

Experiences of Undergraduate Students Enrolled in a University Instructional Physical Activity Course: Exploring Factors Contributing to Behavior Modification

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ABSTRACT

Background: There is a trend of decreased daily physical activity among college students. Demands of coursework, hectic schedules, and stress often prevent students from engaging in regular exercise, leading to negative impacts on mental and physical well-being. University Instructional Physical Activity Programs have the potential to address this issue by offering courses that can encourage healthier habits and promote wellness.

Aim: The purpose of this study was to analyze the experiences of undergraduate students enrolled in a two-credit elective physical activity course.

Methods: Participants were 587 undergraduate students enrolled in an online instructional physical activity course. Data collection included a survey consisting of three questions on a five-point Likert scale and one open-ended response regarding their experience in the course.

Results: Descriptive survey data indicated positive trends regarding participants' experience. Based on thematic analysis, qualitative data produced four themes including (1) awareness, (2) accountability, (3) ease and convenience, and (4) behavior change.

Conclusions: Participants had an overall positive response to wearing an activity tracker in an online physical activity course and believed the awareness the activity tracker provided changed their daily behaviors, enabled health outcomes, and changed future intentions for physical activity. This study provides insight into the inclusion of technology to facilitate physical activity in college-age students.

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Keywords: higher education; wearable device; physical activity tracker; behavior change; wellness

BACKGROUND

Physical activity plays a crucial role in maintaining health and well-being. The World Health Organization (WHO) suggests that adults should engage in 150–300 minutes of moderate physical activity or 75–150 minutes of vigorous physical activity each week to maintain a health-enhancing lifestyle. Current trends reveal that 60% of college students are not meeting the recommended guidelines, contributing to various health issues, including cardiovascular diseases, diabetes, stress, and mental health challenges (American College Health Association, 2024; Johannes et al., 2024).



Several factors contribute to physical inactivity among college students including academic pressures, time constraints, and diminished motivation (Brown et al., 2024). The transition from high school to university often results in reduced physical activity levels due to lifestyle changes and heightened academic responsibilities (Šipl & Hurych, 2024). Furthermore, motivation can vary significantly, particularly in light of the increased stress and duties that accompany university life (Matud et al., 2020). As a result, students may experience a decline in their desire to participate in physical activities (Ndupu et al., 2023). By recognizing and addressing these barriers, universities can play a role in promoting and supporting the pursuit and continued engagement in physical activity, thereby enhancing the overall well-being and academic success of their students (Barbayannis et al., 2022).

Encouraging physical activity among college students is essential for their overall well-being. Engaging in regular physical activity has been shown to positively affect physical and mental health. Research indicates that consistent exercise can enhance cognitive function, memory, concentration, focus, sleep quality, and reduce stress and anxiety (Klajević et al., 2021). By educating students about the relationship between physical activity and academic performance, we can inspire them to prioritize exercise in their daily lives (Battisto et al., 2024).

Universities have a significant opportunity to enhance student well-being by offering accessible and attractive exercise options, incorporating physical activity into students' daily routines, and promoting awareness of its benefits (Johannes et al., 2024). This endeavor necessitates a comprehensive approach that includes the integration of technology, the enhancement of motivational strategies, and the provision of flexible exercise opportunities within the university setting (Brock et al., 2018). Cox et al. (2019) described college students as “digital natives” and highlighted their dependence on technology, advocating that universities should embed technological elements into physical activity courses to remain relevant and align with contemporary trends. Furthermore, García-Morales et al. (2021) characterized the integration of digital technologies as “an unprecedented opportunity for the transformation of higher education at a global level” (p. 6).

Comprehensive health and wellness programs that encompass both physical and mental health can support students in managing health challenges and remaining active. Instructional Physical Activity Programs (IPAP) provide a holistic approach to addressing the physical inactivity prevalent among college students (Cardinal & Casebolt, 2022). Naeger et al. (2024) described IPAPs as a “logical setting to educate college age students about lifestyle choices and health risk behaviors” (p. 4). These programs prioritize education as their core mission, focusing on health-related physical activity and skill development (Russell & Sampson Moore, 2022; SHAPE America, 2022). Their objective is to foster lifelong physical activity habits by offering diverse and high-quality instructional experiences (Brock et al., 2020; Hill et al., 2018). Research on IPAPs has shown significant benefits, including enhanced physical performance and enjoyment, heightened motivation and future intentions for physical activity, increased physical activity and mood, improved health and well-being, and student retention (Annesi et al., 2017; Beaudoin et al., 2018; Brock et al., 2016; Casebolt et al., 2017; Hill et al., 2018; Kim & Cardinal, 2019; Layne, 2015; Lothes & Nanney, 2019; Marinaro et al., 2022; Melton et al., 2015; Naeger et al., 2024; Towner et al., 2024).

