

Healthy Lifestyle Study: A Comparative Study of Physical Activity, Stress Management, and Health Responsibility among Junior High School Students and University Students

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ARTICLE INFO

Keywords: Healthy Lifestyle, Physical Activity, Stress Management, Health Responsibility, Adolescents

Received : 5 May

Revised : 20 June

Accepted: 29 July

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ABSTRACT

A healthy lifestyle established during adolescence and early adulthood plays an important role in preventing non-communicable diseases. This study aimed to compare three key dimensions of healthy lifestyle—physical activity, stress management, and health responsibility—between junior high school students and university students. A quantitative comparative study with a cross-sectional design was conducted involving 293 respondents, consisting of 126 junior high school students and 167 university students selected using stratified random sampling. Data were collected using a 25-item questionnaire adapted from the 52-item Health-Promoting Lifestyle Profile II (HPLP-II), focusing on physical activity, stress management, and health responsibility. Data were analyzed using descriptive statistics and independent sample *t*-tests. The findings indicated that university students obtained a higher overall healthy lifestyle score than junior high school students. Significant differences were identified in all three dimensions. Junior high school students demonstrated higher physical activity, whereas university students showed better stress management and health responsibility. These findings suggest that health promotion programs should be tailored according to developmental stages and educational settings

INTRODUCTION

Healthy lifestyle is widely recognized as one of the most effective approaches to preventing non-communicable diseases and improving quality of life. Health-promoting behaviors established during adolescence frequently continue into adulthood, making this developmental period particularly important for lifelong health (Pender et al., 2015). Among various health behaviors, physical activity, stress management, and health responsibility are considered fundamental components because they directly influence both physical and psychological well-being. Physical activity contributes to maintaining physical fitness, preventing obesity, and reducing the risk of chronic diseases. Nevertheless, participation in regular physical activity often changes as individuals progress from adolescence to early adulthood. Junior high school students generally participate in structured physical education and recreational activities, whereas university students frequently experience reduced physical activity because of increased academic demands and sedentary lifestyles (WHO, 2020).

Stress management represents another important component of a healthy lifestyle. Adolescence and early adulthood are characterized by numerous developmental challenges requiring effective coping strategies. Individuals who possess good stress management skills are more capable of maintaining psychological well-being and adapting to academic and social pressures. As cognitive maturity develops, stress management abilities are also expected to improve (Sawyer et al., 2018). Health responsibility refers to an individual's awareness and commitment to maintaining personal health through healthy daily practices, seeking health information, and making informed health-related decisions (Pender et al., 2015). University students generally have greater autonomy in managing their health than younger adolescents, whereas junior high school students remain more dependent on parental guidance and school regulations. Although healthy lifestyle behaviors have been investigated among adolescents and university students separately, comparative studies focusing specifically on these three dimensions remain limited. Therefore, this study aimed to compare physical activity, stress management, and health responsibility between junior high school students and university students.

LITERATURE REVIEW

Physical Activity

Physical activity is an essential component of healthy living because it contributes to physical fitness, healthy body weight, cardiovascular health, and psychological well-being. Regular participation in physical activity during adolescence establishes lifelong health habits and reduces the risk of chronic diseases (WHO, 2020). Physical activity also plays an important role in supporting cognitive function, emotional well-being, and academic performance. Adolescents who engage in regular physical activity tend to have better concentration, improved mood, and lower levels of anxiety than those with sedentary lifestyles. Educational institutions therefore have a strategic role in promoting physical activity through physical education, extracurricular sports, and active school environments. Establishing regular physical activity during

adolescence is expected to increase the likelihood of maintaining healthy behaviors throughout adulthood (WHO, 2020).

Stress Management

Stress management refers to an individual's ability to recognize, control, and cope effectively with physical and psychological stressors. Effective stress management contributes to emotional stability, academic performance, and overall well-being (Pender et al., 2015). During adolescence and early adulthood, individuals are exposed to increasing academic, social, and personal challenges that require effective coping strategies. The ability to manage stress enables individuals to adapt more successfully to changing environments, maintain emotional balance, and prevent the negative consequences of prolonged psychological pressure. Developing stress management skills is therefore an important objective of health promotion because these skills contribute not only to mental health but also to the adoption of other positive health behaviors (Pender et al., 2015).

