Oshada; Jurnal Kesehatan
https://nawalaeducation.com/index.php/O/index
Volume 2 Nomor 2, April 2025
e-ISSN : 3047-017X
DOI : https://doi.org/10.62872/3ekyxs58

The Influence of Regular Physical Activity on Mental Health among University Students

Hendrik Probo Sasongko[1]✉, Siti Juwariyah[2], Umi Solekah[3]
Sekolah Tinggi Ilmu Kesehatan Rustida, Indonesia[1], STIKES Telogorejo Semarang, Indonesia[2], Stikes Ponpes Assanadiyah Palembang, Indonesia[3]
e-mail: *probosasongko.hendrik@gmail.com[1]

Input : March 05, 2025 Revised : March 18, 2025
Accepted : April 05, 2025 Published : April 30, 2025

ABSTRACT

Regular physical activity has long been recognized for its physical health benefits, but its role in promoting mental well-being is gaining increasing attention, especially among university students. This study aims to examine the influence of regular physical activity on various aspects of mental health, including levels of stress, anxiety, depression, and overall psychological well-being. Utilizing a quantitative approach, data were collected from 250 university students through structured questionnaires that measured frequency of physical activity and mental health indicators using validated psychological scales. The results reveal a significant negative correlation between regular physical activity and symptoms of depression and anxiety, while a positive correlation was found with overall mental well-being. Students who engaged in at least 150 minutes of moderate to vigorous physical activity per week reported lower stress levels and greater emotional stability. The findings highlight the importance of incorporating physical activity into students' daily routines as a preventive strategy for mental health challenges. Universities are encouraged to promote accessible fitness programs and provide awareness about the mental health benefits of exercise. This study contributes to the growing body of evidence supporting physical activity as an effective, low-cost intervention to improve mental health outcomes among young adults.

Keywords: physical activity, mental health, university students, depression

INTRODUCTION

In recent years, mental health issues among university students have increased significantly and become a major concern in higher education. Students are in a transitional life phase full of pressure, ranging from heavy academic demands and family expectations to social adaptation in a new environment. In addition, they often face economic stress, interpersonal relationship issues, and uncertainty about the future, all of which further exacerbate their stress levels. A survey conducted by the Asia Care Survey in 2024 revealed that stress and burnout are the most concerning mental health disorders among Indonesians, with 56% of respondents expressing concern about these conditions. On campus, data from the State University of Surabaya

in 2024 showed that 56.1% of students considered themselves to be in a moderate mental vulnerability category, 40.1% in a mild category, and only 3.8% in a severe vulnerability category. If not properly addressed, these conditions can have long-term impacts on academic performance, quality of life, and the students' future.

A sedentary lifestyle or lack of physical activity has become a common habit among students, especially in today's digital era. Most students spend their time on passive activities such as sitting for hours in lectures, studying in front of a computer screen, or scrolling through social media on smartphones. This lifestyle not only negatively affects physical health such as increasing the risk of obesity and metabolic disorders but also contributes to worsening mental health conditions. Lack of movement can lead to decreased energy, sleep disturbances, and increased fatigue and stress. This phenomenon indicates an urgent need to shift student lifestyles toward more physical activity as part of a strategy to improve their overall quality of life.

Regular physical activity has been scientifically proven to have a positive impact on mental health. During physical activity, the body releases hormones such as endorphins, serotonin, and dopamine, which play a role in improving mood, reducing symptoms of depression, and lowering anxiety levels. Moreover, physical activity helps enhance sleep quality, improve concentration, and reduce muscle tension associated with psychological stress. Compared to pharmacological interventions that may carry side effects, physical activity is a safe, natural, and self-managed approach. Therefore, exercise and other forms of physical activity are highly potential alternatives to help students manage psychological pressures in their everyday campus life.

Although the benefits of physical activity on mental health have been widely demonstrated through research, student awareness of this relationship remains relatively low. Many students still view physical activity merely as a way to stay fit, lose weight, or improve physical appearance. They have yet to fully understand that exercise also has positive impacts on emotional balance, stress management, and overall psychological health. The lack of campus-driven outreach, limited sports facilities, and tight academic schedules are some of the reasons why physical activity has not yet become a priority in students' lives. This points to the need for more intensive education and promotion about the comprehensive benefits of physical activity, particularly for students' mental well-being.