While quantitative data highlights the positive outcomes of IPAPs, the voices of college students through qualitative data are less represented and vital in understanding how students experience the comprehensive approach. One notable exception is the study conducted by Towner et al. (2024), which qualitatively analyzed college students' reflections based on their responses to 11 prompts that addressed fitness goals, barriers, and future exercise intentions. This initial evidence proves valuable in enhancing our understanding of how to effectively support college students' physical activity through IPAPs. Additionally, Melton et al. (2015) collected data through focus groups in a face-to-face IPAP course where students used a mobile fitness application. To address the shortage of qualitative insights

related to IPAPs, the purpose of this study was to explore the experiences of undergraduate students enrolled in a two-credit elective IPAP course. While some preliminary descriptive data is provided for context, the primary focus is on the voices and perspectives of the college students.

METHODS

Participants and Setting

Participants included 587 undergraduate students enrolled in 11 sections of an online instructional physical activity course at a comprehensive research institution in the southeastern United States. Upon Human Subjects Institutional Review Board approval, data were obtained anonymously with no personal identifiers.

This course was originally developed in 2012 to encourage physical activity on campus amidst diminishing resources and facilities (Brock et al., 2016). Over time, the course has evolved from self-reporting of physical activity to participating in group fitness classes, which evoked the resources of another campus partner, ultimately to the incorporation of wearable technology. Since the adoption of wearable technology, demand for the course has increased exponentially resulting in a consistent enrolment of over 2,500 in 60 sections as of the 2023-2024 academic year.

The course is a two-credit, grade-based online physical activity course embedded within a large IPAP that serves approximately 8,000 students annually. The course is designed to provide students flexibility and autonomy to participate in physical activity of their choice at a time and place that is convenient for them. Students are responsible for the out-of-pocket expense of purchasing a wrist fitness tracking device (approximately \$60) that is electronically monitored and synced weekly to a free smartphone application. Students are notified of this additional expense before the semester begins. Weekly step goals are set at gradual increments in line with global physical activity recommendations and are consistent across all course sections. Instructors have access to individual student data through an online platform for grading purposes. In addition to the physical activity component, students also complete online modules covering exercise principles, behavioral change strategies, and nutrition education. Accommodations for students with disabilities are determined and dictated by the institution's accessibility office in compliance with the American Disabilities Act. Example accommodations include reduced step goals and additional time for module completion.

Data Collection

Data were collected through a survey consisting of four questions administered at the conclusion of the academic term. Three of the questions utilized a five-point Likert scale to gauge participants' agreement or disagreement, ranging from *strongly agree* to *strongly disagree*. The fourth question prompted participants to provide a general open-ended response regarding their experience in the course.

Data Analysis

Quantitative survey data were entered into Excel and then imported into SPSS for analysis. Descriptive statistics were calculated for all three quantitative questions.

Open-ended responses were entered into Excel for inductive analysis. According to Bingham and Witkowsky (2021), inductive analysis involves “applying codes and themes to describe the data and seeking patterns to develop categories, themes, or theories that demonstrate commonalities” (p. 135). Initially, two researchers independently reviewed all open-ended responses. They then reviewed the responses a second time, independently labeling each one. Content analysis methods were utilized to identify overarching themes (Patton, 2015). Common patterns in the data were organized into recurring themes through constant comparison methods. Both researchers coded all responses again using the established coding list. Inter-rater reliability was established at 98%. Responses that were not in agreement were discussed to reach a consensus on coding. Subsequently, the lead researcher color-coded the data to link themes to supporting evidence based on each response, facilitating ease of retrieval during the writing process.

RESULTS

Quantitative data noting agreement or disagreement on a five-point Likert scale were completed by 587 participants. The questions included: (1) I believe using the activity tracker changed my daily activity habits (e.g., walking to class), (2) I intend to continue using the activity tracker after this class ends, and (3) I would recommend the activity tracker to individuals wanting to track their physical activity. Results indicated 79% ($n = 466$) of participants believed wearing the activity tracker changed their daily habits by responding agree or strongly agree to question 1, with only six participants strongly disagreeing. For question 2, 50% ($n = 293$) of participants intended to use the activity tracker after the course ended. When asked if they recommend the activity tracker to individuals wanting to track their physical activity (question 3), 64% ($n = 373$) of participants agreed or strongly agreed. Figure 1 highlights the frequency of participant responses by question and Table 1 reports the mean and standard deviation for each question.

