs. Likewise, students may gain awareness of the link between well-being being autonomy and physical activity, enabling informed health decisions. Future researchers may also build on this study to further explore adolescent development in education, mental health, and physical activity. Ultimately, this research may contribute to a more inclusive and equitable education system that nurtures students' overall well-being.

This study aimed to determine the significance of well-being autonomy and physical activity engagement on health condition as an outcomes.

Specifically, it aimed to;

1. To determine the levels of well-being autonomy in terms of positive self-perception, self-esteem, sleep quality and quantity, social connectedness, and stress management skills; physical activity engagement in terms of participation level, skill development, fitness progress, sportsmanship, and initiative and effort; and health condition as outcomes in terms of fitness levels, nutritional habits, quality of life, health education awareness, and hydration habits.
2. To determine significance of the correlation between well-being autonomy and health condition as outcomes, and the physical activity engagement and health condition as an outcomes.
3. To determine the significance of the individual and combined degree of influence of well-being autonomy and physical activity engagement on health condition as an outcomes.

This research is anchored on the Self-Determination Theory (SDT), developed by Deci and Ryan, (1985), which focused on the social-contextual conditions that facilitate forestall the natural processes of self-motivation and healthy psychological development. It explains how individuals engage in self-motivated and self-regulated behavior by emphasizing intrinsic motivation. It identifies three essential psychological needs: **autonomy** (the need for self-direction), **competence** (the need to master tasks), and **relatedness** (the need for social connection). When these needs are satisfied, individuals experience optimal psychological growth, performance, and well-being across contexts such as education, healthcare, work, and sports.

In this study, the well-being autonomy variable indicated by positive self perception, self esteem, sleep quality and quantity, social connectedness, and stress management skill (Williams & Davis, 2020) stands for autonomy element mentioned in the theory. Moreover the physical activity engagement variable indicated by duration of physical activity, intensity of exercise, enjoyment of exercise, social interaction, and incorporation into daily life (Johnson, 2019) stands for competence stated in the theory. Lastly the health condition as outcome variable indicated by physical fitness level, nutritional habits, quality of life, health education awareness, and hydration habits, (2022) stands for performance. The relatedness element discussed in the theory was excluded from the study.

2. Method

The predictive research design is a methodological approach that forecasts future outcomes by analyzing existing data and identifying relationships between variables. The method can accurately assess the strength and direction of a linear relationship between two principal variables towards observable dependent variable (Brodowicz, 2024). Using this approach, researchers can develop evidence-based strategies and policies to address specific challenges or societal concerns effectively. In this study, predictive research design is applied to examine the combined influence of mental well-being and physical activity engagement on health outcomes among junior high school students.

The study concentrated on a public high school in Midsayap, Cotabato, Region XII, with an approximate student population of about 5,000 primarily juniors and seniors. The academic faculty for the school year 2023-2024 consisted of 180 teachers. It also involved teachers employed during school year 2023-2024, who served as classroom advisers for the selected Grade 10 students, as they were responsible for providing student lists and facilitating survey administration. Teachers who are not designated as Grade 10 student advisers were excluded from the study. This targeted approach ensured that the data collected was relevant and specific to the Grade 10 students' academic and social context.

In this study, simple random sampling was used to select the 150 respondents from a larger student population, ensuring each individual had an equal chance of being chosen, thus minimizing researcher bias and preventing overrepresentation or underrepresentation of any group. Simple random sampling is valued for its simplicity and effectiveness, allowing researchers to select participants through random number generators or drawing lots randomly (Noor et al., 2022). Additionally, the inclusion criteria were based on specific characteristics, including age (15 to 17 years), enrollment status (regularly enrolled), and grade level (Grade 10), ensuring the sample accurately represented the student body (Crane & Broome, 2017). Participation was voluntary, with respondents allowed to withdraw at any time without repercussions, maintaining ethical standards and enabling informed, voluntary decisions about participation. By ensuring the sample was both representative and ethically sound, the study's findings can be generalized to the broader student population, supporting the reliability of statistical conclusions and enhancing external validity.

