

**RELATIONSHIP OF WELLNESS KNOWLEDGE AND  
WELLNESS BEHAVIOR AMONG GRADUATING  
COLLEGE EDUCATION STUDENTS**

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**Abstract**

The goal of this study is to see if there is a link between wellness knowledge and wellness behavior among graduating college students in terms of physical activities, eating habits, and sleep hours. To obtain measurable data, a descriptive correlational research design is adopted. The information is acquired from 79 students-respondents out of 155 graduating college education students at one of the Misamis Oriental's community colleges. The study's findings revealed that graduating college education students have less knowledge 50.6 percent, while wellness behavior in terms of physical activities is 41.8 percent. The majority of the answers are sometimes, indicating that graduating college education students have good conduct. In terms of hours of sleep, 54.4 percent of graduating college of education students answered occasionally, indicating good behavior, and eating habits, 50.6 percent of graduating college of education students answered frequently, indicating very good behavior. The reason why there is no substantial association between wellness behavior and wellness knowledge is because the wellness behavior of graduating college education students does not correlate in their wellness knowledge. The wellness behavior of college of education graduating students have demonstrated that regardless of how much knowledge you have, how you use that knowledge to your conduct are always differ.

**Keywords:** *Relationship, wellness behavior, wellness knowledge.*

## INTRODUCTION

One of the criteria for teaching Physical Education is wellness. Physical Education is one of the course subjects that every student has studied from elementary school to tertiary education, so they already have appropriate wellness knowledge. In Physical Education, health and wellness refer to a student's whole emotional, intellectual, physical, social, and spiritual well-being (Killborn 2012, as cited in McKean, 2019). Wellness knowledge is extremely important in everyday life, and it refers to an individual's intellect or cognitive element, in which that person may take care of doing what is best for their holistic well-being. "Wellness is a crossroads of knowledge and action" (Holtz, 2021).

Nonetheless, graduating from a college of education requires more than just outstanding grades. In between sessions, students must learn to deal with all of life's challenges, whether it's eating healthily and getting enough exercise, dealing with limited resources, or dealing with stress and concern. Wellness has many facets, and someone who is healthy in one area may be suffering in another. However, one of the issues that we as researchers discovered among college students is that while they have wellness information, their wellness behavior is completely contrary of what they should do to become healthy and physically fit. Students' understanding of wellness is critical to their ability to function and acquire the knowledge required to achieve their aims and goals in order to become successful individuals and responsible citizens in their communities and institutions. They are most likely already managing their physical wellness with adequate nutrition and exercise while they move toward focusing on the parts of a balanced existence (Susan, 2022). One of the most difficult aspects of being a student is figuring out how to integrate their wellness knowledge to their wellness behavior in order to achieve their goals.

Furthermore, the relationship between wellness knowledge and wellness behavior is significant because wellness knowledge is something that can be learned, a piece of information, and a branch of learning, whereas wellness behavior is an example of how a living creature, particularly graduating college students, behaves. It is well known that the person makes the greatest contribution to conduct, whereas knowledge must be combined with the person to properly affect behavior. Changing behavior requires more than just information. No one would smoke or eat to the point of obesity if it were, and everyone would buckle up and exercise. Knowledge is quite important. It is, therefore, critical to explain why patients must change their behavior.

Furthermore, maintaining a healthy lifestyle necessitates participation in physical activities, enough relaxation, and a good eating habit, which is every college student's biggest difficulty. Because food alternatives change and dietary issues occur as people migrate from home to college, nutritional understanding becomes increasingly crucial (Abraham et al., 2018). The term "healthy lifestyle" refers to a condition of complete bodily, mental, and social wholeness, not only the absence of disease or disability. As a result, the students' wellness knowledge is linked to their wellness behavior. Understanding the true meaning of health necessitates application, which necessitates decision-making based on physical activity, proper relaxation, and healthy eating habits. Overweight and obesity are linked to physical activity, nutrition knowledge, attitude, and eating practices

(Florence et al., 2020).