Health Responsibility

Health responsibility is defined as an individual's willingness to take an active role in maintaining and improving personal health. This includes seeking health information, practicing preventive behaviors, and making informed health-related decisions (Walker et al., 1995). Health responsibility develops gradually as individuals become more independent in managing their daily lives and making decisions related to their health. Individuals with a high level of health responsibility are more likely to monitor their health status, comply with healthy lifestyle recommendations, and actively participate in disease prevention activities. In educational settings, fostering health responsibility encourages students to become more aware of the consequences of their health behaviors and motivates them to make healthier choices that can be sustained over time (Walker et al., 1995). Previous studies have shown that adolescents generally demonstrate higher physical activity than university students, whereas university students tend to exhibit greater health responsibility and stress management because of increased maturity and independence (Al-Qahtani, 2019; Shirzadi et al., 2025). If your work is quantitative, please provide previous research that agrees or rejects your proposed hypothesis.

Hypotheses

- H1: Physical activity differs significantly between junior high school students and university students.
- H2: Stress management differs significantly between junior high school students and university students.
- H3: Health responsibility differs significantly between junior high school students and university students.

METHODOLOGY

This quantitative study employed a comparative cross-sectional design. The research was conducted at one public junior high school and one university in Jakarta between Mei and November 2025. The study included 293 respondents, comprising 126 junior high school students and 167 university

students selected through stratified random sampling. Healthy lifestyle was assessed using a 25-item questionnaire adapted from the 52-item Health-Promoting Lifestyle Profile II (HPLP-II) (Walker et al., 1995). The adapted instrument specifically measured three dimensions: Physical Activity, Stress Management, and Health Responsibility. Responses were recorded using a four-point Likert scale ranging from 1 (Never) to 4 (Always). Content validity was evaluated through expert judgment, while construct validity was confirmed using factor analysis with factor loadings of at least 0.50. The instrument demonstrated good internal consistency with a Cronbach's alpha coefficient of 0.87. Descriptive statistics were used to summarize participant characteristics and healthy lifestyle scores. Differences between groups were analyzed using independent sample t-tests with a significance level of $p < 0.05$.

RESULTS

A total of 293 respondents participated in this study, consisting of 126 junior high school students and 167 university students. Descriptive analysis indicated that university students had a higher overall healthy lifestyle score than junior high school students. The mean healthy lifestyle score was 2.98 ± 0.41 for junior high school students and 3.12 ± 0.38 for university students.

Table 1. Comparison of Healthy Lifestyle Dimensions between Junior High School Students and University Students

Dimension	Junior High School Students	University Students	p-value
Physical Activity	Higher	Lower	<0.05
Stress Management	Lower	Higher	<0.05
Health Responsibility	Lower	Higher	<0.05

The independent sample t-test indicated statistically significant differences in all three dimensions. Junior high school students demonstrated significantly higher physical activity scores, whereas university students exhibited significantly better stress management and health responsibility ($p < 0.05$).

DISCUSSION

The findings revealed that healthy lifestyle behaviors differed between junior high school students and university students across the three dimensions examined. Although university students achieved higher overall healthy lifestyle scores, each dimension showed a distinct pattern, suggesting that developmental stage influences health behavior differently. These findings support the multidimensional perspective of healthy lifestyle proposed by Pender et al. (2015), which emphasizes that health-promoting behaviors are influenced by individual characteristics, experiences, and environmental factors. Likewise, Walker et al. (1995) argued that healthy lifestyle consists of several interrelated dimensions that may develop differently according to age, maturity, and life circumstances.

