



Impact of fitness testing towards attitudes for physical activity and well-being in students.

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Abstract: Fitness Testing Programs have been implemented in physical education with the goal of promoting a healthy and active lifestyle. This study aimed to analyze the effectiveness of fitness testing on students and how it impacts their attitudes towards living an active lifestyle. The respondents consisted of 54 2nd year allied health students in a private university in Cebu City, specifically students who have performed fitness testing during their PE schedule. The method for this study included the following steps: (a) instrumentation, (b) recruitment of students and data collection, and (c) data analysis. With the use of a 5-point Likert scale instrument that measures student's attitudes towards fitness testing, the overall mean score for the students on the 5-point Likert-Type scale was 3.50. This indicated that the college students that participated in this study had a slightly positive attitude toward fitness testing. In addition, the study suggests cognitive factors were the main reason for their reaction when it comes to fitness testing. With a positive attitude, this may motivate them to engage in physical activity more. Encouraging students to do more physical activity will aid the students in an active healthy physical lifestyle of wellbeing. This study displays the effects of a healthy active lifestyle and a non-healthy lifestyle found amongst the students, it is important to know the lifestyle carried for college students due to the amount of work found in universities for students that may lead to unhealthy habits and lifestyle. The results of this study concluded that the students have found motivation to exercise due to its positive effects on the body as it can also aim to enhance their physical and mental wellbeing. This article aims to address the coherence and awareness of physical activity and its mental affectation towards a student which can significantly improve an overall well-being.

Keywords: Fitness Testing, Physical Education, Active and Healthy Lifestyle, Students

Introduction and rationale

Students face challenges throughout their experience in school, such as financial issues, increase in workload, changes in sleeping habits, among others (Lyrakos, 2012). This can provoke stress leading to unhealthy coping mechanisms (Shinde & Hiremath, 2014). 15.5% of students had poor coping mechanisms in comparison to 13.6% who were considered to have good coping ability. In addition, students moving into higher education are at risk in increased opportunities to inaugurate unhealthy habits. College students have a widespread presence of drinking irresponsibly, smoking, substance use, and unhealthy diets (Courtney & Polich, 2009).

Internet availability has facilitated ease of use among students. However, 78.5% of students were addicted to the internet and had a positive correlation with alcohol use (Gunduz et al, 2019). With further advancement into higher years in college, students

tend to get more occupied and are said to have a higher prevalence of physical inactivity and it has a positive correlation with poor dietary habits (Casepersen et al, n.d.).

Acampado & Valenzuela (2018) studied the physical activity and dietary habits of Filipino college students. It showed that out of 1,706 students, only 32.8% of them participated in regular physical activity. In addition, their dietary habits had high contents of refined sugar and salty snacks where only 7.5% out of all respondents were considered to have an excellent diet. Finally, a positive correlation was found between physical activity and dietary habits which showed that increased physical activity also had better dietary habits.

Emotions also play an important factor for students' subjective experiences in school. Emotions can predict certain thoughts and action tendencies (Jekauc & Brand, 2017). For example, anger tends to narrow one's concentration and focus, anxiety can produce behaviors such as avoidance and withdrawals, while boredom can diminish attention and focus, and can decrease effort and persistence. When people feel good doing an activity, they are more susceptible to repeating that activity (Garn et al., 2017).

Some studies by Mansour and Karime Gonzales (González et al., 2017; Mansour et al., 2020) stated that physical inactivity, sedentary behavior and chronic diseases are closely related. Furthermore, lifestyle diseases and associated risk behaviors among medical students are prevalent. Their studies showed that 66.7% of the students were not doing regular exercise. In addition, it highlighted the sedentary lifestyle of the students where 74.2% of them were regularly watching TV and using computers. Another similar study (Peltzer & Pengpid, 2018) supports this claim where the researcher found that 53.0% of students engaged in low physical activity and 62.7% did not avoid eating fat and cholesterol.

One way schools have tried to tackle the increasing prominence of physical inactivity and unhealthy habits in students is by implementing fitness testing in mandatory PE classes. It supposedly motivates the student by letting them know which aspects of their physical fitness is up to par, and which aspects they need to work on according to nationwide standards. (Wu et al., 2017) concluded that schools that implement health programs promoting physical activity could improve the quality of life and decrease a sedentary lifestyle. Physical fitness is a primary health predictor in children and adolescents and can predict the state of health in the later stages of an individual's life. It is important to maintain regular physical activity since sedentary lifestyles are greatly associated with certain diseases such as coronary artery disease, hypertension, high cholesterol and type 2 diabetes.

