

Psychometric Test of the Routine Exercise Intention Measurement Tool

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Abstract: The aim of this study was to develop and evaluate a measurement tool for regular exercise intention based on the Theory of Planned Behavior, focusing on its validity and reliability. The instrument consisted of four core dimensions: intention, perceived behavioral control (PBC), attitude, and subjective norm. The development process included setting objectives, identifying constructs, exploring salient beliefs through interviews, compiling items, conducting qualitative selection, and performing psychometric testing. The initial version applied a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), and only items with correlation coefficients above 0.2 were retained. Construct validity was examined through correlations with EQ-5D-5L scores and a contrast group analysis comparing students who exercised regularly with those who did not. Reliability was assessed using Cronbach's Alpha. A total of 69 active students aged 18–25 years participated in the study. The results showed that all four dimensions had significant correlations with both the LSS and VAS EQ-5D-5L scores. Group contrast analysis demonstrated that the instrument could distinguish between intention and PBC, but not between attitude and subjective norms. Reliability values ranged from 0.794 to 0.888, indicating strong internal consistency. Overall, the instrument proved to be valid and reliable; however, testing with larger and more diverse samples is recommended to enhance generalizability and discriminant validity.

Keywords: Exercise Intention, *Theory of Planned Behavior*, Reliability, Validity, College Students

1 INTRODUCTION

Regular physical activity and exercise have been shown to offer numerous benefits for both physical and mental health. According to Arqom (in Ramadhan and Yuliasrid, 2021), exercise is a physical activity that is carried out in a structured and routine manner within a certain period of time with the aim of maintaining fitness and health. Exercise has been shown to increase cardiorespiratory endurance, maintain and improve body metabolism, and reduce the risk of various chronic diseases, such as obesity, heart disease, and diabetes (Warbuton and Bredin, 2017). Exercise is also known to be used as a coping strategy for most people, as it increases endorphins, which play a role in emotional regulation (Widariyani, 2008). However, research shows that university students' participation in routine sports activities is still relatively low. This is due to sedentary lifestyle, academic pressure, and lack of free time to exercise (Wayan Gede Suarjana et al., 2023; JPHR, 2022).

A regular exercise intention measurement tool is a device used to assess exercise intentions, typically in the form of a questionnaire designed to measure an individual's motivation, commitment, and willingness to exercise consistently. Therefore, the researcher intends to develop a measurement tool for the intention to exercise regularly for university students using the Theory of Planned Behavior (TPB) (Ajzen, 1991). This theory states that a person's behavior to do something can be predicted by the *intention*, *attitude*, *subjective norms*, and *perceived behavior control* that a person has towards the behavior. This study aimed to develop and test the psychometric properties of a measure of intention to exercise regularly, especially in university students. The intention to exercise is an individual's motivation or awareness over a certain period of time to exercise consistently in order to achieve the health benefits of regular exercise, such as increased muscle mass, improved endurance, and reduced risk of various diseases, such as diabetes or other chronic diseases (Arief Rifki et al., 2024). The purpose of this study is to evaluate the psychometric properties of the "Regular Exercise Intention" measurement tool to determine its validity and reliability in measuring the intention to exercise among students.

The research was conducted using a quantitative approach and psychometric procedures, namely construct validity tests, namely correlation with other tests and contrast group comparisons, and reliability tests using Cronbach's Alpha technique. The validity test for correlation with other tests was carried out using a measuring instrument that has been valid and reliable in Indonesia, namely the EQ-5D-5L. The EQ-5D-5L is a health-related quality of life measurement tool that has been shown to be associated with a person's healthy behavior (Prabowo et al, 2023). Discriminant validity was carried out by comparing scores from two different groups, namely groups who exercise regularly and groups who do not exercise regularly. This research is expected not only to produce a valid and reliable measuring instrument for measuring

the intention to exercise regularly in college students but also to become the basis for developing interventions that support a healthy lifestyle in the student environment.