Figure 1

Likert Scale Participant Responses by Question

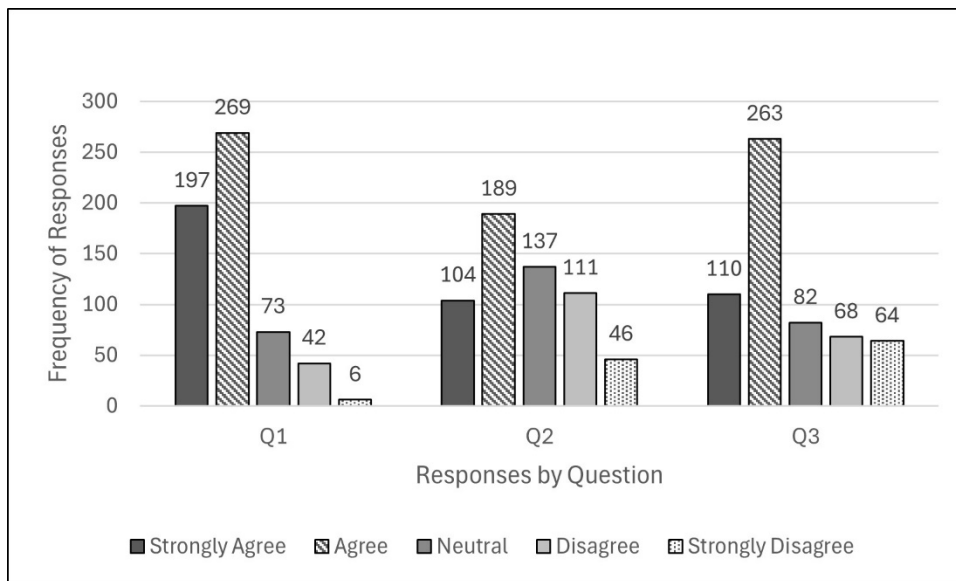


Table 1*Mean (M) and Standard Deviation (SD) by Question (Q)*

<u>Q1</u>	<u>Q2</u>	<u>Q2</u>
<i>M SD</i>	<i>M SD</i>	<i>M SD</i>
4.04 (3.62)	3.33 (3.03)	3.49 (3.19)

Qualitative data were gathered through a broad open-ended question about the students' experience in the course. The general nature of the question was intentional so as not to lead answers and to evoke any response each individual student felt was important. All students provided a response, and many students provided multiple statements, as entry space was not limited. Results indicated 746 total statements revealing four dominant themes: (1) awareness, (2) accountability, (3) ease and convenience, and (4) behavior change.

Awareness

Qualitative data revealed 217 statements regarding participant awareness of their physical activity. Statements were further divided into five sub-themes regarding awareness to include: (1) novelty of the wearable device, (2) sources of physical activity, (3) recognizing a need for change, (4) sense of accomplishment, and (5) competitive nature.

Novelty of the Wearable Device

Many students had not tracked their physical activity before and enjoyed learning about their current habits. One student noted, "This is the first time I have been able to track my steps and I really enjoyed seeing actually how many I took each day." Similarly, another student offered, "I have never tracked my steps before, so learning how much I actually walk in a day was really interesting to me." One student explained how real-time data eliminated guesswork in how much physical activity they were doing, "to actually see how much I have walked and moved each day instead of just having to guess what I've done." Others added, "I liked that I could easily check my steps at anytime, anywhere," "I loved just tapping my band and being able to see my progress throughout the day," and "It really made me aware of my activity level throughout the day."

Sources of Physical Activity

In addition to documenting physical activity through real time data, participants became aware of the sources of their daily physical activity. Participants noted, "It allowed me to see where most of my exercise is coming from," "I enjoyed seeing how many steps I take at work as a waitress," and "I liked being able to see exactly how much I walked on campus without exercise and being able to compare it to the days I walked on campus but then also went to workout." Comparisons of types of physical activity were accompanied by how schedules influenced physical activity. For example:

- "I compared my steps on different days of the week, and was better able to determine which days I was falling behind on my physical activity."

- “It was interesting to see how much I walked each day and how and why I walked more on some days than others.”
- “It made me understand my activity throughout the day and the days where I didn’t get enough.”
“I found out which days I was the most active I had work and the least active was on Sundays.”

