

Knowledge, attitude and the exercise behavior among nursing students in Saint Louis University

PI and co-PIs:

Background

At present, it is recognized that self-care is very important for everyone. The goal of health for all may not be achieved without self-care. According to the World Health Organization (WHO, 2009), health was explained as an entire circumstance of physical, psychological, and social well-being as well as the lacking of disease or illness. Exercise behavior is part of the health behavior to enhance or promote healthy life and to protect one from diseases and illnesses.

Based on the literature reviews, knowledge and attitude are the cognitive-perceptual factors which are very important for behavior modification of an individual. Pender presented the health belief model that is a conceptual framework. This model is determined by personal beliefs or perceptions as relates health behavior, including a disease or the health seeking strategies to prevent or promote health. It is described for individual understanding (Jones & Bartlett, 2014). Knowledge and attitude are components of this model that can explain health behavior. Therefore, in this research study, an endeavor will be made to study the relationship between knowledge, attitude and exercise behavior among nursing students. Findings from this study can provide critical evidence for healthcare providers to develop and to implement individualized interventions to promote exercise behaviors among their respective populations.

Research questions

1. What are the levels of exercise behaviors of the nursing students?
2. Are there correlations between the nursing students' knowledge and their exercise behaviors?

3. Are there correlations between the nursing students' attitudes and their exercise behaviors?

Purpose

1. To examine exercise behaviors among college students.
2. To examine the relationship between knowledge of exercise and exercise behavior.
3. To examine the relationship between attitude of exercise and exercise behavior.

Data collection method and sample size

The researchers will begin collecting data after obtaining the ethical approval of the study from the Research Ethics Committee of Saint Louis University, USA. Permission will be obtained from the Director of the School of Nursing, Saint Louis University. Then the data collection procedures will be performed as follows:

1. The researchers will contact the faculty of the School of Nursing and inform them of the purposes and procedures of the study and ask for cooperation.
2. The researchers will inform the participants about the purposes and procedures of the study. Researchers will also inform participants of their rights and ask them to give consent to participate in the study. After that, the researchers will ask them to complete questionnaires. When the participants complete all aspects of the questionnaires, the researchers will examine the questionnaires for completeness of data and thank the participants for participation.

The target population is nursing students who study in the bachelor degree program of nursing science, and the accessible population is nursing students at SLU. Then the sample is drawn from SLU nursing students. The sample size of this study will be calculated by GPower with the medium effect size (.35). A sample size of

approximately 79. Considering the attrition rate of 20%, a minimum number of 100 participants is required for this study.

Survey instrument and reliability of scales

The questionnaire about the knowledge, attitudes and exercise behavior among nursing students in Saint Louis University is divided into four parts: exercise behavior, knowledge about exercise, attitude toward exercise, and demographic information. The exercise behavior part is a 3-point Likert item ranging from “regularly” to “never”. The attitude toward exercise part is a 3-point Likert scale ranging from "strongly agree" to “disagree”. To understand whether the questions in this questionnaire reliably measure the same latent variable, a Cronbach's alpha was run on a sample size of 10 students. A Cronbach's alpha of the exercise behavior part was 0.77 and attitude toward exercise part was 0.42.

Results

The sample of 100 nursing students is approximately 92% female ($n = 92$) and 8% male ($n = 8$). The majority of participants are juniors (46%), ranging in age from 18 to 24 years ($M = 20.27$, $SD = 1.71$). 72% of participants do not have any barriers to performing exercise as shown in table 1.

Table 1. Frequency and percent of demographic characteristics of student participants.

Variable	Frequency	percent
Gender (n=100)		
Male	8	8

Female	92	92
Age		
18	21	21
19	7	7
20	35	35
21	19	19
22	2	2
23	11	11
24	5	5
Program		
Freshman	28	28
Sophomore	3	3
Junior	46	46
Senior	23	23
Barrier to performing exercise		
No	78	78
Yes	22	22

Table 2. Exercise behavior

Exercise behavior	Mean	S.D	n
1. I exercise at least 3 times/week	2.15	.70	100
2. I exercise at least 20 minutes each time	2.64	.67	100
3. I exercise until I feel very tired, with my heart beating fast and lots of sweat	2.48	.69	100
4. I warm-up before exercising	2.06	.78	100
5. I stop exercising when I have irregular signs such as lightheadedness, shortness of breath, chest pain, etc.	2.70	.56	100
6. I cool down after exercising	2.28	.75	100
7. If I have any injury during exercise, I stop and rest	2.66	.64	100
8. I wear appropriate dress, shoes and use proper equipment for each exercise	2.86	.45	100
9. I exercise or play sports without any injury	2.59	.68	100
10. I have sports equipment, arena checked for	1.73	.85	100