2 MATERIALS AND METHODS

Research subjects

The subjects in this study, which examined exercise routine intensity measurement tools, were university students actively pursuing their studies, aged 18-25 years, with a total of 69 participants. The researcher set the criteria as students who are actively pursuing their studies, as various students have different intentions to exercise during their studies. Therefore, the researcher chose to make them the subjects of this measurement tool. The subjects were selected using the Non-Probability method with the accidental sampling technique, a sampling technique that sets certain criteria considered appropriate and relevant to the research objectives (Sugiyono, 2017).

Research instruments

This study employs the concept of regular exercise intention, defined as an individual's intention to exercise regularly, with a frequency of three times a week, over a period of one month. The instrument used in this study was a questionnaire developed using the theory of planned behavior (TPB) with four main dimensions, namely: attitude, subjective norm, perceived behavioral control, and intention. These four dimensions were developed into several indicators, and each indicator was made into a set of items. The four dimensions were developed into several indicators, and each indicator was made into part of an item. In this study, the items used were a 5-item Likert scale with the following content: 1. Very Inappropriate, 2. Not Suitable, 3 = Neutral, 4 = Suitable, 5 = Very Suitable. In this case, it shows that if the results are higher, the higher the intention of students to do sports routines.

Data Analysis

The data analysis used in this study was Construct Validity Testing using item correlation with EQ-5D-5L Sum Score and VAS Score. In addition, this study used single trial reliability testing with Cronbach's Alpha technique to examine the internal consistency of the instruments in this study.

Measuring instrument for Intention to Exercise regularly

The intention to exercise regularly measurement tool is included in the non-cognitive test, because the intention construct focuses on characteristic daily behaviors rather than intellectual abilities. Therefore, although intention can be influenced by logical reasoning, the focus of measurement is more on behavioral factors, such as one's desire, determination, and commitment to lead an active and healthy lifestyle.

EQ-5D-5L

The EQ-5D-5L is a standardized measurement tool developed by the EuroQol Group to measure quality of life related to an individual's subjective health. It is designed to be widely used in general population research as well as in the evaluation of health interventions. In this study, the EQ-5D-5L was used as a comparative measurement tool in testing the convergent validity of the developed exercise intention measurement tool. It consists of 5 dimensions and VAS. The five dimensions in the EQ-5D-5L represent important aspects of an individual's health condition.

- a. The Mobility dimension, which is the individual's ability to move and relocate. This dimension measures the extent to which individuals have the ability to walk and move around, both inside and outside the home.
- b. Self-care dimension, which is the ability to perform daily activities such as bathing, dressing, and caring for oneself. This dimension describes the individual's ability to care for themselves.
- c. The daily activities dimension, which is the involvement in routine activities such as work, study, social and family activities. This dimension evaluates the individual's ability to participate in routine activities.
- d. The Discomfort dimension, which is the level of pain or discomfort felt by the individual. This dimension relates to the level of physical pain or bodily discomfort that the individual feels at the time.
- e. Anxiety or depression dimension, which is the emotional status related to anxiety, stress, or depression felt by the individual. This dimension is the state of mental and emotional health, including the level of stress, anxiety, and symptoms of depression experienced.

Each dimension is rated in five levels (5L - 5 Levels), ranging from no problems to very severe problems. Participants' responses on each of these dimensions are used to generate an *index score* or *sum score* that represents overall quality of life based on health conditions.

The second part of the EQ-5D-5L is the Visual Analogue Scale (VAS), a vertical scale that resembles a thermometer, with values ranging from 0 (worst imaginable health) to 100 (best imaginable health). Respondents were asked to mark the position that they thought described their current state of health, which was on the day the instrument was completed. The VAS provides additional information that is subjective and reflective of an individual's perception of their health condition. In this study, the VAS score was used as an indicator of subjective perception of health, which was then correlated with each dimension of the exercise intention measurement tool to test convergent validity.

Procedure for Developing the Measure of Intention to Exercise Routinely

Conceptualization

Conceptualization is defined as the first step in making a measuring instrument. Conceptualization is used as an abstract description of phenomena or symptoms such as groups, events and certain circumstances. According to Hernawati Sri (2017), conceptualization is an intellectual process to form and formulate concepts from things that occur in the real world into abstract concepts, which can be used as the basis for scientific research.

