

College Students' Perceived Wellness Among Online, Face-to-Face, and Hybrid Formats of a Lifetime Physical Activity and Wellness Course

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Abstract:

Background: College students are vulnerable to risks associated with unhealthy behaviors. Considering the role that colleges play in facilitating lifelong health and wellness behaviors of college students, health-related fitness (HRF) courses are being offered using multiple delivery formats. **Purpose:** There is a need to better understand the relationship between course delivery format and perceived wellness; thus, the purpose of this study was to assess perceived wellness among college students who self-selected into various delivery formats of a required university HRF course. **Methods:** The Perceived Wellness Survey was used due to its previously established reliability and validity for college populations. Participants included 378 college students enrolled in a HRF course. **Results:** Students with higher perceived wellness were more likely to be enrolled in online and hybrid course formats rather than face to face. **Discussion:** The results of this study provide a better understanding of the perceived wellness of college students enrolled in various course delivery formats of a HRF course that go beyond that of demographic differences. **Translation to Health Education Practice:** With this information, those delivering HRF courses have the opportunity to capitalize on this trend by tailoring instructional activities accordingly.

Keywords: college students | wellness | health behaviors | perceived wellness survey

Article:

BACKGROUND

College students are particularly vulnerable to risks associated with unhealthy behaviors.¹ However, colleges and universities are in a position to impact the health of millions of students each year. In particular, carefully designed programs and curricula using a variety of modalities have the potential to positively influence the knowledge, attitudes, skills, and behaviors of this population. The importance of this issue is supported by one of *Healthy Campus 2020*'s overarching goals to “Promote quality of life, healthy development, and positive health behaviors” within campus communities nationwide.² Quality of life encompasses the notion of wellness, a multidimensional positive component of health.³ Wellness has subsequently been the focus of investigations as researchers continue to seek the most effective ways to achieve this optimal state of being. The concept of wellness focuses on the positive while maximizing an individual's potential given his or her capabilities and environment.

The abstract and multidimensional nature of wellness makes it difficult to objectively measure. Consequently, perceived wellness has been measured based on its potential to predict future health behaviors.^{7,8} Perceived wellness has been significantly related to life purpose, optimism, and sense of coherence as well as with higher leisure time physical activity participation among college students.^{6,7} In addition, Sidman et al. suggested a relationship between exercise, perceived wellness, and self-efficacy.⁹ Students who reported higher exercise self-efficacy were more likely to have higher perceived wellness. Ultimately one's perception of wellness, accounting for all dimensions, can significantly impact one's physical health.^{7, 10-12}

One way to progress toward *Healthy Campus 2020*'s² goals is through the effective development of evidence-based curricula that facilitate improved wellness across a lifespan. Identifying effective ways in the college environment to improve quality of life is essential for promoting a better future for college students. In response, institutions of higher education continue to infuse health, fitness, wellness, and physical activity-based courses into their curriculum. At the present time, health-related fitness (HRF) courses typically include lecture and lab components and are designed to teach self-management skills such as goal setting, self-assessment, and physical activity program planning.^{3,13} Prior research suggests that HRF courses have produced significant improvements in physical activity, knowledge, and attitudes among students.

To meet the needs of a variety of students, HRF courses are being delivered in multiple formats; that is, face-to-face (F2F), online (OL), or a combination of the two (hybrid).¹³ Traditional course formats are being supplemented by, but not replaced with, online and hybrid course formats to meet growing demands for distance education. Delivering health and wellness content using online modalities has the potential to elicit numerous benefits. The online course format, where students read and view course materials independently and participate in activities on their own, has been shown to cultivate empowerment,¹⁹ autonomy and responsibility as it relates to health,²⁰ meaningful discussion of body image, self-learning, confidence, and improvement of self-management skills associated with lifelong health behaviors^{13,21} for a greater number of students when compared to face-to-face delivery formats. In addition, D'Abundo et al.²² found an online learning module to be an effective method for tobacco use education and prevention in a fitness and wellness basic studies course at a 4-year university.

