ISSN 3063-8089 (Online)
Adult Health Nursing Journal
Volume 2 Issue 2, Pages: 1-7
Publish June 2025

ORIGINAL ARTICLE

Association Between Sleep Quality and Physical Fitness Among Practical and Non-Practical Anesthesiology Nursing Students at Aisyiyah University Yogyakarta

Ricyta Islami Fasya[1]*, Astika Nur Rohmah[2], Triyas Singgih Pambudi[3]

[1] Aisyiyah University Yogyakarta, Indonesia
[2] Aisyiyah University Yogyakarta, Indonesia
[3] Aisyiyah University Yogyakarta, Indonesia
* Corresponding Author: ricytaislami02@gmail.com

ARTICLE INFORMATION

Article history
Received 2025/06/24
Revised 2025/12/27
Accepted 2025/12/30

Keywords
Sleep Quality; Physical Fitness Level; Anesthesiology Nursing

How to cite
Fasya, R. I., Rohmah, A. N., & Pambudi, T. S. (2025). Association Between Sleep Quality and Physical Fitness Among Practical and Non-Practical Anesthesiology Nursing Students at Aisyiyah University Yogyakarta. *Adult Health Nursing Journal*, *2*(2), 1–6. https://doi.org/10.33650/ahnj.v2i2.11790

ABSTRACT

Introduction: *Internship and non-internship students have different levels of busyness, internship students are busier than non-internship students, thus disrupting their sleep quality and physical fitness levels. In Indonesia, the prevalence of sleep disorders varies by age group, with sleep deprivation (<7 hours per night) reaching 64.7% in adolescents, around 38% of adolescents in urban areas and 37.7% in suburban areas of Indonesia experiencing sleep disorders.* ***Objectives:*** *To determine the relationship between sleep quality and physical fitness levels in internship and non-internship nursing students of Universitas Aisyiyah Yogyakarta .* ***Methods :*** *Quantitative research method with correlational analysis method through cross-sectional approach. The sample in this study amounted to 128 respondents, categorized as 64 internship anesthesiology nursing students and 64 non-internship anesthesiology nursing students , with simple random sampling technique by random method (drawing).* ***Results:*** *The results of the Spearman Rank test showed that sleep quality and physical fitness levels had a significant relationship with a p-value of 0.000 (p <0.05). The relationship between sleep quality and physical fitness levels in Anesthesiology Nursing Practice Students in the moderate category and Non-Practice in the strong category of Aisyiyah University with a positive (unidirectional) relationship .* ***Conclusions*** *: There is a significant relationship between sleep quality and physical fitness levels in Anesthesiology Nursing Practice and Non-Practice Students of Aisyiyah University Yogyakarta.*

Adult Health Nursing Journal is a peer-reviewed journal published by Fakultas Kesehatan, Universitas Nurul Jadid, Probolinggo, East Java.
Website: https://fkes.unuja.ac.id
E-mail: adulthealthnurse@gmail.com
DOI : https://doi.org/10.33650/ahnj.v2i2.11790

A. Introduction

When a person is physically fit, they can go about their daily lives without getting tired and with enough energy. What makes a person physically fit is how well they can carry out tasks and obligations in their daily lives (Ortega & Ruiz, 2015; Sinuraya & Barus, 2022). Whether or not a person is physically healthy depends on the person doing regular exercise or physical activity. Individuals progress towards their fitness goals through participation in sports and physical activities that challenge them both physically and mentally (Bouchard et al., 2012;

Tremblay et al., 2011; Xu et al., 2025). When a person is physically fit, they can perform routine activities without getting tired and have the stamina to do additional activities for leisure when they want to have fun (Ortega & Ruiz, 2015; Tandiono et al., 2021).

Both internal and external factors have the potential to affect a person's level of physical fitness. Internal factors already present within a person's body include age, sex, and genetic predisposition, whereas external factors are related to environmental and lifestyle influences such as diet, physical activity, smoking, and sleep (Bull et al., 2020; Ozemek et al., 2025; Raju et al., 2025). Good physical fitness is necessary to carry out daily tasks well, and many variables can affect a person's level of physical fitness, including sleep quality and other healthy lifestyle choices (Sinuraya & Barus, 2022; Tandiono et al., 2021).