Physical activities are very important in everyday life since they assist students become more physically engaged and reduce their risk of chronic disease. Physical activity is associated to numerous chronic diseases and their risk factors, making it an important aspect in health promotion and disease prevention (Vaara, 2019). Physical activities are necessary, but how each student engages in them varies. For example, some people know how important physical exercise is, but they cannot put it into practice, which is why they are prone to diseases and sickness. Physical inactivity has negative consequences for the health system, the environment, economic development, community well-being, and quality of life. Most individuals talk about how physical activities can help them live a healthier lifestyle, but only a few actually do something about it. In 2016, 28 percent of adults aged 18 and up around the world are insufficiently active (men 23 percent and women 32 percent. This means they do not get the recommended 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity physical activity per week (WHO, 2020).

Wellness refers to a person's ability to be more active and productive throughout the day as a result of eating at the appropriate times. Because everyone has different types of appointments, each person has their unique meal intake schedule. The amount of hours between the first and last time you consume any calories during a 24-hour period is your daily eating duration (Manoogian, 2019). One of the reasons why everyone has a distinct food intake time frame is that most people who do the "Brunch," which is a food intake that combines breakfast and lunch, are those who only eat twice a day, but most of the people who do the "Brunch" are those who only eat once a day. Going too long between meals, whether you're following the intermittent fasting craze, working through lunch, or missing breakfast, can have major effects (Ball, 2020). As a result, people who prefer to sleep late are more likely to have a Brunch habit because they would rather do things like scroll through their newsfeed on various social media platforms, drink alcohol late at night, hang out with friends, play online games, and spend too much time on leisure than sleep early.

Sleep is a necessary function that helps your body and mind to replenish, allowing you to wake up refreshed and aware. Sleep is also important for keeping the body healthy and avoiding ailments. The brain cannot function effectively without enough sleep. This can make it difficult to concentrate, think clearly, or remember things (Pacheco, 2022). The recommended amount of sleep per day is six to eight hours, however most people do not get enough sleep at the appropriate times. When compared to those who do not get enough sleep, having a proper sleep schedule might keep a person awake during the day and improve their overall attitude. Sleep is required for survival and good health, but it is also necessary for intelligent sleep, the benefits of which are not fully recognized. One of the advantages of sleep is that it restores people's capacity to function normally during the day. Individual sleep needs vary greatly, ranging from six to 10 hours each day. The majority of individuals sleep at night, but many people need to sleep during the day to fit their job schedules (Schwab, 2022). This study determined the significant relationship between the wellness knowledge and behavior of its student-respondents'. Specifically, it answered the following questions: What is the student-respondents' level of wellness knowledge? What is the student-respondents' level of wellness behavior, in terms of; Physical

Activities; Eating Habits; and Hours of Sleep? Is there a significant relationship between the wellness knowledge of student-respondents' in their wellness behavior?

## **METHODS**

A descriptive correlational research design is used in this study. Correlation is a term that explains the relationship between two variables: as one changes, the other changes as well. A correlation is a statistical measure of how closely two variables are related (Bhandari, 2021). When the goal of the study is to identify traits, frequencies, trends, and categories in order to systematically describe a population, situation, or phenomena, descriptive research design is the best option (McCombes, 2022). It collects quantifiable data on the relationship between graduating college of education students' wellness knowledge and behavior, which is presented in numerical form and analyzed using statistics (percentage). It is descriptive in nature, describing and testing the relationship between wellness knowledge and wellness behavior.

## **Participants**

The participants in this study are graduating College of Education students from one of Misamis Oriental's community colleges. In order to collect data for this research study, the researchers employed a purposive sample strategy to pick respondents from the College of Education. The population for this study is chosen through purposeful sampling. A purposive sample is a non-probability sample that is chosen based on demographic characteristics and the study's goal (Crossman, 2020). The question is modeled after The Wellness Knowledge, Attitude, and Behavior Instrument, which researchers are interested in and modified in answering with the utmost priority when choosing a sampling strategy for informant selection. The question are determine the goals for which the methodology will be used.

## **Data Analysis**

The following statistical techniques and procedures are used to answer the specific problems. Contains data analysis to determine a statistical mean and standard deviation, followed by a verbal description of each statement's outcome. Examines the data using the statistical mean and standard deviation, followed by a verbal description of each statement's results. Pearson Correlation is used determine if there's a relationship between the wellness knowledge of student-respondents' in their wellness behavior.