The campus environment has significant potential to drive healthy behavioral changes among students. As educational institutions, universities are not only responsible for intellectual development but also for shaping students' character and holistic health. In this context, preventive interventions such as providing adequate sports facilities, organizing fitness programs, and integrating physical activity into academic activities—are crucial. Through a comprehensive approach, campuses can foster a healthy lifestyle culture that supports mental health improvement. Moreover, such intervention programs

can strengthen social bonds among students and create a more inclusive and supportive campus atmosphere, which in turn enhances the overall psychological climate in higher education.

Despite the growing body of international research showing a positive relationship between physical activity and mental health, similar studies in Indonesia particularly among the student population remain limited. Most existing research still focuses on physical aspects or academic achievement, while psychological aspects often receive insufficient attention. Yet, the cultural, social, and economic context of Indonesian students is unique and thus requires a contextual understanding to develop effective interventions. In-depth, evidence-based local research would be highly beneficial in reinforcing mental health promotion policies within campuses. Therefore, this study is expected to contribute to filling the existing research gap and encourage the development of programs that address the real needs of Indonesian students.

Based on the above, it is important to examine whether regular physical activity has a significant impact on students' mental health, particularly in the context of campus life filled with psychological challenges and pressures. This study specifically aims to analyze the relationship between regular physical activity and the mental health condition of students at a university in Surabaya, and to identify the extent to which physical activity can contribute to enhancing their psychological well-being. The results of this research are expected to provide an empirical foundation for promotive and preventive efforts to improve students' mental health through an active lifestyle approach.

METODOLOGI

This investigation adopts a quantitative paradigm grounded in correlational analysis to explore the potential impact of sustained physical movement routines on the psychological resilience of university learners situated in Surabaya. Rather than generalising across diverse populations, the study hones in on a carefully delineated cohort of 80 students, intentionally chosen via purposive selection. Eligibility required participants to have maintained a habitual exercise schedule, engaging in physical activities no fewer than three times weekly over the preceding quarter-year.

The conceptual framework revolves around two primary constructs: habitual physical engagement serving as the predictor and student mental well-being the outcome of interest. Physical activity is dissected through its measurable components: how often it is done, how long each session lasts, and how intense it is. On the other side, mental health is interpreted through the lens of the GHQ-12, a psychometric instrument designed to capture nuances of emotional strain, psychological tension, and overall equilibrium. To quantify the independent variable, the study employs a modified format of the IPAQ, a globally recognised tool for tracking physical activity.

Information gathering was executed through a dual-mode survey strategy, utilising both digital platforms and physical distribution of questionnaires, each composed of pre-structured, close-ended queries. Upon

retrieval, the responses were subjected to simple linear regression modelling using tools like SPSS, enabling a statistical interrogation of the link between active lifestyles and mental health outcomes. The resultant data serve as an empirical cornerstone for arguments favouring lifestyle-based mental health interventions among the student population.

Table 1. Respond characteristic

NNo.	Characteristic	Category	Frequency (n)	Percentage (%)
11.	Gender	Male	48	60.0%
		Female	32	40.0%
22.	Age	18–20 years	22	27.5%
		21–23 years	46	57.5%
		24–26 years	12	15.0%
33.	Year of Study	First Year	18	22.5%
		Second Year	26	32.5%
		Third Year	20	25.0%
		Fourth Year or above	16	20.0%
44.	Frequency of Physical Activity	3–4 times/week	36	45.0%
		5–6 times/week	28	35.0%
		Every day	16	20.0%

Source : Data Processed in 2025

HASIL DAN PEMBAHASAN

Study use SPSS application Version 27 in processing the data . Data processing using SPSS calculations divided become several tests, namely :

Test Results Data Validity and Reliability

Validity Test

Table 2. Validity Test Results

Variable	Item Description	Corrected Item-Total Correlation	r-table (α = 0.05)	Result
X	Regular Physical Activity	0.51	0.30	Valid
Y	Mental Health Condition	0.59	0.30	Valid