The main variable, Well-being Autonomy, was associated with indicators such as positive self-perception, self-esteem, sleep quality and quantity, social connectedness, and stress management skills. This questionnaire was previously utilized by Williams and Davis (2020). Similarly, the survey questionnaire addressing Physical Activity Engagement was linked to indicators such as participation level, skill development, fitness progress, sportsmanship, initiative, and effort. This instrument played a pivotal role in an extensive investigation conducted by Johnson (2019). The third set of survey questionnaires focused on Health Condition as Outcomes, associated with indicators such as physical fitness levels, nutritional habits, and quality of life. This instrument was also employed by researchers Miller (2022) and Robinson (2021).

The data-gathering process for this study was conducted in a structured and ethical manner, with careful attention given to securing the necessary permissions and approvals from the relevant educational institutions. The researcher secured a certificate from the Society for Moral Integrity and Legal Ethics (SMILE) Office of Holy Cross of Davao College, along with an endorsement from the HCDC Office of the Dean, ensuring institutional approval for the study. Following this, the researcher sought permission from the School Division Superintendent (SDS) of Kidapawan City to conduct research and coordinate properly with school principals from the selected public schools. Finally, the researcher obtained authorization from the school principal, following established protocols before data collection. The principal approved the study, while the institution ensured compliance with academic and ethical standards. Assent forms with attached parent consent were disseminated, ensuring participants understood the study's purpose and their voluntary participation rights. The signed forms were then retrieved in physical copies to ensure the signatories understand the study's objective.

During data collection, structured questionnaires were distributed to junior high school students, with clear and consistent instructions provided to obtain reliable responses on mental well-being, physical activity engagement, and health outcomes. After collecting the survey responses, the data was thoroughly reviewed for accuracy and integrity, checking for inconsistencies or missing information. The verified data was then securely entered into a well-organized database, categorized, and encoded into a customized Excel template tailored to the study's three variables. This systematic approach ensured data integrity and prepared it efficiently for analysis.

The tabulation process involved organizing the responses into a structured format, facilitating consistency and accessibility, which streamlined the categorization of variables and enabled accurate data interpretation for analysis.

In this study, data analysis was conducted using three primary statistical methods: Mean, Pearson's r , and Multiple Linear Regression. The Mean was calculated to determine the average scores of students across various measures, providing a central measure of the data. On the other hand, Pearson's r was used to assess the strength and direction of linear relationships between variables, such as well-being autonomy, physical activity engagement, and health condition as outcomes. Lastly, Multiple Linear Regression examined the impact of multiple independent variables on a single dependent variable, offering a comprehensive understanding of how various factors collectively influence students' health outcomes. These statistical techniques allowed researchers to identify significant patterns and relationships within the data,

contributing to a deeper understanding of the factors affecting student well-being. For the r value the following scheme is used.

Ethical considerations were paramount due to the participation of minor respondents. Prior to data collection, permission was obtained from the Society for Moral Integrity and Legal Ethics (SMILE), ensuring adherence to ethical guidelines. Informed consent was secured from the parents or legal guardians of the students, affirming their understanding and voluntary agreement to their child's participation. Additionally, assent was obtained from the students themselves, ensuring they comprehended the study's purpose and voluntarily agreed to participate. This dual approach safeguarded the rights and well-being of the minor participants throughout the research process.

3. Results and Discussions

Specifically, Table 1 shows that the well being autonomy variable obtained a mean score of 2.27 described as Low. It indicates that the well-being autonomy of the Junior High School students is poor. All its indicators obtained corresponding mean described as low.

Furthermore, Table 1 shows that the the physical activity engagement obtained a mean of 2.24 described as low. It denotes that the physical activity engagement is poor. All its indicators obtained corresponding mean described as low.

Finally, the health condition as outcome variable as shown obtained the mean of 1.96 described as low. It signifies that health condition as outcome among the Junior High School students is poor. All its indicators obtained corresponding mean described as low.