## **RESULTS AND DISCUSSION**

This section presents the findings based on the problems presented in the study; Based on the collected data, 40 or 50.6 percent of the student-respondents received scores 11- 15 on the wellness knowledge questionnaire, indicating that they have a low level of wellness knowledge. 16 or 20.3 percent of the student-respondents received scores 16-20 on the wellness knowledge questionnaire, indicating that they have a high level of wellness knowledge. As a result, the Pearson correlation test reveals that health knowledge is inversely related to sleep hours ( $r = -.251, p 0.05$ ). The null hypothesis is therefore rejected. Because college students understand how important sleep is for conserving energy in preparation for tomorrow's task and continuing with unfinished school

responsibilities, wellness knowledge and wellness behavior in terms of hour of sleep are linked. College of Education graduates can effectively manage their time to minimize sleep deprivation. As a result, the Pearson correlation test revealed that physical activities ( $r = -.077$ ,  $p = 0.499$ ) and eating behaviors ( $r = -.106$ ,  $p = 0.352$ ) are not significantly connected to wellness knowledge. The null hypothesis is therefore accepted. 4.41 percent of respondents said they undertake housework, with parents reminding their children to perform chores every day. It means that the respondents are obedient enough to observe the rules and regulations at home while also engaging in physical activities. Feeling welcome and included, on the other hand, is a motivator to continue undertaking physical activity (Mikael et al., 2019). 50.6 percent said they ate fruits frequently, while 30.4 percent said they eat vegetables frequently. There are a variety of nutrients that a graduating college student can consume. One of the explanations is that vegetables may be obtained in the backyard: Vegetables are affordable, such as "Sari-sari," "Pakbet," and "Chopsuey," or also known as mix vegies, and local fruits can be found easily in the neighborhood. The availability of certain foods, social support for student health behaviors, parent participation, and behavior modeling are all evaluated by parents (Van den Berg).

#### **Level of Wellness Knowledge**

The student-respondents' results show that 40 or 50.6 percent of 79 or 100 percent of the participants received scores 11- 15 on the wellness knowledge questionnaire, implying that they have less knowledge in terms of their level of wellness knowledge, and 16 or 20.3 percent of 79 or 100 percent of the participants received scores 16-20 on the wellness knowledge questionnaire, implying that they have high knowledge in terms of their level of wellness knowledge, 6 or 7.6% of the participants received scores of 21-25 on the wellness knowledge questionnaire, indicating that they have higher levels of wellness knowledge, whereas 3 or 3.8 percent of the participants received scores of 26-30 on the wellness knowledge questionnaire, indicating that they have average levels of wellness knowledge.

As a result, 40 out of 79 have less wellness knowledge due to a lack of enthusiasm in learning health and a focus on performance rather than content mastery. Students' interest in the subject matter to be learnt could be increased (Wong et al., 2020) by using creative teaching tactics that are best suited to their various intelligences to understand the content of the lesson. Students do not always retain all of the information they are taught in class (Treadwell, 2018). Furthermore, a lack of concentration in learning wellness is a cause in why college graduates have less wellness knowledge; concentration is one of the most important determining variables in a student's learning quality (Le, 2021). Because they have various duties as a worker, leader, and student, the higher a student's level is, the less concentration they pay in class, especially university students (Le, 2021).

#### **Level of Wellness Behavior in terms of Physical Activities**

In terms of physical activity, the level of wellness behavior. It is revealed that 6 or 7.6% of the participants undertake household chores, with parents reminding their children to do household chores every day. It means that the respondents are obedient enough to observe the rules and regulations at home while also engaging in physical activities. Feeling welcomed and included, on the other hand, is a motivator to continue undertaking physical activity (Mikaelsson et al., 2019). It is followed by item 6, which states that they enjoy walking from my house to school, implying that the students are not idle and are accustomed to participating in physical activities such as walking. Because kids still choose to walk from home to school, it implies that the respondents have strong

time management. One of the reasons is that the respondents do not have enough school money to pay for transportation and to develop relationships with their classmates because they exchange life experiences through face-to-face talk while walking. Within this developmental setting, incorporating the walking exercise helped to change the motivational orientation toward physical activity to incorporate more intrinsic factors, such as the ability to stay with classmates and peer groups while also releasing excess energy (Brustio et al., 2018).