The conceptual definition in this study is a subjective evaluation of an individual's intention to exercise regularly every week. This is measured through a frequency of 3 times a week with a span of a month. Students do exercise by measuring four main dimensions: attitudes, subjective norms, perceptions based on behavior, and intentions. The operational definition of routine exercise intention research is measured by the respondent's answer score through a Likert scale with a range of 1-5 from the available statements, the four main dimensions of which are developed into statements of the corresponding indicators.

The four main dimensions of TPB theory are the basis for this measurement. First is the attitude dimension, which refers to an individual's belief about their behavior toward exercising regularly, either positively or negatively. Then the subjective norm dimension, which is the perception of individual behavior to exercise regularly within a certain time span and the motivation to fulfill other people's expectations of routine exercise. Then the dimension of perceived behavior control, namely how much an individual exercises regularly with the encouragement of factors that facilitate or hinder this behavior. The last dimension is Intention, which is the extent of individual intention to exercise regularly with a certain time span.

Construction

The established conceptual framework is used to write the items of the measuring instrument in the construction stage. Each item should be written in clear, simple, and unambiguous language, reflecting the elements of the construct.

Scoring technique

The scoring technique for the exercise intention measuring instrument routinely uses a Likert scale with 5 scales, namely: 1 = Very Unsuitable, 2 = Not Suitable, 3 = Neutral, 4 = Suitable, 5 = Very Suitable. The higher the points, the higher the intention of students to exercise regularly.

Tryout

In this stage, the tested scoring results will be entered into the testing stage for respondents, with a sample size of 50-100. The aim is to identify components that cause problems, check the readability of the items and get preliminary data on the psychometric quality of the measuring instrument.

Preparation Stage

The research stage begins with determining a measuring instrument entitled intention to exercise regularly using *theory planned behavior* (TPB) with four main dimensions, namely attitudes, subjective norms, perceptions based on behavior, and intentions. The four dimensions are broken down into units of items into appropriate indicators. Researchers determined the frequency with a span of 12 days for one month with details of 3 times a week. The preparation of 50 items with relevant statements was made for testing on respondents which aims to select whether the items represent relevant measurements. The process of preparing items is carried out carefully so that the language is clear and easily understood by respondents.

Test Phase

This test consists of 50 items and 25 target items, and qualitatively passed the trial (readability test and expert judgment), as many as 31 items. There were 14 rejected items, 1 item was revised according to the trial results, and these 31 items will be used for data collection. Sample size for readability = 5-10 respondents. The researcher used a semi-structured *online* interview as an initial trial to explore in more depth the understanding, motivation, and obstacles faced by students in undergoing exercise routines during the lecture period. This interview is an important complement to the qualitative

data from the questionnaire, because it offers subjective perspectives and personal experiences of respondents, thus forming a more thorough and in-depth understanding of the phenomenon studied.

The item analysis method used is item selection and *cognitive debriefing*. At the item selection stage, researchers selected the initial 50 items by categorizing the items into three parts. First, the category of "accepted" items, namely items that are in accordance with the dimensions and represent behavioral indicators, the second is "accepted but needs to be revised" items, namely items that are in accordance with the dimensions but there are some things that must be changed and the last is "rejected" items, namely items that are not in accordance with the dimensions that must be discarded because they do not represent the dimensions that should be.

Data Collection Stage

The data collection stage is filled in through the *Google form* that we have created with 31 available items. The data collection process is carried out individually and asynchronously through a digital platform, with different locations available for each respondent, and the time is flexible according to the research respondent's schedule. This data was distributed to respondents who met the criteria in this study. The test administration that we use has maintained proper research ethics principles in order to obtain representative data according to the required criteria. Respondents are voluntary, and there is no coercion from the researcher to fill out the questionnaire. This goal is so that the questionnaire is valid and reliable and can be used properly.