safety reason before playing			
Exercise behavior	2.42	.39	100

Table 2 represents the means and standard deviations of nursing students' exercise behavior score. Most nursing students exercise regularly ($M=2.42$, $S.D=.39$). They wear appropriate apparel, shoes and use proper equipment for each exercise ($M=2.86$, $S.D=.45$). They always stop exercising when they show irregular signs such as lightheadedness, shortness of breath, chest pain, etc. ($M=2.70$, $S.D=.56$). Additionally, nursing students stop and rest when they suffer any injury during exercise ($M=2.66$, $S.D=.64$). However, fewer nursing students check sports equipment and area for safety before beginning ($M=1.73$, $S.D=.85$).

Part 3. Knowledge about exercise

Knowledge about exercise	Mean	S.D	n
1. To achieve health benefits, you should exercise at least 3 days per week	1	.00	100
2. Heart rate will increase during exercise	1	.00	100
3. Lack of exercise is a risk factor of obesity	.96	.20	100
4. If breathing becomes deeper and more frequent, you should stop exercising immediately	.64	.49	100
5. Exercise can be relaxing and also help you sleep well	1	.00	100
6. Exercise immediately after meal is good	.98	.14	100
7. Housework and cooking are considered exercises	.67	.47	100
8. You should stretch to relax your muscles before and after exercising	.99	.10	100
9. Regular exercise is good for your body	1	.00	100
10. People with a disease should exercise more than healthy people	.70	.46	100

Knowledge about exercise	.89	.09	100
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Table 3 shows the means and standard deviations of nursing students' knowledge about exercise score. Nursing students have excellent knowledge about exercise ($M = .89$, $S.D = .09$). They know that they achieve health benefits when they exercise at least 3 days per week and when the heart rate increases during exercise ($M = 1$, $S.D = .00$). Moreover, all nursing students understand that the benefits of exercise are relaxation and help in sleeping well and is good for the body ($M = 1$, $S.D = .00$). They understand that if breathing becomes labored, they should stop exercising immediately ($M = .64$, $S.D = .49$).

Part 4. Attitude toward exercise

Attitude toward exercise	Mean	S.D	n
1. Exercise is necessary for everyone	2.64	.56	100
2. Exercise could relieve tension and help you feel relaxed	2.87	.34	100
3. Exercise could be done any time you want	2.58	.61	100
4. It is difficult to do all of the components of exercise such as warming up, doing exercise and cooling down	2.22	.82	100
5. Obese people should regularly exercise	2.64	.56	100
6. Exercise is a waste of time	2.91	.40	100
7. Regular exercise makes body stay in shape	2.82	.44	100
8. Exercise with others can create relationships	2.73	.51	100
9. Exercise builds good discipline	2.83	.38	100
10. Exercising is boring	2.61	.65	100
Attitude toward exercise	2.69	.22	100

Table 4 illustrate nursing students' attitude toward exercise. The knowledge score is calculated using the knowledge questionnaire, on a 3-point Likert scale. Individuals who have a score in the range of 2.35 – 3.00 are considered to have a positive attitude toward exercise. Most students have positive attitude toward exercise ($M = 2.69$, $S.D = .22$). They believe that exercise can relieve tension and help relaxation ($M = 2.87$, $S.D = .34$). In addition, the majority of students agree that exercise can build good discipline ($M = 2.83$, $S.D = .38$). However, they think that exercise is a waste of time ($M = 2.91$, $S.D = .40$) and it is boring ($M = 2.61$, $S.D = .65$). Nursing students agree that exercise is difficult to perform all of the components of exercise such as warming up, doing exercise and cooling down ($M = 2.22$, $S.D = .82$).

Table 5. Test of the relationship between knowledge of exercise and exercise behavior and the relationship between attitude of exercise and exercise behavior.

		Knowledge of exercise	Attitude of exercise
Exercise behavior	Pearson Correlation	.017	.267
	Sig. (2-tailed)	.869	.007
	N	100	100

** Correlation is significant at the 0.01 level (2-tailed).

Table 5 presents the correlation test of the relationship between knowledge of exercise and exercise behavior and the relationship between the attitude toward exercise and exercise

behavior. The results show that there is significant relationship between exercise behavior and attitude toward exercise ($p=.007$). However, there is no significant relationship between exercise behavior and knowledge about exercise ($p=.869$).

References

- Jones, H. & Bartlett, L. (2014). Health Belief Model. Introduction to Health Behavior Theory. Retrieved from <http://www.jblearning.com/samples/0763743836/chapter%204.pdf>
- World Health Organization. (2009). WHO guidelines approved by the guidelines review committee. Geneva: WHO.