Recognizing a Need for Change

Participants noted how awareness of their current physical activity helped them assess progress and set goals. One participant noted, “This course made me consider my exercise activities. I learned that exercise affects almost every aspect of my life. I was thinking of my exercise habits at times when I normally would not.” Participants explained, “Seeing my activity each day made me aware of what I needed to be doing,” “It made me realize that I needed to be more physically active,” “It was a quick and easy way to keep up with my daily activity and know how much more I need to be exercising daily,” “It helped me be aware of my daily habits and try to improve them,” “Made me aware of how much I wasn’t moving every day and helped to get me up and out,” and “I got to see how many steps I was actually receiving each day and it helped me set daily goals for myself.” One participant offered, “I personally attend cycling classes regularly and was under the impression that was getting me to 10,000 steps, however, I would only get 5,000. So... it is not enough exercise during the day.” Another participant added, “I liked the motivation behind it to get active. It serves as a reality check whether you over or underestimate the amount of movement you make throughout the day. It’s great for goal setting and for making your health a priority in your life.”

Sense of Accomplishment

Participants frequently mentioned how they experienced a sense of accomplishment by reaching their daily step goals. Participants representatively commented, “I got very happy when I would achieve my goals early in the day,” “It was really fun keeping track of my steps each day and hitting goals that I didn’t think I would,” “I liked hitting 10000 steps a day because that was very fulfilling and motivating,” “I had a sense of accomplishment when the goal is reached each day,” and “Getting 10,000 steps a day made me feel very accomplished and healthy!” Other participants mentioned a specific function of the activity tracker, “My favorite part was achieving the required daily steps and how the band would vibrate when I hit my goal” and “Every time it buzzed when I hit my goal gave me a sense of pride and fueled my desire to hit it every day.”

Competitive Nature

Wearing the activity tracker and being aware of their physical activity levels seemed to bring out the competitive nature of participants. Comments included, “Seeing how many steps I could build throughout the week caused me to compete with myself, which is always good,” “It allowed me to compete with myself and beat previous goals,” and “I enjoyed tracking my daily activity and comparing my total number of steps per week with my Dad.” Other participants noted, “I liked the game factor of counting my steps and being able to compare recent day’s activities,” “I liked to see how many miles I could walk a day,” and “I enjoyed challenging myself to take the long way to class and focus on how much I was moving during the day.”

Accountability

Qualitative data revealed 197 statements regarding accountability. Three sub-themes emerged regarding accountability to include: (1) forced/pushed, (2) motivation, and (3) gradual increase in requirements.

Forced/Pushed

Participants frequently mentioned the terms forced, pushed, or required, but appeared to view it positively. For example:

- “It held me accountable to exercising. I need a push to get out and do it, and this was the push I needed.”
- “Usually we don't have the push to do these things but when it is ‘required’ that becomes more a part of our daily life.”
- “I liked how it kind of made me go outside and work out because sometimes you need that push to go and work out.”
- “It forced me to hold myself accountable about staying active. This class did just that.”

Other participants noted, “This class was like an accountability partner type thing for me-I had to get my 10,000 steps each day or I’d get a bad grade,” “It pushed me to be active especially on the days that I didn't want to be at all,” and “There were some days where I didn’t feel like going to the gym or walking to class but having the band really pushed me to achieve the daily steps.”

Motivation

Qualitative data revealed how requirements appeared to lead to motivation to be more physically active. One participant explained, “At first being active was about getting a grade, but then it just became part of my day.” Participants commented, “It motivated me to go the gym and push myself to reach my weekly goal or above. I enjoyed being more active,” “making sure I wasn’t sitting around for too long during the day so that I could get steps in,” “If I didn’t have many steps I knew I hadn’t been as active and it encouraged me to get up and go be active,” and “It motivated me to exercise.”

Motivation was important in light of the time constraints participants experienced as college students. Participants noted, “It also motivated me to go for runs after I realized I had very few steps if I was in class or studying all day,” “It encouraged me to stay active even though school makes me feel as though I need to sit in a chair stationary for 10+ hours. It is a nice change of pace.” And “It motivated me to try to be active despite my busy schedule.”

Gradual Increase in Requirements

Participants enjoyed and felt challenged by the progressive number of steps required throughout the semester. Comments included, “The increase in steps per week were challenging and fun,” “There was always a new goal to reach every week,” “Towards the end of the semester, the amount of steps required challenged me to do a little more exercise during the week!” and “The challenge of completing the gradual amount of steps each week was the best part for me.”

Other participants noted how the progressive nature of the requirements helped them exercise in an attainable way that enabled them to achieve goals. For example:

- “The course taught you how to slowly get into an exercise regimen.”
- “I enjoyed the gradual increase in activity because it was not as difficult for me to reach.”
- “The step goals were easy to achieve but then got harder as the course went on causing me to seek-out physical activity to achieve my steps.”
- “The gradual increase in steps helped me be able to reach the final goal of 70,000 steps easier than if it was always 70,000 steps.”