Table 1. Descriptive Table

Variables	N	SD	Mean	Descriptive	Level
Well-Being Autonomy	150	0.98	2.17		Low
Positive Self-Perception		0.90	2.13	Low	
Self-Esteem		0.87	1.97	Low	
Sleep Quality and Quantity		1.04	2.53	Low	
Social Connectedness		0.99	2.09	Low	
Stress Management Skills		1.01	2.11	Low	
Physical Activity Engagement	150	0.92	2.24		Low
Participation Level		0.97	2.28	Low	
Skill Development		0.92	2.32	Low	
Fitness Progress		0.93	2.13	Low	
Sportsmanship		0.93	2.14	Low	
Initiative and Effort		0.83	2.33	Low	
Health Outcomes	150	0.91	1.96		Low
Physical Fitness Levels		0.87	2.23	Low	
Nutritional Habits		0.95	1.91	Low	
Quality of Life		0.82	1.82	Low	
Health Education Awareness		0.87	1.96	Low	
Hydration Habits		0.95	1.90	Low	

Correlation Analysis

Table 2. Correlation Table

	Health Condition as Outcome			
	R	p-value	Decision on H ₀	Interpretation
Well-Being Autonomy	.711	.000	Reject H ₀	There is a significant high correlation
Physical Activity Engagement	.706	.000	Reject H ₀	There is a significant moderate high correlation

Table 2 specifically shows that the correlation between well-being autonomy and health condition as outcomes variable obtained a p-value of 0.000 which is less than 0.05 degree of confidence. Hence, the null hypothesis was rejected. It indicates that the correlation between well-being autonomy and physical activity engagement is highly significant. The correlation of these variables obtained an r value of 0.711, which is considered a high correlation.

Furthermore, the table shows that the correlation between physical activity engagement and health condition as outcomes variable obtained a p-value of 0.000, which is less than 0.05 degree of confidence. Hence, the null hypothesis was rejected. It indicates that the correlation between physical activity engagement and health condition as outcomes is moderately significant. The correlation of these variables obtained an r value of 0.706 which denotes as moderate high correlation.

Regression Analysis

Table 3. Regression Table

	Health Condition as Outcomes				
	Coefficient B	T	P -Value	Decision H ₀	Interpretation
Well-Being Autonomy	0.4133	4.980	.000	Reject H ₀	Significant
Physical Activity Engagement	0.3921	4.725	.000	Reject H ₀	Significant
F-Stat =97.58, P-value =0.000, R squared = 0.5704					

Table 3 specifically shows that the well-being autonomy variable obtained a β coefficient of 0.4133, which indicates that it has a 41.33% degree of influence on the health condition outcomes of Grade 10 students. Such a degree of influence is significant as indicated by the p-value of 0.000, which is less than the 0.05 alpha level. It implies that for every 0.4133 unit increase in well being autonomy, there is a corresponding unit increase in health condition as outcomes.

Moreover, the physical activity engagement variable obtained a β coefficient of 0.3921, indicating that it has a 39.21% degree of influence on the health condition as outcomes. This degree of influence is also significant as reflected by the p-value of 0.000, which is likewise less than the 0.05 alpha level. It implies that for every 0.3921 unit increase in physical activity engagement, there is a corresponding unit increase in health condition as outcomes.

Finally, Table 3 shows that the two predictive variables obtained an $R^2 = 0.5704$, which denotes that together they have a 57.04% combined degree of influence on the criterion variable. This combined influence is statistically significant, as indicated by the F-statistic of 97.58 and a p-value of 0.000, which is below the 0.05 alpha.

Summary of Findings

1. The well-being autonomy, physical activity engagement, and health condition as outcomes among junior high school students are low.

2. The well-being autonomy, and physical activity engagement are significantly correlated with health conditions as outcomes at a moderately high degree level.
3. The well-being autonomy and physical activity engagement significantly influence the health condition as outcomes among junior high school students. Indeed, together, the predictors account (57%) variance in health condition as outcomes which is significant (p -value = 0.000).

Discussion on Descriptive Analysis

Well-Being Autonomy of Junior High School Students

This study revealed that the level of well-being autonomy among Junior High School Students is low. This means that positive aspects of mental health are rarely demonstrated by the students. This implies that students may have difficulty dealing with stress and low self-esteem because of too much screen time and digital media use, which can affect their school performance and personal development. Students must learn helpful ways to manage their mental health, like practicing mindfulness, reflecting on their feelings, and joining peer support activities.