Cardiorespiratory endurance is influenced by overall physical fitness and sleep quality. One of the metrics that accurately characterizes a person's level of physical fitness is cardiorespiratory endurance, which reflects the capacity of the cardiovascular and respiratory systems to supply oxygen during sustained activity (Ortega & Ruiz, 2015; Ozemek et al., 2025; Puchalska-Sarna et al., 2022). Therefore, a person's sleep quality is thought to be associated with cardiorespiratory fitness or cardiovascular endurance, as adequate sleep is important for physiological recovery and performance (Kline et al., 2021; Tandiono et al., 2021). At productive ages, everyone is susceptible to sleep disorders, but students are especially vulnerable. Numerous studies report that a high proportion of university and nursing students experience poor sleep quality and do not achieve the recommended duration of sleep each night (Alameri et al., 2024; Raju et al., 2025; Yilmaz et al., 2017).

Many factors in student life can negatively affect sleep. Academic stress, along with unhealthy habits such as excessive television watching, prolonged internet or gadget use, and smoking and alcohol consumption, can disrupt students' circadian rhythms, the biological cycle that controls sleep–wake patterns (Asnindari et al., 2025; Chung et al., 2014; Maisa et al., 2021). Students are usually considered to be in late adolescence or early adulthood, typically between 18 and 25 years of age, a developmental period characterized by significant psychological and social changes. At this stage, knowledge, skills, and professionalism are very important, and students are expected to be prepared to face psychological and physical demands associated with higher education and pre-professional training (Alameri et al., 2024; Tandiono et al., 2021).

In nursing education, field work practice or clinical practice is an introductory stage for students in implementing theories from campus into direct patient care. Clinical placements play a central role in integrating theoretical knowledge with practical skills in real clinical settings, but they also increase academic workload and responsibility, which may contribute to stress, fatigue, and changes in sleep patterns and physical activity levels (Alameri et al., 2024; Carvalho et al., 2020; Steivy et al., 2015).

Anesthesiology Nursing students at Universitas 'Aisyiyah Yogyakarta are divided into students who have not yet practiced clinically (non-practicum) and students who have already carried out clinical practice (practicum). Non-practicum students are those in the early semesters (1 and 3) who are just studying basic nursing theories, whereas practicum students are in semesters 4 and 6, having studied both theoretical content and anesthesia laboratory skills so that they can apply theory and integrate their knowledge and skills to patient care (Huwaida et al., 2022; Steivy et al., 2015). As students progress to higher semesters, their academic and clinical commitments increase, which may lead to higher levels of busyness and stress. Therefore, students at all levels need to maintain good sleep quality and physical fitness to meet these demands (Alameri et al., 2024; Carvalho et al., 2020).

Sleep quality and physical fitness are two important factors that are interrelated in maintaining student health and performance. Nursing and health-care students involved in clinical practice tend to have busier schedules and experience higher levels of stress than students who have not yet undertaken clinical practice (Azizah et al., 2024; Wübbeler et al.,

2021; Yılmaz et al., 2024). These conditions can disrupt sleep patterns and reduce opportunities for rest and physical activity, leading to decreased physical fitness (Bajamal et al., 2025; Raju et al., 2025). On the other hand, students who have not yet done clinical practice may have more opportunities to rest and exercise, but they remain at risk of poor sleep quality due to other factors such as academic pressure, sedentary behaviour, and technology (Maisa et al., 2021; Yilmaz et al., 2017). Based on this background, it is deemed necessary to conduct further research on The Relationship between Sleep Quality and Physical Fitness Levels in Practical and Non-Practical Anesthesiology Nursing Students at 'Aisyiyah University of Yogyakarta.

B. Methods

Correlational research design is a non-experimental research method that measures two variables, with a cross-sectional approach , namely a research design where measurements are carried out at one time (Sugiyono, 2023) . The population of this study was 64 Practical Anesthesiology Nursing students and 64 Non-Practical students. So that the total sample is 128 students of the 2022 and 2023 intake of Anesthesiology Nursing, Universitas 'Aisyiyah Yogyakarta. In this study, a simple random sampling type was used for sampling. The test conducted in this study used the spearman rank test to measure the relationship between sleep quality and physical fitness levels in Practical and Non-Practical Anesthesiology Nursing students.