Ease and Convenience

Qualitative data indicated 158 statements regarding ease and convenience of the course. Statements were further divided into three sub-themes to include: (1) freedom and autonomy, (2) simple and straightforward, and (3) flexibility.

Freedom and Autonomy

The most robust sub-theme, under the broad theme of ease and convenience, was freedom and autonomy. Participants appeared to value the autonomy of being able to meet course requirements in physical activities of their own choice. For example:

- “This course allowed you to perform the activity that you wanted to do, whether that activity was running, walking, or playing a game of basketball.”
- “Rather than being required to do certain activities, I liked being able to incorporate my daily life of walking around campus into this course.”
- “Having the freedom to get the moves how I wanted. I usually achieved them by walking to class, or going on a run/other classes at the rec.”
- “I could get my steps in my own way, I didn't have to do a certain exercise or do a specific regime, I could get my steps the way I liked it and not have to do anything in particular.”

Simple and Straightforward

Participants felt the course was “straightforward” and “simple, but effective” in meeting physical activity requirements. Participants commented, “It was pretty easy as long as you actually wore the watch and didn’t sit around all weekend,” “It wasn’t super demanding and yet it was effective in helping improve my daily physical activity,” and “I liked how simple everything was. The expectations for students in this course were explicitly laid out, and as long as you are a responsible, relatively active person, it was not hard to fulfill those required expectations.”

Flexibility

Qualitative data revealed participants appreciated that the flexibility of the course did not add burden to their busy schedule and other coursework. Participants explained, “It was online and flexible with my schedule,” “Not having

to block off a class time was flexible and easier for my schedule,” “It made it easy to do it around work or other classes,” and “This class did not get in the way of my major coursework, which is definitely a plus.” Another participant added, “I felt like I was making positive change but it wasn't a strain on my time or stress level.”

Behavior Change

Qualitative data revealed 129 statements related to behavior change. Three sub-themes emerged regarding behavior change to include: (1) modifying daily habits, (2) health outcomes, and (3) future intentions for physical activity.

Modifying Daily Habits

Participants frequently emphasized how they changed their daily habits while enrolled in the course. Participants explained, “I have a tendency to lay in bed as much as possible and not stay as active as I should. This course really helped me to keep moving and get outside more,” “It gave me a lot of motivation to make healthier choices in my life due to actually exercising instead of being a couch potato. It has been incredibly beneficial to me overall,” and “I would get up earlier in the mornings to exercise and it started my day in a great way. I know that by starting a habit of working out early in college will help me to continue.”

Other participants noted the types of physical activity they were doing on a daily basis as a result of the course, “I was motivated to run on the treadmill and partake in exercise classes,” “This class motivated me to work out more and just do more low impact activities overall,” and “I like that it encouraged me to go to the gym and do things like playing basketball. I found that if I played several games of basketball I would have most of the steps I needed for the week.”

Qualitative data revealed 87 comments related to changing daily routines such as walking instead of driving or taking the stairs as opposed to the elevator. For example, “Even though I had on campus parking and lived off campus, I walked to class almost every day,” “It encouraged me to walk home from classes instead of taking the bus,” and “Instead of driving to get my mail (a 5 min walk but a 30 second drive) I would walk to get it so it would make me have more steps and therefore be more active.” One participant even noted, “It motivated me to take the long way to class.” Other participants explained, “Instead of taking the elevator I would take the stairs or instead of parking close to the store entrance I would park farther away from it” and “It encouraged me to take the stairs instead of the elevator and find small ways to be active.” One participant summarized by saying:

For example, I began taking the stairs instead of taking the elevator. I began to park further off campus in order to get more steps in. You do not have to devote an hour or two everyday at the gym if you try to spread out simple exercise throughout the day.

Health Outcomes

Participants mentioned the attainment of health outcomes due to the course. Comments included, “It got me into better shape,” “It helped me become fitter,” “Bringing the energy to me,” “Using the band helped me to keep from gaining weight during my first semester of college,” and “I was really happy to see myself progressing and my health getting better and helped me achieve my weight loss goal!!” Other participants noted, “I really liked using the Movband

because I felt healthier when I was able to see how much I had exercised in a day” and “Throughout this course, I have also seen physical changes in myself that I’ve been wanting for a while.”

One participant stated:

I really liked how this course pushed me out of my comfort zone in my every day activity. This semester, I have seen the impact that exercising has had on my general mood and my energy. Little decisions like walking to class and intentionally being active in daily life has had an obvious impact on my mental and physical health.