Psychometric Testing Technique

Item Analysis

Item analysis was conducted on each dimension of the routine exercise intention measuring instrument, based on the Theory of Planned Behavior (TPB) framework, specifically attitude, subjective norms, perceived behavioral control, and intention. The item analysis procedure begins by calculating the item-total correlation (the correlation of the item with the total dimension score) using the Corrected Item-Total Correlation technique. An item is declared to have good quality if the correlation value is ≥ 0.30 (Azwar, 2012). Items that have a low correlation (<0.30) are considered to be eliminated because they are considered insufficient to represent the construct being measured.

In addition, to assess the internal consistency of each dimension, Cronbach's Alpha if Item Deleted was also calculated, which simulates the deletion of certain items to see their effect on the total reliability value. Items that, if deleted, significantly increase the reliability value of the dimension are also considered for elimination.

Reliability Test

In this study, the reliability test technique employed was single-trial reliability, as assessed by Cronbach's Alpha. Single-trial reliability is a reliability technique based on a one-time data collection process (single-trial/administration). To test reliability, Cronbach's Alpha (α) is used to measure internal consistency. Internal consistency is the extent to which the items in one construct correlate with each other in measuring the same thing. Alpha values range from 0 to 1. Alpha values ≥ 0.70 are generally considered to indicate adequate consistency, and higher values reflect better reliability.

Validity Test

The validity test was conducted using the correlation method with the quality of life measurement tools, EQ-5D-5L Sum Score and VAS Score. The researcher also used an additional validity technique, the *contrast group method*. Each validity method is applied to each dimension in the theory of intention, namely *attitude*, *subjective norms*, *perceived behavioral control*, and *intention*.

Convergent validity is a type of validity that indicates that the construct being tested has a positive correlation with other constructs that should be theoretically related (Hair et al., 2010). In this study, convergent validity was tested by correlating the scores of each dimension in the exercise intention construct with the total score of the EQ-5D and VAS *Score*. The correlation test was conducted using Spearman's rho technique, because the normality test results showed that the research data were not normally distributed. This correlation analysis will yield two results: the correlation coefficient value (r), indicating the direction and strength of the relationship, and the P-value, which determines whether the relationship is statistically significant or not. If there is a significant correlation between the dimensions of exercise intention with EQ-5D and VAS *Score*, then it can be said that the measure of routine exercise intention is relevant and valid in testing the construct of routine exercise intention.

Research on routine exercise intention measurement tools also uses the *contrast group method*. The *contrast group method* is a validity test by comparing the scores of the routine exercise intention measuring instrument between two groups that are theoretically believed to have real differences in the construct being measured (Cohen, et al., 2018). In this case, the researcher compared the total score per dimension of routine exercise intention of the group who regularly exercised with the group who did not exercise regularly. If the measuring instrument can show a significant difference in

scores between the two groups, it can be said that the measuring instrument is able to distinguish between the two groups, indicating that it is valid in measuring routine exercise intention. Testing the validity of *contrast groups* using the T-Test with Mann-Whitney U, because it was found that the data was not normally distributed. The value that is said to be significant or there is a difference between the two groups, is if the p value <0.05. This value indicates that there is a significant difference in scores between two different groups.

3 RESULTS

Reliability Test Results

The reliability test results for each dimension are as follows:

Dimension	Cronbach's Alpha
<i>Intention</i>	0.888
<i>Subjective Norms</i>	0.686
<i>Attitude</i>	0.738
<i>Perceived Behavior Control</i>	0.794

After conducting a reliability test on the four dimensions of the sports intention construct, the results show that the *intention* dimension shows a Cronbach's Alpha value of 0.888. In addition, the *subjective norms* dimension is 0.686. The *attitude* and *perceived behavioral control (PBC)* dimensions also showed an increase in reliability, with attitudes at 0.738 and PBC at 0.794, both of which fall into the moderately reliable to good category. Overall, these reliability results indicate that the sport intention measuring instrument items are consistent in measuring the intention construct in each dimension.