C. Results

The results of this study determine the relationship between sleep quality and physical fitness levels in practical and non-practical anesthesiology nursing students using the Spearman rank statistical test with the provision that sleep quality and physical fitness levels are said to have a significant relationship if the p value is <0.05 (Sugiyono, 2023).

Table 1: Analysis of the Relationship between Sleep Quality and Physical Fitness Level in Practical Anesthesiology Nursing Students

Sleep Quality	Physical Fitness Level										Total		*P-value*	*r*
	Very well		Good		Enough		Not enough		Less than once		Amount			
	F	%	F	%	F	%	F	%	F	%	F	%		
Good	0	0.0	13	100	0	0.0	0	0.0	0	0.0	13	100	0,000	0.544
Enough	0	0.0	26	55.3	20	42.5	1	2.13	0	0.0	47	100		
Bad	0	0.0	0	0.0	0	0.0	3	75	1	25	4	100		
Total	0	0.0	39	60.9	20	31.3	4	6.25	1	1.56	64	100		

Table 1 above shows the results of the analysis of the relationship between sleep quality and the level of physical fitness of practicing anesthesiology nursing students. The results of the statistical test using the Spearman rank test obtained a p-value of 0.000 (p <0.05) which means that there is a significant relationship between sleep quality and the level of physical fitness during practice in Practicing Anesthesiology Nursing Students at Universitas 'Aisyiyah Yogyakarta. The correlation coefficient value obtained was 0.544 which means that the closeness of the relationship is moderate and the direction of the relationship is positive. The positive relationship between sleep quality and the level of physical fitness in practicing students shows that the direction of the relationship between these two variables is in the same direction, meaning that the higher the level of sleep quality, the higher the level of physical fitness in practicing anesthesiology nursing students and vice versa.

Table 2: Analysis of the Relationship between Sleep Quality and Physical Fitness Level in Non-Practical Anesthesiology Nursing Students

Sleep Quality	Physical Fitness Level										Total		*P-value*	*r*
	Very well		Good		Enough		Not enough		Less than once		Amount			
	F	%	F	%	F	%	F	%	F	%	F	%		
Good	24	57.1	17	40.5	1	2.4	0	0.0	0	0.0	24	100.0	0,000	0.745
Enough	0	0.0	8	44.4	10	55.6	0	0.0	0	0.0	25	100.0		
Bad	0	0.0	0	0.0	0	0.0	2	50	2	50	4	100.0		
Total	24	37.5	25	39.0	11	17.2	2	3.13	2	3.13	64	100.0		

Table 2 above shows the results of the analysis of the relationship between sleep quality and the level of physical fitness of non-practice anesthesiology nursing students. The results of the statistical test using the Spearman rank test obtained a p-value of 0.000 (p <0.05) which means that there is a significant relationship between sleep quality and the level of non-practice physical fitness in Non-Practical Anesthesiology Nursing Students at 'Aisyiyah University of Yogyakarta. The correlation coefficient value obtained was 0.745 which means that the closeness of the relationship is strong and the direction of the relationship is positive. The positive relationship between sleep quality and the level of physical fitness in non-practice students shows that the direction of the relationship between these two variables is in the same direction, meaning that the higher the level of sleep quality, the higher the level of physical fitness in non-practice anesthesiology nursing students and vice versa.

D. Discussion

The findings of this study show a positive and quite significant relationship between the level of physical fitness of anesthesiology nursing practicum students at Universitas 'Aisyiyah Yogyakarta and sleep quality. Statistical tests indicate a unidirectional relationship in the moderate relationship category. Meanwhile, the correlation between good sleep and fitness levels was found in a study of students who did not participate in clinical rotations or in non-practice students. There is a strong and positive relationship between sleep quality and physical fitness levels in Non-Practical Anesthesiology Nursing students at Universitas 'Aisyiyah Yogyakarta, as evidenced by statistical tests using the Spearman rank test which produced a p- value of 0.000 (p <0.05). The correlation coefficient value of 0.745 further supports this relationship.