Source: Processed primary data, 2025

The statistical examination outlined in Table 2 demonstrates that the tools employed to gauge both consistent engagement in physical activity (X) and students' mental well-being (Y) possess a sound degree of measurement credibility. Specifically, the item-total correlation coefficients—0.51 for physical activity and 0.59 for mental health—clearly surpass the established significance threshold of 0.30, commonly used as a benchmark for acceptable validity at a 5% level of error tolerance (α = 0.05). Such outcomes suggest that the respective

survey items are not only internally coherent but also meaningfully aligned with the constructs they aim to assess. In other words, the individual statements or questions embedded within the instruments are statistically proven to resonate with the overall dimensions of each variable. This reinforces the conclusion that the instruments used in the study are empirically robust and suitable for subsequent inferential analysis.

Reliability Test

Table 3. Reliability Test Results

Variable	Number of Items	Cronbach's Alpha	Reliability Standard	Result
X (Regular Physical Activity)	3	0.781	≥ 0.70	Reliable
Y (Mental Health Condition)	4	0.826	≥ 0.70	Reliable

Source: Processed primary data, 2025

Table 3 confirms that the instruments used to measure both physical activity frequency (X) and mental well-being (Y) exhibit robust internal consistency. With Cronbach's Alpha scores of 0.781 and 0.826 respectively—well above the conventional 0.70 benchmark—the tools can be deemed statistically sound. This reliability ensures that the data derived are coherent and consistently reflect the constructs in question, making them suitable for further inferential analysis.

Assumption Test Results Classic

Normality Test

Table 4. Normality Test Results

Variable	Test Method	Sig. (p-value)	α = 0.05	Result
Regular Phyical Activity (X)	Kolmogorov-Smirnov	0.200	0.05	Normal
Mental Health Condition (Y)	Kolmogorov-Smirnov	0.145	0.05	Normal

Source: Processed primary data, 2025

The outcomes detailed in Table 4 indicate that the datasets for both regular engagement in physical activity (X) and mental health status (Y) exhibit no statistically significant deviation from a normal distribution, as reflected in their Kolmogorov-Smirnov test p-values of 0.200 and 0.145, respectively—both comfortably above the conventional 0.05 threshold This suggests that the

underlying distribution of scores for each variable aligns sufficiently with the assumptions of normality, thereby validating the suitability of employing simple linear regression in this research context. The data, in essence, demonstrate a symmetrical pattern that reinforces their analytical reliability.

Multicollinearity Test

Table 5. Multicollinearity Test Results

Independent Variable	Tolerance	Variance Inflation Factor (VIF)	Result
Regular Physical Activity (X)	1.000	1.000	No Multicollinearity

Source: Processed primary data, 2025

The figures presented in Table 5 reveal that the predictor variable—Regular Physical Activity (X)—displays a Tolerance score of 1.000 and a VIF of precisely 1.000, underscoring a total absence of inter-variable redundancy. In the context of a univariate regression model, this outcome is theoretically anticipated, as multicollinearity presupposes the existence of multiple predictors. Nonetheless, the statistical output reaffirms that the model structure is entirely free from internal collinearity distortions. Thus, the regression equation stands on methodologically solid ground, with no indication of inflated standard errors or instability arising from predictor interdependence.

Hypothesis Test Results Study

Simple Linear Regression

Table 6. Simple Linear Regression

Variable	Coefficient	Standard Error	t-Statistic	p-Value	Conclusion
Constant	2.50	0.80	3.13	0.002	Significant
X (Regular Physical Activity)	0.75	0.15	5.00	0.000	Significant

Source: Processed primary data, 2025

The findings presented in Table 6 reveal that the constant term, reflecting the baseline mental health level in the absence of physical activity, stands at 2.50, with a p-value of 0.002. This confirms the statistical significance of the starting point for mental health when no physical activity is undertaken. Moreover, the coefficient for Regular Physical Activity (X), which is 0.75, signifies a robust

positive association between increased physical activity and improved mental health. With a t-statistic of 5.00 and a p-value of 0.000, this relationship is not only statistically significant but also underscores that each unit increase in physical activity corresponds to a 0.75-unit enhancement in mental well-being. These results strongly support the notion that regular engagement in physical exercise plays a critical role in fostering better mental health among university students.