### **Level of Wellness Behavior in terms of Hours of Sleep**

The level of wellness behavior of student-respondents in terms of hours of sleep is based on the findings that 23 or 29.1 percent of the participants prefer to sleep in the evening rather than in the morning because the Filipino culture begins to sleep in the evening due to morning classes and most of the work is done in the morning. It suggests that the researchers' responders sleep early because it is what they are accustomed to doing. Sleep length is a key indicator of sleep quality and general health (Singh et al., 2020). 23.1% of the participants said they slept 7-8 hours a day on a regular basis because they can manage their tasks at the right time and go to bed early. It means that the respondents of this study are getting enough sleep, which is beneficial because it helps their brain work properly, and students cannot do effectively without enough sleep. Sleep deprivation is commonly connected with the life of a university student, although it is widely recognized that insufficient sleep can negatively affect physical and mental health, as well as learning abilities (Batten et al., 2020).

### **Level of Wellness Behavior in terms of Eating Habits**

Based on the results, the level of wellness behavior of the student-respondents in terms of eating habits revealed that some respondents, or 40 or 50.6 percent of the participants, frequently ate fruits, while others, or 24 or 30.4 percent of the participants, frequently ate vegetables. There are several reasons why graduating students should eat healthful food. One of the explanations is that vegetables may be obtained in the backyard: Vegetables are affordable, such as "Sari-sari," "Pakbet," and "Chopsuey," or also known as mix vegies, and local fruits can be found easily in the neighborhood. Home environmental variables such as the availability of certain meals, social support for student health behaviors, parent engagement, and behavior modeling were investigated (Van den Berg et al., 2020). There are many expensive foods available, but they must rely on the cash that they can obtain in an environment or surrounding that is affordable and meets their budget because the majority of students come from lower-class families. Aside from eating veggies, it aids kids in gaining nutrients to improve their health and reduce the chance of chronic diseases. Fruit and vegetable protective mechanisms may include not only some of the recognized bioactive nutrient benefits based on antioxidant, anti-inflammatory, and electrolyte capabilities, but also their functional features, such as low glycemic load and high energy density (Alissa & Ferns, 2017). It is implied that the respondents are concerned about their health and prefer to consume fruits and veggies. The respondents are aware of the health benefits of eating nutritious foods. Mindfulness and mindful eating have the ability to address poor eating habits and the difficulties that many people experience in limiting their food intake. Encouragement of a mindful eating approach appears to be a positive message that should be incorporated in broad public weight control recommendations (Warren et al., 2017)

However, 30.19 percent of respondents (out of a total of 100 percent) picked foods based on how they would effect their future health. It is implied that the respondents are aware of their health state and recognize the need of consuming nutritious foods rather than junk food or harmful foods. Because of the position of their family and the scenario they are in, some respondents merely ate the food on their table. There are a variety of reasons why graduating students do not consume enough healthy foods, including the fact that some of them are working students who do not have access

to good food prepared by their parents. Parental modeling of healthy meals and happy mealtime routines may help to improve the nutritional quality of foods served in the households of overweight/obese teenagers (Watts et al., 2018).

### **Relationship of Wellness Knowledge and Wellness Behavior**

As a result, the Pearson correlation test revealed that health knowledge is inversely related to sleep hours ( $r = -.251, p < 0.05$ ). The null hypothesis is therefore rejected. Because college students understand the importance of sleep, wellness knowledge and wellness behavior in terms of hour of sleep are linked. Specifically, while storing energy in anticipation of tomorrow's task and the completion of unfinished educational requirements. Longer sleep duration, higher sleep quality, and more consistent sleep are all linked to improved academic performance (Okano, K. et al. 2019). To minimize sleep deprivation, college students can effectively manage their time. One of the reasons why wellness knowledge and wellness behavior in terms of hour of sleep are related is that, according to the gathered data, 54.4 percent of the respondents, who are college education students, rarely do sleep deprivation. This is because college students can only do sleep deprivation when they are bombarded with school requirements, implying that some college education students have completed their school requirements. The respondents are aware of the negative effects of sleep deprivation on their health, such as a lack of energy to do well in school. College students may have a limited understanding of sleep hygiene and the actions that promote sleep health, which can contribute to bad sleeping habits (Dinis & Braganca, 2018).

As a result, the Pearson correlation test revealed that physical activities ( $r = -.077, p > .05$ ) and eating behaviors ( $r = -.106, p > .05$ ) were not significantly connected to wellness knowledge. The null hypothesis was therefore accepted.