PURPOSE

Colleges and universities are offering a variety of HRF courses from which students self-select the course delivery format that best fits their individual learning style, physical activity preference, computer literacy, and motivation.²³ Considering the importance of facilitating lifelong health and wellness behaviors among college students¹ and the growth of distance education,¹³ there is a need to investigate the relationship between self-selection of course delivery format and perceived wellness. Therefore, the purpose of this study was to assess perceived wellness among college students who self-selected into various combinations of F2F, OL, and hybrid delivery formats of a required university HRF course.

METHODS

Participants

Participants were college students enrolled in a required basic studies physical activity and wellness course (i.e., HRF course). Annually, this course serves approximately 2600 students at a southern coastal university. During registration students had the option to enroll in one of two lecture formats, F2F or OL, and one of 3 lab formats: OL, F2F, or hybrid. Freshman students were not permitted to enroll in OL lectures due to departmental policy. Both OL and F2F lectures included lifetime health and wellness content. OL labs required students to log their cardiovascular, resistance, and flexibility activities greater than 10 min in duration, which were subsequently submitted and graded by the instructor on a weekly basis. F2F labs included physical activities such as tennis, walking/jogging, weight training, total body conditioning, yoga, and more. Hybrid labs required students to participate in one F2F lab with an instructor each week and one OL lab, which meant individual physical activity participation was then logged and submitted online.

Measure

The Perceived Wellness Survey (PWS)^{7,10-12} was selected due its focus on individual perceptions, as well as its previously established reliability and validity for college populations.^{7,10-12,23} It is also directly related to one of the goals of the physical activity and wellness course, which was to positively impact wellness perceptions.

The PWS is a self-administered survey consisting of 36 multidimensional items scored on a 6-point Likert scale that measures overall perceived wellness on 6 domains: physical, social, emotional, intellectual, psychological, and spiritual. *Physical wellness* can be defined as one's perception of their own physical health and accounts for variance between health preferences, values, needs, and attitudes within the individual. *Social wellness* is a perception of one's social support through friends, family, and/or acquaintances in addition to one's perception that one is also perceived by others as a supporter. Self-regard and sense of self contribute to one's level of *emotional wellness*. *Intellectual wellness* refers to one's perception of intellectual stimulation that an individual has present in his or her life. *Psychological wellness* is one's perception of consequences of life events; greater psychological wellness indicates that one perceives more positive outcomes (e.g., optimism). *Spiritual health* considers the relationship between mind and

body and meaning and purpose in life. Additionally, a composite score (total score) was computed by averaging the domain scores.²⁴ Higher domain and total scores equate to greater perceived wellness.

Procedure

In the fall of 2010 and following institutional review board approval, all students enrolled in a required basic studies physical activity and wellness course were invited to participate in the study. Course credit was given to those who chose to participate in data collection and those who chose not to participate who completed a separate assignment that included a personal self-assessment. Students who chose to participate responded confidentially to demographic items on an electronically administered questionnaire followed by the PWS. As per survey instructions, students were required to complete individual survey items before progressing to other sections. Although this procedure increased the number of complete surveys (i.e., no missing data) it may have also reduced the overall number of participants. Students were given 2 weeks to complete the online survey, and a reminder e-mail was delivered one week prior to survey closure to encourage participation.

Analysis

Using SPSS 18.0 software, descriptive statistics were computed to generate a profile of the sample. The PWS was scored following developer guidelines.¹¹ Internal consistency of subscales was assessed using Cronbach's alpha reliability coefficient. Analyses of variance assessed differences among students in each of the course delivery formats across the 6 dimensions of perceived wellness and the total score. When applicable, the Holm's sequential Bonferroni method controlled for type I error. Additionally, chi-square (χ^2) analyses examined the relationship between demographic variables and selection of course delivery format. Statistical tests were considered significant at $P \leq .05$.