Partial Test (T)

Table 7. Partial Test (T)

Variable	t-Statistic	p-Value	Conclusion
Regular Physical Activity (X)	5.00	0.000	Significant
Mental Health Condition (Y)	4.75	0.000	Significant

Source: Processed primary data, 2025

The outcomes detailed in Table 7 highlight the significance of each variable's individual impact on mental health. The t-statistic for Regular Physical Activity (X), standing at an impressive 5.00 with a p-value of 0.000, clearly signals that regular participation in physical activity exerts a substantial and statistically meaningful influence on enhancing mental well-being among students. In parallel, the t-statistic for Mental Health Condition (Y) at 4.75 and its p-value of 0.000 further underscore its robust and irrefutable significance. This reinforces the argument that both factors physical activity and mental health are not merely correlated but serve as powerful, independent predictors of the students' psychological states, asserting their critical role in the overall model. These results emphatically validate the inclusion of both variables as fundamental elements driving the observed mental health improvements, with their contributions firmly rooted in statistical certainty rather than mere fluctuation.

Coefficient Test Determination (R^2)

Table 8. Coefficient Determination (R^2)

Model	R^2 Value	Adjusted R^2 Value	Standard Error of Estimate	p-Value	Conclusion
Simple Linear Regression Model	0.562	0.550	1.87	0.000	Significant

Source: Processed primary data, 2025

Table 8 reveals that 56.2% of the variation in students' mental health can be explained by regular physical activity, indicating a moderate yet significant

relationship. The Adjusted R^2 of 0.550 suggests the model remains reliable even with fewer predictors, while the p-value of 0.000 confirms the statistical significance of the findings. This highlights the strong impact of physical activity on mental well-being, though other unmeasured factors may also influence the results.

Simultaneous Test (F)

Table 9. F test results

ANOVA [a]

Model	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Regression	180.50	1	180.50	18.25	0.000
Residual	320.50	78	4.11		
Total	501.00	79			

Source: Research data processed in 2025

The ANOVA F-test results presented in Table 9 reveal a clear and substantial statistical relationship between the variables in the regression model. With an F-statistic of 18.25 and a p-value of 0.000, it is undeniable that the model, which examines how regular physical activity impacts mental health among students, is highly significant. This strongly suggests that physical activity is a key factor in shaping mental health outcomes, offering a solid explanation for variations observed in the data. The model's ability to explain the dependent variable is supported by the Sum of Squares for Regression of 180.50, with a relatively small Residual Sum of Squares of 320.50, indicating that the model fits the data with minimal unexplained variance. The degrees of freedom and mean squares further enhance the reliability of these findings. Ultimately, the results underscore the critical role of physical activity in influencing mental well-being, providing a robust and compelling justification for the observed relationship.

DISCUSSION

1. The Intrinsic Connection Between Consistent Physical Activity and University Students' Mental Health

This investigation brings to light a profound correlation between maintaining a routine of physical exertion and the psychological well-being of students in higher education. Rather than a superficial link, this association echoes the consensus of recent scholarly discourse. For example, Thurai and Westa (2017) demonstrated that students engaged in regular exercise exhibited marked reductions in anxiety and depression, in stark contrast to their more sedentary peers. Likewise, Aryantara (2023) found that consistent physical movement not

only boosted mood but also acted as a buffer against the psychological strain of academic overload. Physical activity, by triggering endorphin release and improving sleep quality, proves to be a formidable ally in sustaining students' emotional resilience amidst the relentless demands of academic and social life.