The results of the researchers' survey revealed that some college of education graduating students have less knowledge (50.6 percent out of 100), but it does not mean that they do not know anything about wellness. The reason for their lack of knowledge could be due to a variety of factors, including their busy schedules, working students, inability to understand the content of the lesson due to lack of concentration, or simply procrastination. Many professors struggle to sustain their passion when instructing students at this level, and those students struggle to earn the best results upon graduating from university (Le, 2021). These factors explain why 33 out of 79 respondents can participate in a moderate-intensity fitness program, with 41.8 percent occasionally doing Zumba Dance, exercising aerobically for at least 20 minutes three times per week, stretching exercises at least three times per week, exercises to improve muscular strength and/or endurance (for example, weight lifting or calisthenics) at least two times per week, prefer walking from home to school, and have a healthy diet. Only persons with relatively high salaries have access to some of the facilities (Kruszyska & Poczta, 2020).

However, 6 out of 79 respondents said they can always do basic physical activities, while 7.6% said they always do household chores because it is a part of daily life. Even if they are unaware that household chores contribute significantly to their health, they do it because it is a regular task in their home. When it comes to reducing your risk of heart disease and prolonging your life, completing home tasks can be just as helpful as running or working out, according to one of the world's largest studies on physical exercise (Emling, 2017).

Furthermore, their wellness behavior in terms of eating patterns is unrelated to their wellness knowledge. According to the survey, 40 out of 79 people consume fruits frequently, while 50.6 percent eat fruits frequently. People must eat fruits to improve their immune systems, especially during pandemics. It helps them retain their good health by reducing depressed symptoms and increasing positive mood, life satisfaction, and flourishing. Fruit and vegetable-rich diets assist to lower the risk of a variety of chronic health diseases that are leading causes of mortality, such as cardiovascular disease and cancer (Henderson, 2021).

However, 24 of the 79 respondents said they rarely follow their eating habits, and 30.4 percent said they rarely chose foods based on how they might affect their future health. It is because they just care about how things taste and ignore the nutritional information. As a result, the responders have no notion what the dish entails. Individual consumers must become more aware of and informed about their unique dietary requirements, and develop dietary strategies for food selection that are tailored to their health (Abraham, 2018).

Wellness, as Stoewen (2017) points out, is a dynamic, ever-changing, and fluctuating process. It is a way of life, a personalized approach to living that helps you to become the best kind of person your potentials, circumstances, and fate allow you to become. As a result, even if a person receives significant knowledge about wellness, it is still dependent on a person's decision-making, motivation, influence, and environmental elements that influence a person's decision to either practice or ignore these understandings. As a result, only synchronous wellness knowledge and conduct will enable a person to live a healthy lifestyle.

### **Conclusion**

Based on the findings, the study found that using Pearson Correlation, the amount of wellness awareness of graduating college students have a strong association with wellness behavior in terms of hours of sleep. In terms of physical activity and eating habits, however, there is no link between health knowledge and wellness behavior. The wellness knowledge of graduating college students differs significantly from their wellness behavior, implying that they have a strong foundation of behavioral habits despite their lack of wellness knowledge. The culture of procrastination is undoubtedly to blame for the lack of integration and application of wellness knowledge in everyday life. Knowledge is neither a sign or an assessment of a student's ability to practice healthy habits. It depends on how a student applies his or her knowledge in ways of thinking to reach a healthy lifestyle because a student have a habit of day-to-day living that cannot be changed unless the student can eventually decide to change and correlate his or her behavior with wellness. The wellness behavior of college of education graduating students have demonstrated that regardless of how much knowledge you have, how you use that knowledge to your conduct are always differ.

### **References**

- Holtz, J. (2021). How are knowledge and action vital for wellness? Solutions With Rush. <https://solutionswithrush.com/how-is-knowledge-and-action-vital-for-wellness/>
- Abraham, S., R. Noriega, B., & Shin, J. Y. (2018). College students eating habits and knowledge of nutritional requirements. *Journal of Nutrition and Human Health*, 02(01). <https://doi.org/10.35841/nutrition-human-health.2.1.13-17>
- Florence, W., Ochola, S., & Irene, O. (2020). Effect of nutrition and physical education on adolescents' physical activity levels, nutrition knowledge, attitudes and dietary practices. *Journal of Food Science and Nutrition Research*, 03(02). <https://doi.org/10.26502/jfsnr.2642-1100039>