RESULTS

Reliability

Table 1 presents the reliability coefficients for the 6 dimensions of perceived wellness and the total score. The internal consistency of all 6 dimensions was considered satisfactory and the internal consistency for the total score was high.²⁵ These findings suggest that the reliability of the instrument was acceptable for this population.

TABLE 1
PWS Construct Reliability

<i>Dimension</i>	<i>α</i>
Physical	.79
Social	.74
Emotional	.78
Intellectual	.70
Psychological	.74
Spiritual	.82
Total	.94

Descriptive Statistics

Of the 994 students invited, 659 (66%) agreed to participate. As previously noted, freshman students were not permitted to enroll in OL lectures due to departmental policy. Therefore, for the purpose of this study, responses from those who self-identified as freshman were omitted, leaving responses from 378 students (38%) included in data analysis. These students completed demographic and PWS items, which are presented in Table 2. Most students were female (61%), 19 years of age (31.4%), white (87%), freshmen (42.6%), full-time students (98.9%), did not participate in intercollegiate athletics (91.5%), and did not work (65.3%).

Lecture Course Delivery Format

The findings indicate significant differences (Figure 1) among students enrolled in different lecture delivery formats for the social domain, $F(1, 376) = 4.6, P = .03$, emotional domain, $F(1, 376) = 5.20, P = .023$, and psychological domain, $F(1, 376) = 4.90, P = .027$. Online lecture students reported significantly higher scores than F2F students for the social domain ($M = 28.92, SD = 4.72; M = 27.79, SD = 5.34$), emotional domain ($M = 27.42, SD = 5.20; M = 26.15, SD = 5.36$), and psychological domain ($M = 26.27, SD = 5.30; M = 27.46, SD = 4.98$). There were no significant differences between F2F and OL students for the physical and spiritual domains.

TABLE 2
Participants

	<i>n</i>	%
Sex		
Male	167	44
Female	211	56
Age (years)		
18	29	8
19	102	27
20-21	153	41
22-23	40	11
≥ 24	54	14
Race		
American Indian or Alaska native	0	0
Asian	7	7
Black or African American	12	3
Hispanic or Latino	0	0
White or Caucasian	337	89
Multiracial	0	0
Native Hawaiian or other Pacific Islander	1	1
Unknown	1	1
Other	21	6
Student status		
Full-time	373	99
Part-time	5	1.3
Academic standing		
First year	41	11
Second year	142	38
Third year	116	31
Fourth year	48	13
Fifth year or beyond	31	8
Student-athlete status		
Student-athlete	20	5.3
Non-student-athlete	358	95
Employment status (hours/week)		
Do not work	200	53
1-9	44	12
10-19	61	16
20-29	42	11
30-39	22	6
40 +	8	2

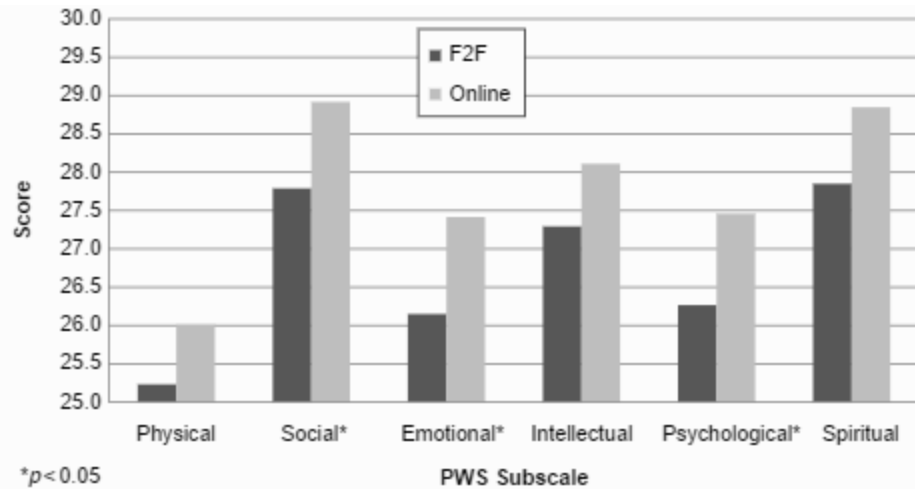


FIGURE 1 PWS subscale scores and lecture formats.