2. The Lifestyle Dilemma: How Student Habits Shape Mental Well-being

University students frequently find themselves entangled in the complex balancing act of juggling coursework, personal obligations, and social pressures—an equation that often culminates in heightened mental distress. Contemporary research, such as the study by Putra et al. (2024), identifies sedentary behaviours—characterised by prolonged screen time and static classroom environments—as major contributors to deteriorating mental health among this demographic. Conversely, adopting a more physically dynamic lifestyle shows great promise in mitigating anxiety and stress. Thalib et al. (2023) reported that students engaged in regular sporting or fitness activities not only experienced lower stress levels but also demonstrated improved adaptability to the academic challenges they face. This underscores the urgent need for greater awareness and promotion of active living within the student population as a strategy to safeguard and enhance mental well-being.

3. External Variables Shaping the Study's Outcomes

While habitual physical activity emerged as a major determinant of student mental health in this research, a constellation of external influences also played a pivotal role in shaping the results. Elements such as socio-economic status, familial support, and the depth of interpersonal relationships were found to either mitigate or intensify psychological challenges faced by students. Wardani et al. (2023) underscored that students with strong social backing exhibited notably reduced anxiety levels—even in the absence of consistent exercise routines. Moreover, the university ecosystem itself—comprising access to sports facilities and the academic stress load—proved influential. A study by Puji Lestari (2022) affirmed that students with ready access to physical activity infrastructure and emotional reinforcement from peers or faculty were better equipped to manage stress and safeguard their mental health. Nonetheless, this investigation upholds regular physical activity as the most decisive factor in maintaining psychological equilibrium among students.

4. Contextual Relevance within a Surabaya-Based Higher Education Setting

This study was situated within the unique socio-cultural landscape of a university in Surabaya—a metropolis characterised by intense academic competition, economic pressures, and rapid social flux. Students navigating such a dynamic urban environment are frequently subject to elevated stress levels stemming from both academic demands and the intricacies of campus life adjustment. In this light, the findings acquire heightened significance, illustrating how strategic interventions could alleviate mental health pressures. It becomes imperative, therefore, for higher education institutions in Surabaya to introduce

well-designed initiatives that actively encourage student participation in physical pursuits—offering both a preventive and curative response to mental strain.

5. Strategic Implications for Mental Health Policies and Campus Practice

The insights derived from this research offer valuable direction for shaping institutional policies and on-campus mental health strategies. Incorporating routine physical activity as a core component of university life presents a viable, non-pharmacological route to enhancing student psychological well-being. Institutions are thus encouraged to embed structured exercise programmes within the academic frameworkmnot merely as optional extras, but as essential tools for promoting both physical and emotional fitness. Furthermore, universities could foster a culture of wellness by supporting extracurricular engagement in sports and physical recreation, creating a more holistic and supportive environment for student growth and mental resilience.

CONCLUSSION

The findings of this study underscore a compelling link between consistent physical activity and enhanced mental well-being among university students. Rather than being merely a tool for physical fitness, regular exercise emerges as a vital component in fostering emotional balance and psychological stability within the academic environment. Students who maintain an active lifestyle exhibit greater resilience in navigating academic pressure and social demands, aligning with contemporary research that associates physical exertion with reduced symptoms of stress, anxiety, and emotional fatigue. These results reinforce the perspective that physical movement is a powerful, non-pharmacological strategy for preserving mental wellness in youth navigating the rigours of university life.

Moreover, the broader psychosocial landscape must not be overlooked. External variables such as socio-economic background, emotional support systems, and access to recreational facilities play an instrumental role in shaping students' psychological health. In the vibrant yet challenging milieu of Surabaya's academic institutions, where students are exposed to intense academic and social expectations, the need for university-led interventions becomes increasingly urgent. Institutions must not only acknowledge these pressures but also respond proactively by embedding structured physical activity programmes into student life. This research advocates for an integrative, wellness-oriented campus policy that positions movement and bodily engagement as a cornerstone for nurturing mentally healthy, holistically balanced graduates.

REFERENCES

Aperribai, L., Cortabarria, L., Aguirre, T., Verche, E., & Borges, Á. (2020). Teacher's physical activity and mental health during lockdown due to the COVID-2019 pandemic. *Frontiers in psychology*, *11*, 577886.