Junior high school students demonstrated significantly higher physical activity than university students. This finding suggests that younger adolescents remain actively involved in structured physical education, extracurricular sports, and recreational activities provided within the school environment. These opportunities encourage regular movement and contribute to maintaining adequate physical activity levels. In contrast, university students often experience reduced opportunities for exercise because of increased academic commitments, longer study hours, and more sedentary learning patterns. This finding is consistent with the World Health Organization (2020), which reported that physical activity tends to decline during the transition from adolescence to adulthood because educational demands and sedentary lifestyles increase. Similar findings were reported by Shirzadi et al. (2025), who found that university students frequently fail to achieve recommended levels of physical activity because of academic workload and prolonged sitting time.

Conversely, university students obtained significantly higher stress management scores than junior high school students. As individuals progress into early adulthood, they gradually develop greater emotional maturity and become more capable of coping with academic, social, and personal challenges. Greater independence in decision-making and broader life experiences may contribute to more effective stress management strategies. Meanwhile, junior high school students are still developing emotional regulation skills and often require guidance from teachers, parents, and school counselors to manage stress effectively. According to Pender et al. (2015), stress management is a learned health-promoting behavior that improves through experience, self-regulation, and repeated adaptation to environmental demands. Furthermore, Sawyer et al. (2018) explained that cognitive and emotional development during late adolescence and early adulthood enables individuals to employ more adaptive coping strategies than younger adolescents.

Health responsibility also differed significantly between the two groups, with university students demonstrating higher levels than junior high school students. This finding indicates that young adults tend to have greater awareness of maintaining personal health through informed decision-making and self-care practices. Increased autonomy encourages university students to take greater responsibility for monitoring their health, seeking health information, and adopting healthier behaviors. Conversely, junior high school students continue to rely substantially on external supervision from parents and schools in establishing healthy routines. These findings are in accordance with Walker et al. (1995), who described health responsibility as an individual's active participation in maintaining personal health through informed decisions and preventive behaviors. Similarly, Al-Qahtani (2019) reported that university students generally demonstrate stronger health responsibility because increasing maturity enhances awareness of healthy behaviors and personal health maintenance.

The contrasting pattern observed between physical activity and the other two dimensions demonstrates that healthy lifestyle behaviors should be viewed as complementary rather than identical constructs. Higher physical activity among junior high school students does not necessarily indicate stronger health

responsibility or stress management, while greater health awareness among university students does not automatically translate into more active lifestyles. Each dimension therefore represents a unique aspect of healthy living that requires different educational approaches and behavioral interventions. This multidimensional perspective is consistent with the conceptual framework proposed by Pender et al. (2015) and the Health-Promoting Lifestyle Profile II developed by Walker et al. (1995), which recognizes that improvements in one health behavior do not automatically produce improvements in other health-promoting behaviors.

These findings have important implications for health promotion programs across educational settings. Programs for junior high school students should focus on strengthening stress management and health responsibility while preserving their relatively high levels of physical activity. Conversely, universities should prioritize interventions that encourage regular physical activity without compromising students' existing strengths in stress management and health responsibility. Tailoring interventions according to developmental characteristics is expected to enhance the effectiveness of healthy lifestyle promotion among adolescents and young adults. This recommendation is consistent with the health promotion approach proposed by Pender et al. (2015), which emphasizes that effective interventions should consider developmental characteristics, individual experiences, and environmental contexts to promote sustainable healthy behaviors.

CONCLUSIONS AND RECOMMENDATIONS

This study demonstrated significant differences in physical activity, stress management, and health responsibility between junior high school students and university students. Junior high school students exhibited higher physical activity, whereas university students showed better stress management and health responsibility. These findings indicate that healthy lifestyle promotion should be adapted to developmental characteristics and educational contexts, with emphasis on strengthening dimensions that remain relatively weak in each population.

FURTHER STUDY

Future studies should involve participants from multiple schools and universities across different regions to improve the generalizability of findings. Longitudinal studies are also recommended to examine changes in physical activity, stress management, and health responsibility throughout adolescence and early adulthood.

ACKNOWLEDGMENT

The authors would like to express their sincere gratitude to the participating school, university, respondents, and everyone who contributed to the completion of this study.

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