Additionally, the findings indicate significant differences (Figure 2) among students enrolled in different lecture delivery formats for the total score, $F(1, 376) = 4.94, P = .027$. Online lecture student scored significantly higher scores F2F students ($M = 166.81, SD = 25.37; M = 160.85, SD = 25.43$).

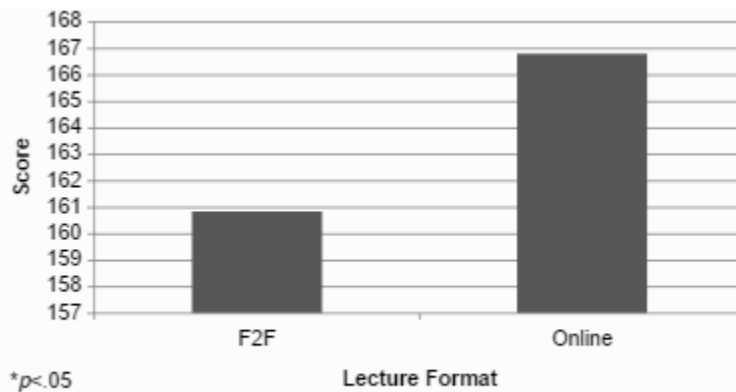


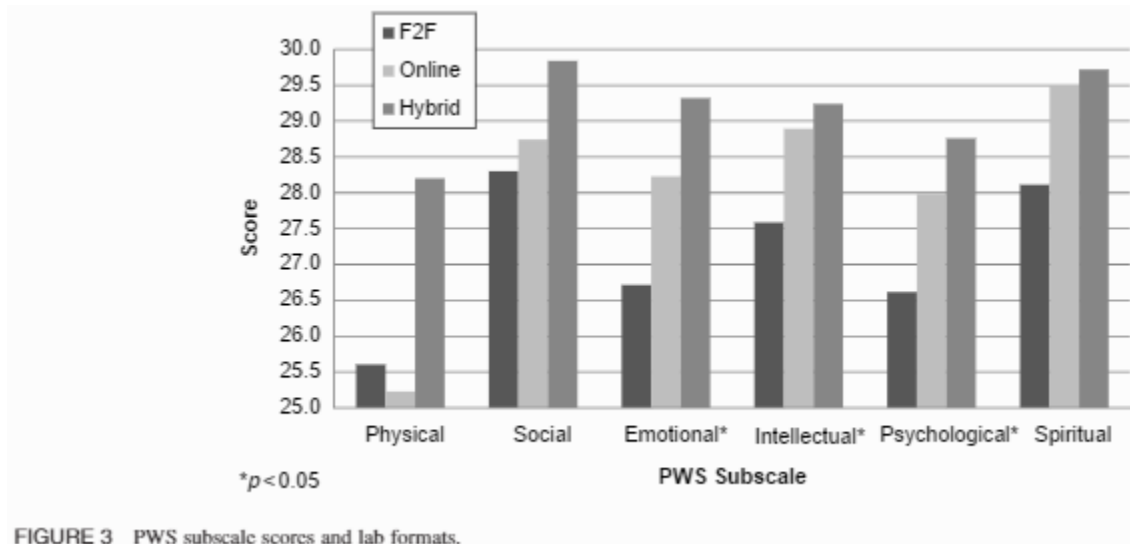
FIGURE 2 PWS total scores and lecture formats.

Age was significantly different across lecture delivery formats $F(2, 375) = 18.75, P < .001$. The average age for OL lecture students ($M = 23.4, SD = 5.52$) was significantly higher than F2F lecture students ($M = 20.59, SD = 2.68$). Additionally, significantly more students in the OL lecture were employed ($z = -7.5, P < .001$) than those in the F2F lecture. There were no significant differences between lecture course delivery format selection for sex, race, student status, health or other academic majors, or student-athlete status.