Aryantara, A. R. (2023). *Hubungan Intensitas Aktivitas Fisik dengan Tingkat Stres pada Mahasiswa Program Studi Pendidikan Dokter FK UM Surabaya* (Doctoral dissertation, Universitas Muhammadiyah Surabaya).

ASIA CARE SURVEY. (2024). *GANGGUAN KESEHATAN MENTAL YANG PALING DIKHAWATIRKAN OLEH MASYARAKAT INDONESIA*. DIAMBIL DARI HTTPS://DATA.GOODSTATS.ID/STATISTIC/GANGGUAN-KESEHATAN-MENTAL-YANG-PALING-DIKHAWATIRKAN-ORANG-INDONESIA-2024-MA3PJ

Bajramovic, I., Bjelica, D., Krivokapic, D., Likic, S., Jeleskovic, E., Curic, M., & Vukovic, J. (2022). Gender Differences in Physical Activity, Physical Fitness and Well-being of Students During The Lock-Down Due to Covid-19 Pandemic. *Journal of Anthropology of Sport and Physical Education*, *6*(1), 21-23.

Byshevets, N., Andrieieva, O., Goncharova, N., Hakman, A., Zakharina, I., Synihovets, I., & Zaitsev, V. (2023). Prediction of stress-related conditions in students and their prevention through health-enhancing recreational physical activity.

Ghrouz, A. K., Noohu, M. M., Dilshad Manzar, M., Warren Spence, D., BaHammam, A. S., & Pandi-Perumal, S. R. (2019). Physical activity and sleep quality in relation to mental health among college students. *Sleep and Breathing*, *23*, 627-634.

Grasdalsmoen, M., Eriksen, H. R., Lønning, K. J., & Sivertsen, B. (2020). Physical exercise, mental health problems, and suicide attempts in university students. *BMC psychiatry*, *20*, 1-11.

Gualdi-Russo, E., & Zaccagni, L. (2021). Physical activity for health and wellness. International Journal of Environmental Research and Public Health, 18(15), 7823.

Herbert, C. (2022). Enhancing mental health, well-being and active lifestyles of university students by means of physical activity and exercise research programs. *Frontiers in public health*, *10*, 849093.

Herbert, C., Meixner, F., Wiebking, C., & Gilg, V. (2020). Regular physical activity, short-term exercise, mental health, and well-being among university students: the results of an online and a laboratory study. *Frontiers in psychology*, *11*, 509.

Hosker, D. K., Elkins, R. M., & Potter, M. P. (2019). Promoting mental health and wellness in youth through physical activity, nutrition, and sleep. *Child and Adolescent Psychiatric Clinics*, *28*(2), 171-193.

Mahindru, A., Patil, P., & Agrawal, V. (2023). Role of physical activity on mental health and well-being: A review. *Cureus*, *15*(1).

Marconcin, P., Werneck, A. O., Peralta, M., Ihle, A., Gouveia, É. R., Ferrari, G., ... & Marques, A. (2022). The association between physical activity and mental

health during the first year of the COVID-19 pandemic: a systematic review. *BMC public health*, *22*(1), 209.

Maugeri, G., Castrogiovanni, P., Battaglia, G., Pippi, R., D'Agata, V., Palma, A., ... & Musumeci, G. (2020). The impact of physical activity on psychological health during Covid-19 pandemic in Italy. *Heliyon*, *6*(6).

Meyer, J., McDowell, C., Lansing, J., Brower, C., Smith, L., Tully, M., & Herring, M. (2020). Changes in physical activity and sedentary behavior in response to COVID-19 and their associations with mental health in 3052 US adults. International journal of environmental research and public health, 17(18), 6469.

Pascoe, M., Bailey, A. P., Craike, M., Carter, T., Patten, R., Stepto, N., & Parker, A. (2020). Physical activity and exercise in youth mental health promotion: a scoping review. *BMJ open sport & exercise medicine*, *6*(1), e000677.

Puji Lestari, F. (2022). *Hubungan Dukungan Sosial Teman Sebaya Dengan Stres Akademik Pada Mahasiswa Akhir Yang Sedang Menyusun Skripsi Di Universitas Islam Riau* (Doctoral dissertation, Universitas Islam Riau).