The level of sleep quality in a person has two different cycle phases such as rapid eye movement (REM) this phase during sleep experiences a marked decrease in muscle tone throughout the body. This happens because the stimulation of the brain stem greatly inhibits the spinal projection fibers. While in the non-rapid eye movement phase Non Rapid Eye Movement (NREM) most physiological functions are reduced, increased sympathetic nervous system activity and the number of impulses transmitted to skeletal muscles by skeletal nerves, both of which contribute to increased muscle tension during alertness. The parasympathetic nervous system becomes more active and the sympathetic nervous system becomes less active during sleep. Therefore, a person can expect a 10-30% decrease in basal metabolic rate, dilation of skin blood vessels, decreased pulse rate, decreased blood pressure, and decreased respiratory rate. Both phases greatly affect sleep quality with physical fitness levels. If the quality of sleep is good, the level of physical fitness will be good (Nugraha & Pudjijuniarto, 2019) .

This study is in line with the research of Maulana & Andrijanto, (2020) based on the results of this study, it was found that there was a close and significant relationship between students who had good sleep patterns and good levels of physical fitness with students who had poor sleep quality and poor levels of physical fitness. A person's sleep quality is influenced by several hormones that work in a complex way. Melatonin, a hormone produced by the pineal gland, plays a key role in regulating the sleep-wake cycle. Melatonin production typically increases at night, making us feel sleepy and ready to sleep. Meanwhile, serotonin, a hormone associated with mood and emotions, also plays a role in regulating the sleep-wake cycle. However, cortisol, a stress hormone produced by the adrenal glands, can disrupt sleep quality

if its levels are too high at night. The balance between these hormones is essential for maintaining good sleep quality. Disruptions in the hormonal balance can lead to sleep problems such as insomnia or hypersomnia. Therefore, understanding the role of hormones in sleep can help us take steps to improve sleep quality and maintain hormonal balance.

This study is also in line with Putra's research, (2022) which stated that physical fitness in physical education students has a good level of physical fitness and good sleep quality so that a significant relationship is obtained in the moderate category. Students with poor sleep quality tend to have lower physical fitness. This is due to factors such as stress, fatigue, and lack of physical activity experienced by students with poor sleep quality. According to previous studies, the close relationship between sleep quality and physical fitness levels can affect students' performance and concentration, which can affect their learning outcomes. Therefore, efforts are needed to improve the sleep quality and physical fitness of practicing and non-practicing anesthesiology students at Universitas Aisyiyah Yogyakarta.

Implication and limitation

The findings of this study highlight that sleep quality is a significant determinant of physical fitness among nursing students, with a stronger relationship observed in non-practical students compared to those undergoing clinical practice. This suggests that increased academic and clinical workload may negatively affect students' sleep patterns and physical fitness. Therefore, nursing institutions should consider implementing structured strategies such as workload management, sleep health education, and balanced academic–clinical scheduling to support student well-being. However, this study has several limitations. The cross-sectional design restricts causal inference, and the use of self-reported data may introduce bias. Additionally, the study was conducted in a single institution, limiting generalizability. Future research using longitudinal designs and objective measurements is recommended.

Relevance for Practice

This study provides practical implications for nursing education by emphasizing the importance of maintaining optimal sleep quality to support students' physical fitness, particularly during clinical training periods. Educational institutions should integrate sleep management strategies, stress reduction programs, and balanced clinical workloads to prevent fatigue and decline in physical fitness. By addressing these factors, institutions can enhance students' readiness for clinical practice, improve academic performance, and support the development of physically and mentally resilient future nurses.

E. Conclusion

There is a significant relationship between sleep quality and physical fitness levels in Practical and Non-Practical Anesthesiology Nursing Students at 'Aisyiyah University. The relationship between sleep quality and physical fitness levels in Practical Anesthesiology Nursing Students in the moderate category and Non-Practical in the strong category at 'Aisyiyah University with a positive relationship (moving in the same direction).

Acknowledgment

The authors would like to express their sincere gratitude to Universitas 'Aisyiyah Yogyakarta for providing support and permission to conduct this study. The authors also extend their appreciation to all anesthesiology nursing students who voluntarily participated and contributed their time and responses to this research. Special thanks are given to all individuals and parties who supported the completion of this study.

Author Contribution

Ricyta Islami Fasya contributed to the study conceptualization, data collection, and initial manuscript drafting. Astika Nur Rohmah contributed to the study design, data analysis, and interpretation of the results. Triyas Singgih Pambudi contributed to critical revision of the manuscript, supervision, and final approval of the manuscript. All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

Funding

This research received no external funding.

Declaration of Conflicting Interest

The authors declare no conflict of interest.