Future Intentions for Physical Activity

A common sub-theme was participants’ desire and intention to continue exercising daily after the course ended. They noted, “This course has helped motivate me to actually want to walk more to obtain these goals set,” “Overall I loved this class and everything it taught me and I will definitely continue this healthy lifestyle,” and “I always walked home instead of riding the bus and I hope to continue doing that next year as well!” Other participants noted, “The course showed me how important being active is and I will continue to use the band,” “I liked that I was able to track my steps each week, it has motivated me to order a Fitbit after the class is over to continue tracking my activity,” and “Now that I am better adjusted to life as a college student, I am excited to get back into running daily and am even running a half marathon on Thanksgiving Day!”

DISCUSSION

This study on college students’ experiences in an online instructional physical activity course revealed significant insights through both quantitative and qualitative data.

Quantitative data using a five-point Likert scale specifically assessed the impact of activity trackers on daily habits, intention for future use, and recommendations to others among university students. In 587 participants, results demonstrated a positive influence of activity trackers on daily habits (Question 1), with 79% ($n = 466$) of participants agreeing or strongly agreeing that wearing the tracker changed their daily habits, and only six participants strongly disagreeing. This indicates a substantial acceptance and perceived benefit of the trackers in promoting physical activity. Similarly, Melton et al. (2015) found participants experienced enjoyment and motivation when using a mobile fitness application in a face-to-face IPAP course. Regarding the intention to continue using the activity tracker after the course (Question 2), 50% of participants expressed a positive intent. This suggests a moderate level of ongoing interest and perceived utility of the trackers beyond the structured course environment. When considering the likelihood of recommending the activity tracker to others (Question 3), 64% ($n = 373$) of participants agreed or strongly agreed. This reflects a strong endorsement of the trackers’ effectiveness and satisfaction with their use.

Qualitative data gathered through open-ended questions revealed 746 statements highlighting four dominant themes: (1) awareness, (2) accountability, (3) ease and convenience, and (4) behavior change.

The theme of awareness was mentioned in 217 statements with sub-themes including the novelty of the device, sources of physical activity, recognition of the need for change, a sense of accomplishment, and competitive nature. Many participants enjoyed learning about their habits for the first time, recognizing sources of physical activity, assessing progress, and setting goals. These findings complement previous work by Hill et al. (2018) and Layne (2015) indicating significant increases in physical activity enjoyment as a result of participating in an IPAP course. For some

participants, the competitive nature emerged as they felt a sense of accomplishment in reaching their daily step goals, as also noted by Annesi et al. (2017).

Accountability was revealed in 197 statements, further divided into the sub-themes of being forced/pushed, motivation, and gradual increase in requirements. In line with findings from Towner et al. (2024), participants frequently mentioned feeling forced or required to be active but viewed it positively as it motivated them despite their time constraints. The progressive nature of the step requirements helped them exercise in an achievable way.

Participants frequently mentioned ease and convenience as evidenced by 158 statements with sub-themes of freedom and autonomy, simplicity and straightforwardness, and flexibility. Participants valued the autonomy to meet course requirements through their chosen physical activities, finding the course straightforward, simple but effective, and flexible enough not to burden their busy schedules as previously noted by Brock et al. (2016).

Notions about behavior change resulted in 129 statements with sub-themes of modifying daily habits, health outcomes, and future intentions for physical activity. Similar to the results of Beaudoin et al. (2018), participants frequently reported changing daily routines, such as walking instead of driving, achieving health outcomes, and expressing a desire to continue exercising daily after the course.

These findings are not without limitations. In this study, data were collected on future intentions for use of the wearable device after the class ended and did not include a formal retention measure. Ledger and McCaffrey (2014) found that over half of participants discontinued the use of wearable devices within six months, indicating the novelty of the technology may wear off irrespective of perceived value. Additionally, accessibility and affordability of wearable devices can be limited to those who can afford them, particularly when the device is an added course expense as noted in this study.

CONCLUSION

Physical activity has profound impacts on the health and well-being of university students, offering numerous physical, mental, and social benefits. However, it is essential to manage the associated risks through proper education, training, and support. Universities play a pivotal role in promoting physical activity by providing resources, programs, and a supportive environment to help students integrate regular exercise into their lives.

The data in this study reveal a generally positive reception and perceived impact of activity trackers in an online IPAP course on enhancing daily physical activity among university students. The findings highlight the potential of these devices to foster long-term healthy habits and endorse their use in broader populations interested in tracking physical activity. Additionally, this research indicates that activity trackers can significantly enhance students' awareness and accountability, as well as evoke behavior change regarding physical activity. The positive feedback on daily habit changes, increased motivation, and intention to maintain physical activity post-course suggests that integrating activity trackers into student routines can be a valuable strategy for promoting long-term health and well-being.