In this study, the researcher aims to investigate a private university that has integrated a fitness assessment program that monitors the abilities of students as to static and dynamic posture, anthropometry, cardiorespiratory endurance, anaerobic endurance, aerobic endurance, agility, speed, strength and flexibility. The researcher's goal is to explore the impact of fitness tests on students from the said university and the effectiveness of it in promoting an active and healthy lifestyle.

Methods

Participants and procedures

This study was implemented on the 2nd week of February 2020 and completed on March 7 2020. This study is a causal-comparative research which studies the impact of fitness testing towards attitudes of physical activity and well-being in student, Students in a private university in Cebu City, specifically students who have performed fitness testing during their PE schedule are the subjects of this research.

Data analysis

Permission to conduct the study was obtained from a private university. There were a total of 54 respondents, all who had already performed fitness tests prior to this study. All students were selected from the same private university located in Cebu City through purposive sampling. The researcher explained the purpose of the study and presented the instrument and were given enough time to complete it. Students responded to each item by encircling the appropriate number on a 5-point Likert-Like Scale, 1 (Strongly disagree) to 5 (Strongly agree).

A total of 73 instruments were collected from 4 different courses. Data from the collected instruments were entered into SPSS. Data from negatively worded items were then reverse coded. Descriptive analysis with means and standard deviations were first determined for course and gender. A factorial multivariate analysis of variance (MANOVA) using gender and course as independent variables and the four attitude variables as dependent was performed.

Prior to the implementation of the research, all consent forms and requirements were completed before February 9 2020. The data gathering started on February 17 2020 and was completed February 28 2020. The collected data then underwent analysis and interpretation from March 1 to March 9.

Results and discussions

The college students that participated in this study had a slightly positive attitude toward fitness testing. The overall mean score for the students on the 5-point Likert-Type scale was 3.50. The cognitive factor produced the highest mean scores ($M = 3.98$, $SD = 0.64$) while the affect-feeling factor produced the lowest mean scores ($M = 3.20$, $SD = 1.00$). Table 1 presents the means and standard deviations for the attitudes of college students towards fitness testing. The overall attitudes for male students ($M = 3.50$) were slightly more positive than female students ($M = 3.44$). In general, male students demonstrated higher positive attitudes towards fitness testing than girls in all four factors except for affect-enjoyment (Males $M = 3.48$, $SD = 1.02$; Females $M = 3.51$, $SD = 0.82$).

The highest mean attitude scores for both males and females were within the cognitive factor (Males $M = 3.96$, $SD = 0.55$; Females $M = 3.90$, $SD = 0.68$). The lowest mean attitude scores for male students was the affect-teacher factor ($M = 3.23$, $SD = 0.81$), while the lowest for female students was the affect-feeling factor ($M = 3.16$, $SD = 0.91$). For males, pharmacy students scored the highest overall mean ($M = 3.61$) while dentistry students scored the lowest ($M = 3.13$). For females, dentistry students scored the highest ($M = 4.01$) while optometry students scored the lowest ($M = 3.21$).

When students were faced with the item “Fitness testing motivates me to improve my levels of fitness.” 38 of the 73 students (51.35%) answered with “agree” while 15 (20.27%) answered with “strongly agree”. More than half of the students had a positive reaction which suggests that the implementation of fitness testing does have a significant effect on promoting a healthy and active lifestyle.

43 out of 73 students agree that fitness tests allow them to identify their fitness levels and this may strengthen the idea that letting students see their progress affects how motivated they are to keep an active and healthy lifestyle.

However, when faced with items regarding how much they enjoyed fitness testing, such as “Fitness tests are fun” and “I enjoy fitness tests”, the majority had a neutral perception.

This may highlight the monotonous tests that are included each time fitness tests are carried out resulting in boredom and uninterest of the students (Franks & Safrit, 1999). This is further suggested when students were faced with the item “My teacher organizes activities that make fitness testing more enjoyable” where the majority of them answered with “neutral” (41.89%). Emotions also play an important factor for students’ subjective experiences in school. Emotions can predict certain thoughts and action tendencies (Jekauc & Brand, 2017).