Validity Test Results

The results of the validity test with the EQ-5D measuring instrument in each dimension are as follows:

Dimension	EQ-5D-5L Sum Score	
<i>Attitude</i>	Spearman's rho	-0,230
	p-value	0,058
<i>Subjective Norm</i>	Spearman's rho	-0,342
	p-value	0,004
<i>Intention</i>	Spearman's rho	-0,322
	p-value	0,007
<i>Perceived Behavior Control</i>	Spearman's rho	0,343
	p-value	0,004

The EQ- 5D measuring instrument has five scales, namely 1 to 5. Scale 1 describes the most excellent health condition owned by the individual and scale 5 describes the worst health condition of the individual. In contrast, the exercise intention measuring instrument we developed uses a different scale. This means that on the exercise intention measuring instrument, scale 1 describes the lowest routine exercise intention of the individual, and scale 5 describes the highest routine exercise intention.

For the *attitude* dimension, Spearman's correlation results showed a statistically significant negative relationship between individuals' attitudes towards exercise and their quality of life (EQ-5D) ($r_s = -0.230$; $p = 0.058$). That is, in general, the more positive the individuals' attitudes towards regular exercise behavior, the lower their EQ-5D scores, indicating a better quality of life.

Regarding the subjective norm dimension, Spearman's correlation analysis revealed a weak to moderate, yet significant, negative relationship between the subjective norm dimension of exercise intention and perceived quality of life ($r_s = -0.342$, $p = 0.004$). As $p < 0.01$, this relationship was considered statistically significant. That is, the higher the social pressure or expectation from the environment (family, friends, people around) to exercise, the lower the EQ-5D score, which indicates a better perception of quality of life.

For the *intention* dimension, Spearman's correlation test results showed a significant negative relationship between the intention to exercise regularly and perceived quality of life ($r_s = -0.322$, $p = 0.007$). Since $p < 0.01$, this correlation is considered statistically significant. Based on this, it can be concluded that the higher the intention of university students to exercise regularly, the lower their EQ-5D scores, indicating a better quality of life. This result supports the construct validity of the measurement tool, as individuals who have a strong desire to exercise regularly tend to perceive better health conditions.

In contrast to the other three dimensions, the *results of Spearman's correlation test showed* a significant positive relationship between the *perceived behavior control* dimension of exercise and health-related quality of life in university students ($r_s = 0.343$; $p = 0.004$). This means that every increase in the score on *perceived behavior control* will be followed by an increase in the score on the individual's quality of life, indicating that their perceived health conditions are deteriorating. This finding is not in accordance with theoretical expectations and contradicts the TPB theory, which states that the perceived behavior control dimension is directly related to intention.

The results of the validity test with the VAS Score on each dimension are as follows:

Dimension	VAS Score	
<i>Attitude</i>	Spearman's rho	0.240
	p-value	0.047
<i>Subjective Norm</i>	Spearman's rho	0.325
	p-value	0.006
<i>Intention</i>	Spearman's rho	0.208
	p-value	0.086
<i>Perceived Behavior Control</i>	Spearman's rho	-0.322
	p-value	0.007

Convergent validity test was conducted by correlating each dimension in the exercise intention measurement tool to the VAS (Visual Analogue Scale) score which represents the respondent's subjective perception of their health condition on that day. Correlations were calculated using Spearman's rho test because the data were not normally distributed. The test results showed variations in the strength and significance of the correlation in each dimension.

In the attitude dimension, the results of the correlation analysis with the VAS Score showed that the *attitude* (ATT) towards exercise had a positive correlation with the VAS score ($r_s = 0.240$; $p = 0.047$). This means that a positive attitude towards exercise is associated with an increase in today's health VAS Score, and this relationship is statistically significant.

As for the *subjective norm* dimension, the results of the correlation analysis with the VAS Score show that the *subjective norm* (NS) dimension has a positive and significant correlation ($r_s = 0.325$; $p = 0.006$). This means that the stronger the social pressure or encouragement from the environment to exercise, the higher the score shown by the VAS Score which could mean increased social awareness of health.

For the *intention* dimension, the results of the correlation analysis with the VAS Score show that the *intention* dimension (INT) has a positive but insignificant relationship with the VAS score ($r_s = 0.208$; $p = 0.086$). This means that students' intention to exercise was not directly correlated with VAS scores in this study.