Declaration of Use of AI in Scientific Writing

The authors declare that generative AI and AI-assisted technologies were used to support language editing and grammatical refinement of the manuscript.

References

Alameri, R. A., Almulla, H. A., Al Swyan, A. H., & Hammad, S. S. (2024). Sleep quality and fatigue among nurses working in high-acuity clinical settings in Saudi Arabia: a cross-sectional study. *BMC Nursing*, *23*(1), 51. https://doi.org/10.1186/s12912-023-01693-z

Asnindari, L. N., Pratama, Y. Y., Anita, D. C., & Anindawati, Z. (2025). Physical activity levels and their relationship with sleep quality and stress in nursing students. *Proceeding International Conference on Health Science and Technology*, *1*, 230–235. https://proceeding.unisayogya.ac.id/index.php/proichst/article/view/1836

Azizah, A. N., Purnama sari, V., & Husni, N. (2024). Hubungan Self Efficacy Dengan Kecemasan Saat Praktik Klinik Di Intensive Care Unit Pada Mahasiswa Keperawatan Anestesiologi Universitas 'Aisyiyah Yogyakarta. *The Shine Cahaya Dunia D-III Keperawatan*, *9*(01). https://doi.org/10.35720/tscd3kep.v9i01.468

Bajamal, E., Alotaibi, J., Balamash, D., Alsaeedi, E., Ali, H., Alzahrani, J., Swat, L., Alamri, A., Jundi, R., Alzahrani, R., & Alharbi, S. (2025). The Association Between Physical Activity and Quality of Sleep Among Nursing Students in Saudi Arabia. *Healthcare (Basel, Switzerland)*, *13*(16). https://doi.org/10.3390/healthcare13161991

Bouchard, C., Blair, S. N., & Haskell, W. L. (2012). *Physical Activity and Health*. Human Kinetics. https://books.google.co.id/books?id=tO96DwAAQBAJ

Bull, F. C., Al-Ansari, S. S., Biddle, S., Borodulin, K., Buman, M. P., Cardon, G., Carty, C., Chaput, J.-P., Chastin, S., Chou, R., Dempsey, P. C., DiPietro, L., Ekelund, U., Firth, J., Friedenreich, C. M., Garcia, L., Gichu, M., Jago, R., Katzmarzyk, P. T., … Willumsen, J. F. (2020). World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *British Journal of Sports Medicine*, *54*(24), 1451–1462. https://doi.org/10.1136/bjsports-2020-102955

Carvalho, F., Vilaça, J., Carvalho, A. L., Pontes, T., & Carvalho, S. (2020). Sleep quality and bullying - prevalence in a cohort of Portuguese students. *International Journal of Adolescent Medicine and Health*, *34*(4), 163–169. https://doi.org/10.1515/ijamh-2020-0018

Chung, K.-F., Kan, K. K.-K., & Yeung, W.-F. (2014). Insomnia in adolescents: prevalence, help-seeking behaviors, and types of interventions. *Child and Adolescent Mental Health*, *19*(1), 57–63. https://doi.org/https://doi.org/10.1111/camh.12009

Huwaida, Z., Anggraini, F. T., & Firdawati, F. (2022). Hubungan Aktivitas Fisik dengan Kebugaran Jasmani Siswa SDN 13 Sungai Pisang. *Jurnal Ilmu Kesehatan Indonesia*, *2*(4 SE-Research Articles), 243–248. https://doi.org/10.25077/jikesi.v2i4.361

Kline, C. E., Hillman, C. H., Bloodgood Sheppard, B., Tennant, B., Conroy, D. E., Macko, R. F., Marquez, D. X., Petruzzello, S. J., Powell, K. E., & Erickson, K. I. (2021). Physical activity and sleep: An updated umbrella review of the 2018 Physical Activity Guidelines Advisory Committee report. *Sleep Medicine Reviews*, *58*, 101489. https://doi.org/10.1016/j.smrv.2021.101489

Maisa, E. A., Andrial, A., Murni, D., & Sidaria, S. (2021). Hubungan Stres Akademik dengan Kualitas Tidur Mahasiswa Keperawatan Tingkat Akhir Program Alih Jenjang. *Jurnal Ilmiah Universitas Batanghari Jambi*, *21*(1), 438. https://doi.org/10.33087/jiubj.v21i1.1345

Ortega, F. B., & Ruiz, J. R. (2015). Fitness in Youth. *American Journal of Lifestyle Medicine*, *9*(6), 403–408. https://doi.org/10.1177/1559827615598531

Ozemek, C., Bonikowske, A., Christle, J., & Gallo, P. (2025). *ACSM's guidelines for exercise testing and prescription* (12th ed.). Lippincott Williams & Wilkins.