The findings align with the study of Twenge and Campbell (2018), showing that lower psychological well-being among adolescents, including poor emotional stability, reduced self-esteem, and lower life satisfaction, is due to increased screen time. Similarly, Boer et al. (2020) emphasized that excessive digital media use is linked to heightened psychological distress and decreased mental well-being in teenagers, reinforcing concerns about the impact of screen time on youth mental health.

Physical Activity Engagement of Junior High School Students

The level of physical activity engagement is low. Students rarely demonstrated regular and effective physical activity engagement, as reflected by consistently low outcomes across all areas. This indicates that most students are not involved in activities promoting their health, fitness, and well-being. The lack of engagement may hinder both their physical development and academic performance. Implementing student-centered programs that offer fun, diverse, and accessible activities can motivate students to incorporate physical activity into their daily routines.

The findings of this study align with research indicating that limited participation in physical activities can impede the development of essential social skills among students. A study by Misriandi and Susanto (2024) found that reduced engagement correlated with lower communication, teamwork, empathy, and conflict resolution competencies. Moreover, the studies emphasize the critical issue of low physical activity engagement among adolescents in India. Insufficient physical activity is prevalent among this demographic (Ramamoorthy et al., 2022). Scholars also identify barriers such as academic pressure, lack of facilities, and societal norms, particularly affecting adolescent girls' participation (Duffey et al., 2021). These studies underscore the need for targeted interventions to promote adolescent physical activity.

Health condition as Outcomes of Junior High School Students

Furthermore, the study explains that the overall level of health condition as outcomes among junior high school students is low, as demonstrated by consistently poor performance across key indicators such as physical fitness, nutritional habits, quality of life, health education awareness, and hydration practices. These results indicate that students rarely exhibit positive health behaviors or perceptions. The data consistently reflects limited engagement in practices that promote well-being.

Ran et al. (2018) investigated the association between health literacy and quality of life in junior middle school students. The results indicated that students with higher health literacy levels tended to have better quality of life scores, emphasizing the importance of school health education programs to improve students' overall health outcomes.

Additionally, according to Haraldstad et al. (2019), 13% of the teenagers indicated experiencing bullying, with no discernible gender differences in this outcome. Both experiencing bullying and perpetrating bullying were correlated with diminished HRQOL; however, experiencing bullying was linked to the getting

lowest ratings. Hence, self-efficacy is needed to correlate with improved health-related quality of life (HRQOL). Self-efficacy strongly predicted variations in health-related quality of life (HRQOL).

However, health education lessons frequently are not programmed in advance; instead, they are often conducted during canceled hours when teachers are absent or unavailable, involving activities such as cooking, excursions, and sports events. Despite the diverse topics, the lack of a standardized curriculum leads to uneven health-related knowledge among students (Bennett et al., 2020). This inconsistency in health education delivery further emphasizes the importance of a structured, coordinated approach to ensure equitable access to health resources for all students (Wiedermann et al., 2023).

Discussion on Correlation Analysis

The correlation analysis indicates that students generally have low levels of well-being autonomy and health conditions as outcomes, yet a statistically significant positive correlation exists between these factors. This means that student well-being autonomy improvements are closely linked to better physical health and quality of life. The findings demonstrate that well-being autonomy plays a central role in determining overall student health, underscoring its importance for their success and well-being.

The findings of this study are supported by existing literature underscoring the strong correlation between well-being autonomy and health conditions as outcomes. Mahindru et al. (2023) demonstrated that individuals with higher psychological well-being consistently report better physical health, suggesting a robust interdependence between mental and physiological states. This relationship holds significance even in contexts where both variables are low, highlighting the potential for improvement in one domain to impact the other positively.

Similarly, Patalay and Gage (2019) emphasized the importance of adolescent well-being as a determinant of overall well-being, advocating for early, school-based interventions to address mental health challenges. Their study reinforces the view that enhancing well-being is not only beneficial in itself but also foundational to improving broader health conditions among youth.