Even though the majority of the students denied feeling nervous when performing fitness tests, 20 out of 73 students (27.4%) admitted that fitness tests make them nervous. Although it is out of the scope of this investigation, these results may point out that fitness tests implemented by school institutions may not be suitable for all students (Patel et al., 2017).

Conclusion

Students have a slightly positive attitude towards fitness testing and this may motivate them to engage in physical activity more. The results suggest that the cognitive factors are the main driving force for positive attitudes towards fitness testing. Students can use their fitness test results to set personal goals in each of the health-related fitness factors which can likely lead to a positive attitude. However, the results of this study also show a wide range of scores where there is a clear difference between the cognitive factor and affect factors, which could imply students know that fitness tests are useful but do not enjoy it.

Acknowledgment

The researcher would like to thank all the students who participated in this research for their cooperation, efforts and time.

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Appendix A: Tables and Figures

Table 1 Respondents Profile

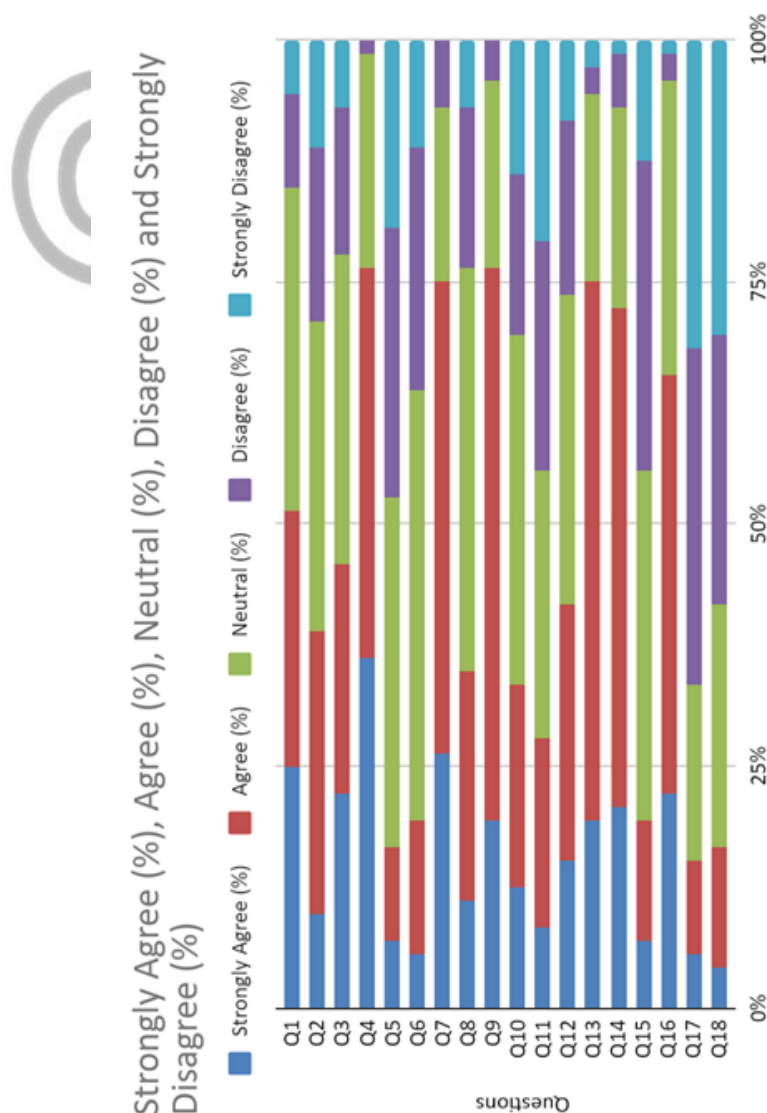
Age	Frequency	Percentage
19	7	9.6
20	42	57.5
21	14	19.2
22	9	12.3
24	1	1.4
Gender		
Female	24	32.9
Male	49	67.1
Course		
Dentistry	9	12.3
Optometry	28	38.4
Pharmacy	10	13.7
Rehab	26	35.6