- Vaara, J. P., Vasankari, T., Koski, H. J., & Kyröläinen, H. (2019). Awareness and knowledge of physical activity recommendations in young adult men. *Frontiers in Public Health*, 7. <https://doi.org/10.3389/fpubh.2019.00310>
- WHO. (2019). Physical activity. WHO | World Health Organization. [https://www.who.int/health-topics/physical-activity#tab=tab\\_1](https://www.who.int/health-topics/physical-activity#tab=tab_1)
- WHO. (2020). Physical activity. WHO | World Health Organization. <https://www.who.int/news-room/fact-sheets/detail/physical-activity#>
- Manoogian, E. N., Chaix, A., & Panda, S. (2019). When to eat: The importance of eating patterns in health and disease. *Journal of Biological Rhythms*, 34(6), 579-581. <https://doi.org/10.1177/0748730419892105>
- Pacheco, D. (2020, December 11). *Why do we need sleep?* Sleep Foundation. <https://www.sleepfoundation.org/how-sleep-works/why-do-we-need-sleep>
- Bhandari, P. (2021). Correlation vs causation. Scribbr. <https://www.scribbr.com/methodology/correlation-vs-causation/>
- McCombes, S. (2020, September 3). *Descriptive research design | Definition, methods and examples*. Scribbr. <https://www.scribbr.com/methodology/descriptive-research/>
- Crossman, A. (2020). *What you need to understand about purposive sampling*. ThoughtCo. <https://www.thoughtco.com/purposive-sampling-3026727>
- Le, H. V. (2021). An investigation into factors affecting concentration of University students. *Journal of English Language Teaching and Applied Linguistics*, 3(6), 07-12. <https://doi.org/10.32996/jeltal.2021.3.6.2>
- Mikaelsson, K., Rutberg, S., Lindqvist, A., & Michaelson, P. (2019). Physically inactive adolescents' experiences of engaging in physical activity. *European Journal of Physiotherapy*, 22(4), 191-196. <https://doi.org/10.1080/21679169.2019.1567808>
- Brustio, P. R., Moisè, P., Marasso, D., Alossa, D., Miglio, F., Mulasso, A., Rabaglietti, E., Rainoldi, A., & Boccia, G. (2018). Participation in a school-based walking intervention changes the motivation to undertake physical activity in middle-school students. *PLOS ONE*, 13(9), e0204098. <https://doi.org/10.1371/journal.pone.0204098>
- Singh, M., Hall, K. A., Reynolds, A., Palmer, L. J., & Mukherjee, S. (2020). <p>The relationship of sleep duration with ethnicity and chronic disease in a Canadian general population Cohort</p>. *Nature and Science of Sleep*, 12, 239-251. <https://doi.org/10.2147/nss.s226834>
- Batten, R., Liddiard, K., Raynor, A. J., Brown, C. A., & Stanley, M. (2020). <p>Cross-Sectional survey of sleep practices of Australian University Students</p>. *Nature and Science of Sleep*, 12, 39-48. <https://doi.org/10.2147/nss.s221472>

- Alissa, E. M., & Ferns, G. A. (2017). Dietary fruits and vegetables and cardiovascular diseases risk. *Critical Reviews in Food Science and Nutrition*, 00-00. <https://doi.org/10.1080/10408398.2015.1040487>
- Warren, J. M., Smith, N., & Ashwell, M. (2017). A structured literature review on the role of mindfulness, mindful eating and intuitive eating in changing eating behaviours: Effectiveness and associated potential mechanisms. *Nutrition Research Reviews*, 30(2), 272-283. <https://doi.org/10.1017/s0954422417000154>
- Watts, A. W., Barr, S. I., Hanning, R. M., Lovato, C. Y., & Mâsse, L. C. (2018). The home food environment and associations with dietary intake among adolescents presenting for a lifestyle modification intervention. *BMC Nutrition*, 4(1). <https://doi.org/10.1186/s40795-018-0210-6>
- Wong, L., Chan, T., Chen, W., Looi, C., Chen, Z., Liao, C. C., King, R. B., & Wong, S. L. (2020). IDC theory: Interest and the interest loop. *Research and Practice in Technology Enhanced Learning*, 15(1). <https://doi.org/10.1186/s41039-020-0123-2>
- Treadwell, S. M. (2018). Making the case for project-based learning (PBL) in physical education. *Journal of Physical Education, Recreation & Dance*, 89(1), 6. <https://doi.org/10.1080/07303084.2018.1393225>