These findings remind us that the role IPAPs have in promoting physical health and well-being among college students remains crucial. Ongoing efforts to enhance the quality, sustainability, and engagement in these programs are essential for their continued success and impact on student health and wellness.

REFERENCES

- American College Health Association. (2024). *American College Health Association-National College Health Assessment III: Reference group executive summary fall 2023*. American College Health Association. https://www.acha.org/wp-content/uploads/2024/06/NCHA-IIIb_FALL_2023_REFERENCE_GROUP_EXECUTIVE_SUMMARY.pdf
- Annesi, J. J., Porter, K. J., Hill, G. M., & Goldfine, B. D. (2017). Effects of instructional physical activity courses on overall physical activity and mood in university students. *Research Quarterly for Exercise and Sport*, 88(3), 358-364. <https://doi.org/10.1080/02701367.2017.1336280>
- Barbayannis, G., Bandari, M., Zheng, X., Baquerizo, H., Pecor, K. W., & Ming, X. (2022). Academic stress and mental well-being in college students: correlations, affected groups, and COVID-19. *Frontiers in Psychology*, 13, 1-10. <https://doi.org/10.3389/fpsyg.2022.886344>
- Battisto, D., Hambright-Belue, S., Browning, L., Hall, L., Blouin, J., Dong, J., Xiaowei, L., & Baber, K. (2024). Promoting wellness for architecture and landscape architecture students: Lessons learned from a mixed method study. *Building Healthy Academic Communities Journal*, 8(2), 74-92. <https://doi.org/10.18061/bhac.v8i2.9768>
- Beaudoin, C., Parker, T., Tiemersma, K., & Lewis, C. (2018). Evaluating university physical activity courses from student and instructor perspectives. *Journal of Physical Education, Recreation & Dance*, 89(1), 7-11. <https://doi.org/10.1080/07303084.2017.1390508>
- Bingham, A. J., & Witkowsky, P. (2021). Deductive and inductive approaches to qualitative data analysis. In C. Vanover, P. Mihas, & J. Saldaña (Eds.), *Analyzing and interpreting qualitative data: After the interview* (pp. 133-146). Sage. <https://doi.org/10.3102/1682697>
- Brock, S. J., Beaudoin, C., Urtel, M. G., Hicks, L. L., & Russell, J. A. (2020). A constant balancing act: Delivering sustainable university instructional physical activity programs. *Kinesiology Review*, 9(4), 293-298. <https://doi.org/10.1123/kr.2020-0035>
- Brock, S. J., Russell, J. A., Cosgrove, B., & Richards, J. (2018). Administrative strategies for delivering high-quality instruction in a university-based physical activity and wellness program. *Kinesiology Review*, 7(4), 345-349. <https://doi.org/10.1123/kr.2018-0040>
- Brock, S., Wadsworth, D., Hollett, N., & Rudisill, M. (2016). Using moving technology to support online learning: An effective approach to maximizing resources in kinesiology. *Kinesiology Review*, 5(4), 289-294. <https://doi.org/10.1123/kr.2016-0028>
- Brown, C. E., Richardson, K., Halil-Pizzirani, B., Atkins, L., Yücel, M., & Segrave, R. A. (2024). Key influences on university students' physical activity: A systematic review using the Theoretical Domains Framework and the COM-B model of human behavior. *BMC Public Health*, 24(1), 418. <https://doi.org/10.1186/s12889-023-17621-4>
- Cardinal, B. J., & Casebolt, K. M. (2022). College and university instructional physical activity programs, as relevant now as ever. *International Journal of Kinesiology in Higher Education*, 6(2), 77-82. <https://doi.org/10.1080/24711616.2020.1869512>