Table 2 Overall, Course and Gender Descriptive Statistics

	C	AE	AF	AT	Overall
Male	3.96 (0.55)	3.48 (1.02)	3.32 (1.18)	3.23 (0.81)	3.50
Dentistry	3.67 (0.23)	2.75 (0.71)	3.00 (0.47)	3.10 (0.42)	3.13
Optometry	3.95 (0.49)	3.60 (0.73)	3.30 (0.81)	3.32 (0.98)	3.54
Pharmacy	4.17 (0.007)	4.13 (1.24)	2.84 (1.65)	3.30 (0.42)	3.61
Rehab	3.98 (0.72)	3.38 (1.29)	3.50 (1.57)	3.16 (0.82)	3.51
Female	3.90 (0.68)	3.51 (0.82)	3.16 (0.91)	3.20 (0.77)	3.44
Dentistry	4.31 (0.50)	4.39 (0.52)	3.67 (0.72)	3.69 (0.94)	4.01
Optometry	3.73 (0.76)	3.21 (0.75)	2.85 (0.75)	3.04 (0.72)	3.21
Pharmacy	4.42 (0.41)	3.91 (0.35)	2.96 (0.60)	3.40 (0.79)	3.67
Rehab	3.67 (0.59)	3.27 (0.87)	3.40 (1.14)	3.16 (0.68)	3.37
Overall	3.98 (0.64)	3.56 (0.89)	3.20 (1.00)	3.26 (0.78)	3.50

Note: C=Cognitive, AE=Affect-Enjoyment, AF=Affect-Feeling, AT=Affect-Teacher.
Overall students $n = 73$, Males $n = 24$, Females $n = 49$, Dent Male $n = 2$, Opto Male $n = 10$, Pharma Male $n = 2$, Rehab Male $n = 10$, Female Dent $n = 7$, Female Opto $n = 18$, Female Pharm $n = 8$, Female Rehab $n = 16$

Table 3 Stacked Bar Chart of Data



Appendix C: Communication and Certifications

SOUTHWESTERN UNIVERSITY
PHINMA

February 4, 2020
Southwestern University - PHINMA
Urgello St., Cebu City, Cebu

Dear Sir/Madam,

I am Amr Jad T. Masuhud, a year level two (2) Physical Therapy student at Southwestern University PHINMA. I am conducting a quantitative research study entitled "Impact of Fitness Testing towards Motivation for Physical Activity and Well-Being in Students" at SWU-PHINMA Urgello St., Cebu City, Cebu. This research aims explore the impact of fitness tests on students and its effectiveness of it in promoting an active and healthy lifestyle.

I would like to ask permission to implement my research study to the medical students in this university. Rest assured all information gathered will be strictly confidential. This research shall be conducted with the participant's full consent.

For more inquiries about my research, you may contact me with the details presented below.

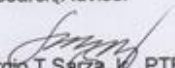
Thank you for your cooperation in granting permission to conduct this study.

Respectfully,

Amr Jad T. Masuhud
Physical Therapy Student
College of Rehabilitative Sciences
Southwestern University PHINMA
Urgello, Cebu City, Cebu
Mobile: 0999 957 6873
Email: amt.masuhud@swu.edu.ph

Noted by:


Raul Ugaide, PTRP, PT, DPT
Research Adviser


Sergio T Sarza Jr., PTRP, PT, DPT, MPH, DRDM
Research Coordinator

Approved by:

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Appendix D: Informed Consent Form



Principal Investigator: Masuhud, Amr Jad T.
Co-investigators: Ferioli, Lester D.; Gacrama, Jehoash V.
Researcher, College of Rehabilitative Sciences
Southwestern University PHINMA

INFORMED CONSENT FORM

This informed consent is for new curriculum students who have performed the fitness tests that has been implemented during PE lessons, and who we are inviting to participate in the research project **IMPACT OF FITNESS TESTING TOWARDS ATTITUDES FOR PHYSICAL ACTIVITY AND WELL-BEING IN STUDENTS**.

This Informed Consent Form has two parts:

1. **PART I: Information Sheet** *(to share information about the research project with you)*
2. **PART II: Certificate of Consent** *(for signatures if you agree to take part)*

PART I: INFORMATION SHEET

I, Masuhud, Amr Jad T., along with my co-researchers Ferioli, Lester D.; Gacrama, Jehoash V., are BSPT-2 student researchers in the College of Rehabilitative Sciences, Southwestern University PHINMA. We are conducting research on the impacts of fitness testing and its effectiveness in promoting a healthy active lifestyle.

There may be some words that you do not understand. Please ask us to stop as we go through the information and we will take time to explain. If you have questions later, you can ask them from us, the study doctor or the staff.