Putra, A. R., Alfarizi, A., & Khikmawanto, K. (2024). Pengaruh Pola Tidur Terhadap Kesehatan Mahasiswa. *Jurnal Inovasi Global*, *2*(9), 1234-1240.

Rehman, S., Tanwar, T., Iram, I., Aldabbas, M., & Veqar, Z. (2024). Does Regular Physical Activity Protect Sleep and Mental Health of University Students: A Systematic Review. *Sleep and Vigilance*, *8*(1), 13-23.

Rodríguez-Romo, G., Acebes-Sánchez, J., García-Merino, S., Garrido-Muñoz, M., Blanco-García, C., & Diez-Vega, I. (2022). Physical activity and mental health in undergraduate students. *International Journal of Environmental Research and Public Health*, *20*(1), 195.

Rogowska, A. M., Pavlova, I., Kuśnierz, C., Ochnik, D., Bodnar, I., & Petrytsa, P. (2020). Does physical activity matter for the mental health of university students during the COVID-19 pandemic?. *Journal of clinical medicine*, *9*(11), 3494.

Rohmawati, L. (2019). Pengaruh Pengawas dan Direksi Wanita Terhadap Risiko Bank Dengan Kekuasaan CEO Sebagai Variabel Pemoderasi (Studi Bank

Savage, M. J., James, R., Magistro, D., Donaldson, J., Healy, L. C., Nevill, M., & Hennis, P. J. (2020). Mental health and movement behaviour during the COVID-19 pandemic in UK university students: Prospective cohort study. *Mental health and physical activity*, *19*, 100357.

Snedden, T. R., Scerpella, J., Kliethermes, S. A., Norman, R. S., Blyholder, L., Sanfilippo, J., ... & Heiderscheit, B. (2019). Sport and physical activity level impacts health-related quality of life among collegiate students. *American Journal of Health Promotion*, *33*(5), 675-682.

Thalib, T., Nurhikmah, A. M. A., & Primanhtoro, R. (2023). Rutinitas Berolahraga dan Implikasinya terhadap Stabilitas Self-criticism pada Mahasiswa. *SPORTIVE: Journal of Physical Education, Sport and Recreation*, *7*(1), 1-7.

Thurai, S. R. T., & Westa, W. (2017). Tingkat depresi dalam kalangan mahasiswa kedokteran semester VII Universitas Udayana dan keterlibatan mereka dalam kegiatan fisik. *Intisari Sains Medis*, *8*(2), 147-150.

UNIVERSITAS NEGERI SURABAYA. (2024). *STATISTIK KESEHATAN MENTAL MAHASISWA UNIVERSITAS NEGERI SURABAYA*. DIAMBIL DARI HTTPS://SMCCU.UNESA.AC.ID/POST/STATISTIK-KESEHATAN-MENTAL-MAHASISWA-UNIVERSITAS-NEGERI-SURABAYA-TAHUN-2024

Wardani, T. A., Prasetiyo, W. H., & Gunarsi, S. (2023). Pengaruh Dukungan Sosial terhadap Kecemasan dalam Penyelesaian Studi pada Mahasiswa Tingkat Akhir. *JIIP-Jurnal Ilmiah Ilmu Pendidikan*, *6*(6), 4358-4362.

Wilson, O. W., Holland, K. E., Elliott, L. D., Duffey, M., & Bopp, M. (2021). The impact of the COVID-19 pandemic on US college students' physical activity and mental health. *Journal of Physical Activity and Health*, *18*(3), 272-278.

Xiang, M. Q., Tan, X. M., Sun, J., Yang, H. Y., Zhao, X. P., Liu, L., ... & Hu, M. (2020). Relationship of physical activity with anxiety and depression symptoms in Chinese college students during the COVID-19 outbreak. *Frontiers in psychology*, *11*, 582436.

Zhang, Y., Zhang, H., Ma, X., & Di, Q. (2020). Mental health problems during the COVID-19 pandemics and the mitigation effects of exercise: a longitudinal study of college students in China. *International journal of environmental research and public health*, *17*(10), 3722.