Finally, the *perceived behavior control* dimension, the results of the correlation analysis with the VAS Score showed that *perceived behavioral control* (PBC) showed a significant negative correlation ($r_s = -0.322$; $p = 0.007$). That is, the higher the perceived control over exercise behavior, the lower the score on the VAS.

The results of the validity test with contrast group on each dimension are as follows:

Dimension	Contrast Group Method	
	Mann-Whitney U	678.000

<i>Attitude</i>	p-value	0.251
	<i>Rank Biserial Correlation</i>	0.145
<i>Subjective Norm</i>	Mann-Whitney U	669.500
	p-value	0.339
	<i>Rank Biserial Correlation</i>	0.131
<i>Intention</i>	Mann-Whitney U	802.500
	p-value	0.009
	<i>Rank Biserial Correlation</i>	0.356
<i>Perceived Behavior Control</i>	Mann-Whitney U	236.500
	p-value	< 0.001
	<i>Rank Biserial Correlation</i>	-0.601

The measure of intention to exercise regularly was also tested for validity using the *contrast group* method, which compares two different groups of participants, namely those who exercise regularly and those who do not. This method is used to test the ability of measuring instruments to distinguish empirically different groups and is a form of *criterion validity* (Anastasi & Urbina, 1997). The test was conducted with the Mann-Whitney U non-parametric test, because the data was not normally distributed.

Based on the Mann-Whitney U-Test validity test, it was found that there was a significant difference in the scores of the *perceived behavioral control* (PBC) dimension between the "Exercise" and "No exercise" groups ($U = 236.500$; $p < 0.001$). The mean score of PBC in the "No exercise" group ($M = 4.108$) was significantly higher than that in the "Exercise" group ($M = 2.875$).

Then for the *attitude* dimension, the Mann-Whitney U test results showed no significant difference between the "Exercise" and "No Exercise" groups ($U = 678.000$; $p = 0.251$). Although the mean score of the "Exercise" group ($M = 4.500$) was slightly higher than that of the "No exercise" group ($M = 4.297$), the difference was not statistically significant, with a low effect size (rank-biserial correlation = 0.145).

Furthermore, for the *intention* dimension, the Mann-Whitney U test results showed that there was a significant difference in exercise intention between the "Exercise" and "No exercise" groups ($U = 802.500$; $p = 0.009$). The "Exercise" group had a higher intention score ($M = 3.969$) than the "No exercise" group ($M = 3.270$). The rank-biserial correlation value of 0.356 indicates a medium size effect, so the difference found is statistically significant.

The last dimension, the *subjective norm* dimension, the Mann-Whitney U test results showed no significant difference between the "Exercise" and "No exercise" groups ($U = 669.500$; $p = 0.339$). The mean subjective norm score in the "Exercise" group ($M = 3.406$) was higher than the "No exercise" group ($M = 3.162$), with a rank-biserial correlation value of 0.131. Based on this, it was found that social norms or social support for exercise intention did not show a significant difference in scores between the two groups.

4 DISCUSSIONS

This study aims to develop and test the validity and reliability of routine exercise intention measurement tools based on *Theory of Planned Behavior*. This instrument consists of four main dimensions, namely *attitude*, *subjective norms*, *perceived behavioral control* (PBC), and *intention*. The process of developing this measuring instrument includes identifying the purpose of the test, determining the construct to be measured, initial interviews to explore participants' *salient beliefs*, pooling items, qualitative item selection, and psychometric analysis to test the validity and reliability of the measuring instrument. The initial measuring instrument consisted of (how many items) with a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Item selection was conducted using total item correlation; only items with a correlation coefficient above 2 were retained for further psychometric testing. Construct validity testing was conducted using correlation techniques with other tests (EQ-5D-5L) and contrast group comparisons between individuals who regularly and irregularly exercise. Reliability test was conducted using Cronbach's Alpha technique. The study participants consisted of 69 active university students aged 18-25 years. The results showed that all four dimensions (*attitude*, *subjective norms*, *PBC* and *intention*) had significant correlations with the *level sum scores* (LSS) and Visual Analogue Scale (VAS) of the EQ-5D-5L. A group contrast analysis showed that this measure can differentiate between intention and PBC in students who regularly exercise and those who do not. While the results for the attitude and subjective norms dimensions could not distinguish between students who regularly exercise and those who do not.