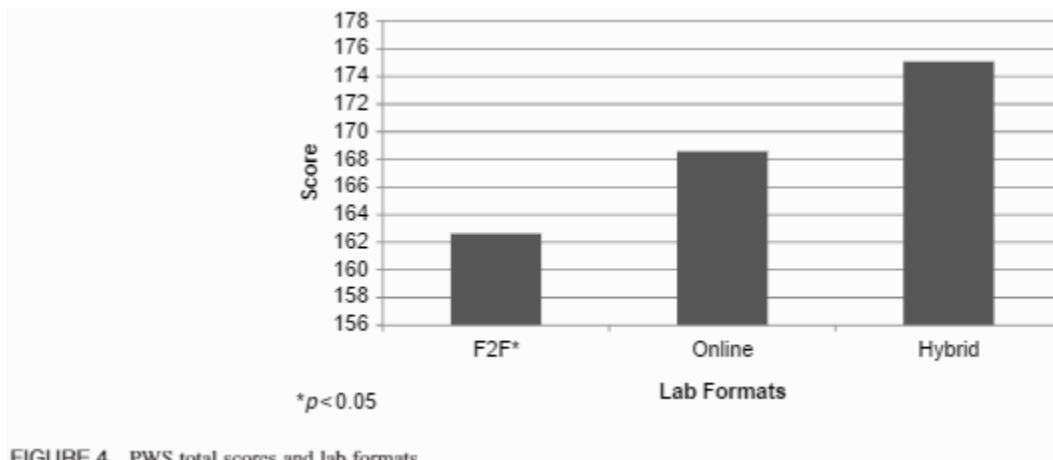
Lab Course Delivery Format

Post hoc analysis suggested significant differences (Figure 3) between lab delivery formats for the emotional domain, $F(2, 375) = 6.06, P = .003$, intellectual domain, $F(2, 375) = 3.35, P = .036$, and psychological domain $F(2, 375) = 3.55, P = .030$. F2F lab students reported significantly lower scores than OL and hybrid lab students for the emotional domain

($M = 26.41$, $SD = 5.28$; $M = 28.23$, $SD = 4.98$; $M = 29.32$, $SD = 5.16$), intellectual domain ($M = 27.59$, $SD = 4.62$; $M = 28.89$, $SD = 4.20$; $M = 29.24$, $SD = 4.57$), and psychological domain ($M = 26.61$, $SD = 5.07$; $M = 27.98$, $SD = 5.07$; $M = 28.76$, $SD = 5.56$). There were no significant differences between F2F, OL, and hybrid lab students for the social, physical, and spiritual domains.



Additionally, post hoc analysis suggested significant differences (Figure 4) between lab delivery formats for the total PWS, $F(2, 375) = 3.82$, $P = .023$. F2F lab students reported significantly lower scores than OL and hybrid lab students for the total score ($M = 162.63$, $SD = 25.24$; $M = 168.58$, $SD = 24.41$; $M = 175.08$, $SD = 28.73$).



Age was significantly different across lab delivery formats, $F(2, 375) = 18.17$, $P < .001$. The average age of OL lab students ($M = 23.4$, $SD = 5.52$) was significantly higher than the average age of F2F lab students ($M = 20.6$, $SD = 2.68$) and hybrid lab students ($M = 21.4$, $SD = 3.54$). Additionally, significantly more OL students identified themselves as part-time, $\chi^2(2, N = 378) = 13.74$, $P < .001$, and employed, $\chi^2(2, N = 378) = 22.95$, $P < .001$. Significantly more hybrid students identified themselves as a student-athletes, $\chi^2(2, N = 378) = 7.58$, $P < .023$.

There were no significant differences between lab delivery format selection for sex, race, and health or other academic majors.