Puchalska-Sarna, A., Baran, R., Kustra, M., Pop, T., Herbert, J., & Baran, J. (2022). The Level and Factors Differentiating the Physical Fitness of Adolescents Passively and Actively Resting in South-Eastern Poland-A Pilot Study. *Children (Basel, Switzerland)*, *9*(9). https://doi.org/10.3390/children9091341

Raju, P. T., Sadasivam, K., Ragupathy, S., Aanantha, K. N. R., Premsundar, K., Srinivasan, Y., Ayyavoo, S., & Periasamy, P. (2025). Sleep Quality Among Medical Students: A Cross-Sectional Study at SRM Medical College and Research Centre. *Journal of Pharmacy & Bioallied Sciences*, *17*(Suppl 2), S1934–S1936. https://doi.org/10.4103/jpbs.jpbs_362_25

Sinuraya, J. F., & Barus, J. B. N. B. (2022). Tingkat Kebugaran Jasmani Mahasiswa Pendidikan Olahraga Universitas Quality Berastagi Masa Era New Normal Tahun Akademik 2021/2022. *JURNAL CURERE*, *6*(1), 55. https://doi.org/10.36764/jc.v6i1.711

Steivy, T. U., Caranto, L., & David, J. J. T. (2015). The real World: Lived experiences of student nurses during clinical practice. *Int. J. Nurs. Sci.*, *5*, 66–75.

Sugiyono. (2023). Qualitative Research Methods (For research that is: exploratory, enterpretive, interactive and constructive). *Qualitative Research Methods* , 1–274. http://belajarpsikologi.com/metode-penelitian-kualitatif/

Tandiono, E. K., Sundari, L. P. R., Primayanti, I. D. A. I. D., & Adiatmika, I. P. G. (2021). Correlation between sleep quality and physical fitness among medical students of Udayana University. *International Journal of Research in Medical Sciences*, *9*(3 SE-Original Research Articles), 691–695. https://doi.org/10.18203/2320-6012.ijrms20210867

Tremblay, M. S., Warburton, D. E. R., Janssen, I., Paterson, D. H., Latimer, A. E., Rhodes, R. E., Kho, M. E., Hicks, A., Leblanc, A. G., Zehr, L., Murumets, K., & Duggan, M. (2011). New Canadian physical activity guidelines. *Applied Physiology, Nutrition, and Metabolism = Physiologie Appliquee, Nutrition et Metabolisme*, *36*(1), 36–58. https://doi.org/10.1139/H11-009

Wübbeler, M., Geis, S., Teigelake, B., & Schoening, S. (2021). Health-Related Quality of Life and Undergraduate Nursing Students: A Narrative Review. *The Open Nursing Journal*, *15*, 244–253. https://doi.org/https://doi.org/10.2174/1874434602115010244

Xu, L., Yan, W., Hua, G., He, Z., Wu, C., & Hao, M. (2025). Effects of physical activity on sleep quality among university students: chain mediation between rumination and depression levels. *BMC Psychiatry*, *25*(1), 7. https://doi.org/10.1186/s12888-024-06450-3

Yilmaz, D., Tanrikulu, F., & Dikmen, Y. (2017). Research on Sleep Quality and the Factors Affecting the Sleep Quality of the Nursing Students. *Current Health Sciences Journal*, *43*(1), 20–24. https://doi.org/10.12865/CHSJ.43.01.03

Yılmaz, D. A., Yıldız, G. N., Çiftçi, B., & Yıldız, Ö. (2024). Examination of the Relationship Between Physical Activity, Perceived Stress and Sleep Quality of Nursıng Students: A Cross-Sectional and Correlational Study TT - Hemşirelik Öğrencilerinde Fizıksel Aktivite, Algılanan Stres ve Uyku Kalitesi Arasındaki İlişkinin İncelenmesi: Kesitsel ve Korelasyonel Bir Çalışma. *Journal of Sport for All and Recreation*, *6*(1), 1–8. https://doi.org/10.56639/jsar.1410108