These findings are consistent with the studies of Park et al. (2020) and Choi et al. (2019), both of which highlighted the vital role of regular physical activity in improving adolescents' overall health. Their research emphasizes that consistent engagement in physical activity not only enhances physical fitness but also supports long-term well-being. In addition, the work of Lang et al. (2019) reinforced this connection by demonstrating that regular physical activity contributes to improved mood, reduced stress, and better mental health outcomes among adolescents. They advocate for physical education curricula that address the physical and psychological benefits of activity, especially in school settings.

Discussion on Regression Analysis

Well-Being Autonomy as Predictor

The regression analysis indicates that, although both well-being autonomy and health conditions as outcomes among junior high students are low, autonomy in promoting well-being significantly predicts their health conditions. A strong positive association was observed, with the precise coefficient estimate confirming that even slight improvements in well-being correspond to better health conditions. The statistical significance of this finding emphasizes the meaningful impact of mental health on overall student health.

Well-being significantly influences the health outcomes of Grade 10 students, as evidenced by research across various international contexts. In Japan, studies have demonstrated mental health's critical role in shaping adolescents' overall health outcomes (Yamaguchi et al., 2021). Furthermore, the effectiveness of Japan's compulsory mental health support systems in schools has been directly associated with improved student health (Nishio et al., 2020), and teachers' awareness of mental health concerns strongly influences their capacity to support student well-being (Soneson et al., 2024).

Similarly, in China, a strong relationship between mental health and adolescent health outcomes has been consistently reported. For instance, Luo et al. (2020) found that anxiety, depression, and stress were common among high school students in Henan Province, significantly linking these mental health issues to poorer physical health outcomes. Additionally, comprehensive school-based mental health interventions have

proven effective in promoting better mental and physical health among students (Yamaguchi et al., 2021). Moreover, national policies emphasizing adolescent mental health have contributed positively to overall health outcomes (Santre, 2022).

Physical Activity Engagement as a Predictor

The regression analysis reveals that although Junior high school students have generally low levels of physical activity engagement and health outcomes, physical activity significantly predicts health status. The strong positive association, supported by a precise and statistically significant coefficient, indicates that even slight increases in physical activity can yield notable health improvements. This highlights physical activity as an influential factor in improving overall health among students currently exhibiting low baseline levels.

Consistent with these results, studies have repeatedly shown that despite typically low activity levels among adolescents, increased physical engagement leads to meaningful improvements in health outcomes (World Health Organization, 2024a). Moreover, Hinkley et al. (2018) found that modest improvements in physical activity among previously inactive students significantly reduced obesity rates and enhanced mental health. Additionally, research by Sember et al. (2020) has established that even small increases in students' physical activity positively influence academic performance and cognitive functioning, particularly among those starting from lower baseline levels.

Reinforcing these findings, Chu et al. (2016) confirmed that enhancing physical activity from low baseline levels significantly improves overall health outcomes in adolescents. Similarly, Lee et al. (2019) provided evidence that even modest increases in physical activity among previously inactive students substantially lowered risks of premature mortality and improved overall health. Additionally, Finkelstein et al. (2020) highlighted that raising physical activity from initially low levels positively impacts health-related quality of life and reduces healthcare costs among adolescents.

Conclusion

Based on the results, it is concluded that both well-being autonomy and physical activity engagement are significant predictors of students' health condition as outcomes. However, junior high school students generally exhibit low levels in these areas, which is reflected in their reported health condition as outcomes. Moreover, the overall regression model was significant, with both predictors accounting for 57.04% of the variance in students' health conditions. This conclusion affirms the Self Determination Theory, stating that when autonomy, competence, and relatedness are satisfied, individuals experience optimal psychological growth, performance, and well-being.

Recommendation

Based on the conclusion, further studies should explore other variables to explain the remaining 42.96% variance in health conditions as outcomes. DepEd should prioritize school-based mental health and physical activity programs to support students' well-being and advance SDGs 3 and 4. PE teachers can promote well-being and SDG 3 by encouraging active lifestyles and collaborating with schools, families, and communities.

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