Purpose of the Research Project

There is rising prominence of sedentary lifestyle in students. One way schools have

tried to prevent this is by integrating fitness testing/assessment in physical education classes. This research intends to identify the effectiveness of letting students perform fitness testing in terms of promoting a healthy and active lifestyle.

Type of Research Intervention

This research will involve answering an 18 item, 5-Point Likert Scale Survey about Attitudes towards Fitness Testing. You will be required to encircle the best corresponding number to how much you agree with each item (0 - Strongly Disagree to 5 - Strongly Agree). This should only take up to 10 minutes to answer the whole survey.

Participant Selection

We are inviting all new curriculum students who have participated in fitness tests that their University has implemented in their PE classes.

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. Whether you choose to participate or not, all the services you may be currently receiving will continue and nothing will change.

If you choose not to participate in this research project, you will be offered the treatment that is routinely offered, and we will tell you more about it later. You may change your mind later and stop participating even if you agreed earlier.

Information on the Intervention

The survey consists of 18 different statements about fitness testing and is grouped into 4 different factors: cognitive, affect-enjoyment, affect-teaching, affect-feeling. The end result will show a quantified form of your attitude towards fitness testing. The main benefit of this study is that this information may be used to better improve the implementation of fitness testing in physical education classes.

Procedures and Protocol

During the implementation, we will ask you to:

16. Fill in your age, course and gender.
17. Read each statement carefully.
18. Encircle the appropriate number in regards to how much you agree or disagree with each statement

Duration

This research takes place over 1 day in total. During that time, you will be answering the survey for approximately 10 minutes. The research is expected to be finished by February 29, 2020.

Side Effects

There are no known side effects while undergoing this survey. However, if you do have a condition where you are unable to sit for longer than 10 minutes then you may refuse to partake in this research.

Risks

There are no known risks while undergoing this survey. However, if you do have a condition where you are unable to sit for longer than 10 minutes then you may refuse to partake in this research.

Benefits

The main benefit of this study is that this information may be used to better improve the implementation of fitness testing in physical education classes. It may also provide information for future projects that may help in creating a more effective intervention to promote physical activity amongst students.

Confidentiality

The information that we collect from this research project will be kept confidential. Information about you that will be collected during the research will be put away and no-one but the researchers will be able to see it. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except the College of Rehabilitative Sciences Research Coordinator.

Sharing the Results

The knowledge that we get from doing this research will be shared with you through stakeholder and community meetings before it is made widely available to the public. Confidential information will not be shared. There will be small meetings in the participants and wider community and these will be announced. After these meetings, we will publish the results in order that other interested people may learn from our research.

Right to Refuse or Withdraw

You do not have to take part in this research if you do not wish to do so and refusing to participate will not affect your treatment (if you are receiving any) in any way. You will still have all the benefits that you would otherwise have normally. You may stop participating in the research at

any time that you wish without losing any of your rights as a patient. Your treatment (if receiving any) will not be affected in any way.

Who to Contact

If you have any questions, you may ask them now or later, even after the study has started. If you wish to ask questions later, you may contact me at: Masuhud, Amr Jad T., amasuhud@gmail.com, 09999576873.

This proposal has been reviewed and approved by the **Southwestern University PHINMA Research Integrity Board**, which is the University's unit, whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the Board, please contact the following:

Research Integrity Board Office
University Library, 3rd Floor PHINMA Hall
Southwestern University PHINMA
Urgello Street, Sambag 2, Cebu City, Philippines 6000
Mobile: +63 32 416 4682
Email: SWUResearchIntegrityBoard@gmail.com

PART II: CERTIFICATE OF CONSENT

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Signature over printed name

Date signed

Research Participant

Statement by the Researcher/Person taking the Consent

I have accurately read out the aforementioned information sheet to the potential participant. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant.

Signature over printed name

Date signed

Researcher/Person taking the Consent

Appendix E: Research Budget

This research project is entirely self-funded by the researcher, with no sources of external funding from any private or public agency or institution. The researcher also does not have any official affiliation with any private or public agency or institutions that may conflict interest in the conduct of this project.

Quantity	Budget	Unit Price	Amount
438 Paper Copies	PHP219.00	PHP 1.00	PHP 219.00
2 Staple Wires	PHP 100.00	PHP 50.00	PHP 100.00
1 Stapler	PHP 50.00	PHP 50.00	PHP 50.00
Other Materials	PHP 100.00	PHP 50.00	PHP 100.00
Total (in PHP)			PHP 469.00

Appendix H: Documentation