- Casebolt, K., Chiang, L. M., Melton, B., & Russell, J. (2017). College/university instructional physical activity programs and academic success in higher education. *International Journal of Kinesiology in Higher Education*, 1(3), 100-106. <https://doi.org/10.1080/24711616.2017.1328196>
- Cox, D. G., Krause, J. M., & Smith, M. A. (2019). Technology in university physical activity courses: A mini-ethnographic case study. *The Qualitative Report*, 24(10), 2554-2574. <https://doi.org/10.46743/2160-3715/2019.3903>
- García-Morales, V. J., Garrido-Moreno, A., & Martín-Rojas, R. (2021). The transformation of higher education after the COVID disruption: Emerging challenges in an online learning scenario. *Frontiers in Psychology*, 12, 616059. <https://doi.org/10.3389%2Ffpsyg.2021.616059>
- Hill, G. M., Goldfine, B. D., Porter, K. J., & Yin, Z. (2018). The impact of enrollment in an instructional physical activity program course on the physical activity level and enjoyment of physical activity of university students. *American Journal of Health Studies*, 33(3), 118-126. <https://doi.org/10.47779/ajhs.2018.64>
- Johannes, C., Roman, N. V., Onagbiye, S. O., Titus, S., & Leach, L. L. (2024). Strategies and best practices that enhance the physical activity levels of undergraduate university students: A systematic review. *International Journal of Environmental Research and Public Health*, 21(2), 1-23. <https://doi.org/10.3390/ijerph21020173>
- Kim, M. S., & Cardinal, B. J. (2019). Differences in university students' motivation between a required and an elective physical activity education policy. *Journal of American College Health*, 67(3), 207-214. <https://doi.org/10.1080/07448481.2018.1469501>
- Kljajević, V., Stanković, M., Đorđević, D., Trkulja-Petković, D., Jovanović, R., Plazibat, K., Orsolic, M., & Sporiš, G. (2021). Physical activity and physical fitness among university students—A systematic review. *International Journal of Environmental Research and Public Health*, 19(1), 158-169. <https://doi.org/10.3390/ijerph19010158>
- Layne, T. (2015). Analysis of instructional impact on the running performance of university students. *Journal of Teaching, Research, and Media in Kinesiology*, 4, 1-14. <https://files.eric.ed.gov/fulltext/EJ1082226.pdf>
- Ledger, D., & McCaffrey, D. (2014). Inside wearables Part 1: How behavior change unlocks long-term engagement. *Endeavour Partners*, 200(93), 1-17. <https://medium.com/@endeavourprtnrs/inside-wearable-how-the-science-of-human-behavior-change-offers-the-secret-to-long-term-engagement-a15b3c7d4cf3>
- Lothes, J. E., & Nanney, L. (2020). Using the wellness inventory to assess health and well-being in college students at the end of the semester. *Journal of American College Health*, 68(3), 294-301. <https://doi.org/10.1080/07448481.2018.1549047>
- Marinero, L. M., Melton, B. F., Follmer, D. J., & Nobiling, B. D. (2022). Wellness improvements following a 15-week lifelong fitness and wellness class. *International Journal of Kinesiology in Higher Education*, 6(2), 83-93. <https://doi.org/10.1080/24711616.2020.1866471>
- Matud, M. P., Díaz, A., Bethencourt, J. M., & Ibáñez, I. (2020). Stress and psychological distress in emerging adulthood: A gender analysis. *Journal of Clinical Medicine*, 9(9), 2859. <https://doi.org/10.3390%2Fjcm9092859>
- Melton, B., Harris, H. B. B., Kelly, D., & Chandler, K. (2015). Evaluating a physical activity app in the classroom: A mixed methodological approach among. *The Physical Educator*, 72, 601-620. <https://doi.org/10.18666/TPE-2015-V72-I4-7139>

- Naeger, D., Greenwell, C., & Hums, M. (2024). An examination of how participation in basic instruction program (BIP) courses may influence college student retention rates. *Journal of College Student Retention: Research, Theory & Practice*, 1-20. <https://doi.org/10.1177/15210251241230076>
- Ndupu, L. B., Faghy, M., Staples, V., Lipka, S., & Bussell, C. (2023). Exploring the predictors of physical inactivity in a university setting. *BMC Public Health*, 23(1), 59. <https://doi.org/10.1186/s12889-022-14953-5>
- Patton, M.Q. (2015). *Qualitative research and evaluation methods* (4th ed.). Sage.
- Russell, J., & Sampson Moore, C. (2022). Establishing guidelines for the implementation of quality instructional physical activity programs (IPAPS). *International Journal of Kinesiology in Higher Education*, 6(2), 94-102. <http://doi.org/10.1080/24711616.2022.2066584>
- SHAPE America. (2022). Appropriate instructional practice guidelines for higher education physical activity programs. https://issuu.com/shapeamerica/docs/shape_america_appropriate_instructional_practice_g?fr=sNjllNzQzODY5NjI
- Šipl, M., & Hurych, E. (2024). Analysis of university students' perspectives on physical activity and mandatory physical education. *Studia Sportiva*, 18(1), 9-21. <https://doi.org/10.5817/StS2024-1-2>
- Towner, B. C., Broce, R. S., Battista, R. A., & Christiana, R. W. (2024). A forced shift: Effects and outcomes of online higher education physical activity courses. *International Journal of Kinesiology in Higher Education*, 8(1), 24-36. <https://doi.org/10.1080/24711616.2023.2182731>
- World Health Organization. (2019). *Global action plan on physical activity 2018-2030: More active people for a healthier world*. World Health Organization.

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