Reliability tests showed α values ranging from 0.794 to 0.888. The results of psychometric testing of the exercise intention measuring instrument indicate that it has good validity and reliability. Although the *attitude* and *subjective norms* dimensions cannot differentiate between those who exercise regularly and those who do not, this is understandable considering that a person can have a strong attitude and subjective norms towards exercise even though it is not followed by regular exercise behavior. Further development of the measuring instrument can be done by taking samples outside students to test generalizability and increase the discriminatory validity of the measuring instrument.

5 CONCLUSIONS

This study developed a measurement tool for routine exercise intention based on the Theory of Planned Behavior, which consists of four main dimensions, namely: attitude, subjective norms, perceived behavior control, and intention. The measuring instrument demonstrated adequate psychometric quality, as indicated by the reliability test results, which showed good internal consistency across all dimensions, particularly in the perceived behavior control and intention dimensions. The validity test, conducted using the convergent validity method through correlation with the EQ-5D-5L and VAS Score measuring instruments, shows a significant negative relationship in most dimensions, except for the perceived behavioral control dimension, which shows positive correlation results. In addition, for the convergent validity test with the VAS Score, a significant positive correlation was found in most dimensions, except for the perceived behavior control dimension. The study also used a discriminant validity test through the contrast group method. The findings reinforce that the measuring instrument is able to distinguish between the intentions of students who regularly exercise and those who do not. Overall, this measurement tool is capable of measuring the intention construct and can be used to identify and evaluate students' routine exercise intentions, serving as the basis for designing intervention programs in higher education health programs.

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REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Anastasi, A., & Urbina, S. (1997). *Psychological testing* (7th ed.). Prentice Hall.
- Arief Rifki, N., Ragil Anugrah, P., Mahardika Wibowo, B., Adib Bilal Irwansyah, M., Bintang Pradana, M., Hudaya, R., & Olivia Armiaty, Y. (2024). *The role of running exercise in improving physical health and quality of life among students of the Faculty of Sports Science at Semarang State University*. *Jurnal Angka*, 1(2), 415–426. <http://jurnalilmiah.org/journal/index.php/angka>
- Cohen, R. J., Swerdlik, M. E., & Sturman, E. D. (2018). *Psychological Testing and Assessment* (9th ed.). New York: McGraw-Hill Education.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate Data Analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall/Pearson
- Hernawati Sri. (2017). Quantitative & Qualitative Research Methodology in Health. In Nugroho Heru Santoso Wahito (Ed.), *FORIKES*. Health Scientific Forum.
- Prabowo, M. H., Febrinasari, R. P., Pamungkasari, E. P., Mahendradhata, Y., Pulkki-Brännström, A. M., & Probandari, A. (2023). Health-related quality of life of patients with Diabetes Mellitus measured with the Bahasa Indonesia Version of EQ-5D in primary care settings in Indonesia. *Journal of Preventive Medicine and Public Health*, 56(5), 467.
- Ramadhan, R. I., & Yuliasrid, D. (2021). *Workout as a Student Sports Activity to Maintain Physical Fitness Amid the COVID 19 Pandemic*.

Sugiyono. (2017). Quantitative, Qualitative, and R&D Research Methods. Alfabeta.

Warburton, D. E., & Bredin, S. S. (2017). Health benefits of physical activity. *Current Opinion in Cardiology*, 32(5), 541-556. <https://doi.org/10.1097/hco.0000000000000437>

Wayan Gede Suarjana, I., Eden Manopo, J., Leonita Pongoh, L., & Sahiri Alexander Supit, A. (2023). Altius: Journal of Sport and Health Sciences Differences In Physical Activity Based On Individual Characteristics In South Minahasa Society. *Journal of Sport and Health Sciences*, 12(2), 414-426. <https://doi.org/10.36706/altius.v12i2.22855>

Widariyani, Nilam. *Dealing with Stress*. 2008