DISCUSSION

The purpose of this study was to assess perceived wellness among college students who self-selected into online, face-to-face, and hybrid delivery formats of a required basic studies physical activity and wellness course (i.e., HRF course). The results of this study provide a better understanding of the perceived wellness of college students enrolled in various course delivery formats of an HRF course.

In this study, age and student status were significantly different across lecture delivery formats. OL students were older and more likely to be employed. This is consistent with previous research that also reported a significant difference in age and employment status between students in the OL and F2F course formats.²⁶ For students who are employed, have family obligations, or are geographically remote, online or blended programs may be more convenient and in some cases the only option for completing their education.²⁷ Although not novel, these demographic differences are still important to consider, because offering this type of required course in multiple formats could potentially address the needs of diverse learners such as older students who are balancing work, family, and school.

There are additional findings related to differences across dimensions of wellness that have greater potential to increase understanding of the type of students enrolled in an HRF course as well as inform health education practice. OL students in both the lab and lecture sections had significantly higher scores for 3 wellness dimensions and total perceived wellness. OL lab students reported significantly higher perceptions of psychological, emotional, and intellectual wellness, as well as total score. These results suggest that students in the OL and hybrid lab sections were more likely to feel optimistic and have positive life expectations, report positive perceptions of their self-image and self-regard, engage in stimulating mental activities, and have a more positive perception of their overall wellness. For lecture sections, OL students had significantly higher PWS scores for psychological, emotional, and social wellness domains, and total score. According to the PWS domain descriptions, this implies that students in the OL lecture sections were more likely to feel optimistic and have positive life expectations report more positive perceptions of their self-image and self-regard, perceive having support available from family or friends in times of need, and have more positive perceptions of their overall wellness. Moreover, differences in total score suggest that OL students perceive themselves as having increased life purpose, optimism, and sense of coherence.⁷

Further exploration of the above findings indicates that OL students were stronger in the “internal” dimensions of wellness including psychological, emotional, and intellectual. Recent literature suggests that older adults do not distinguish between emotional, intellectual, psychological, and spiritual dimensions as separate entities,²⁸ and this could potentially explain the findings reported in this article. However, additional research is needed to further extrapolate the relationship between wellness and age.

The OL students were older and they were also more likely to be employed. This factor adds responsibility and potential stress to the students' lives. Yet, the OL students were still higher in internal dimensions of wellness. If one considers both age and employment, perhaps OL students recognize the salience of wellness out of the necessity of balancing work, life, and education. Another interpretation of this trend may be that an OL delivery format of an HRF course may be appealing to students with an already high perceived wellness because online learning is associated with increased autonomy and self-directedness, which are components of wellness.

Lastly, there were no significant differences between the physical and spiritual wellness of students across all course formats. Likewise, previous research regarding physical wellness found no differences among exercise motivation among students who self-selected into online, face-to-face, and hybrid physical activity and wellness courses.²⁷ Future research examining the self-directed, autonomous aspect of physical activity behaviors and spirituality among students in distance education formats and their efficacy for promoting lifelong health behaviors is warranted.

Limitations

Limitations associated with self-report data apply to this study. However, the impact of eliciting socially desirable responses was minimized by informing participants that their responses were confidential. Furthermore, survey items did not elicit sensitive information.

Another potential limitation was the moderate survey response rate (38%), suggesting that the sample may not accurately represent the larger population. However, previous research suggests that web-based survey response rates are typically 11% lower than response rates using other modes of delivery and response rates above 60% for web-based survey delivery are acceptable.²⁹

Additionally, self-selection of students into face-to-face or online delivery formats of the course during registration may have limited the number of younger students enrolled in the online delivery format. Although most students were allowed to choose the OL or F2F lecture, or OL or F2F lab, no freshmen were allowed to take an OL lecture or lab due to departmental policy. In addition, high demand limited the number of online lecture and lab sections available. The fact that not every student was enrolled in his or her first choice of lecture and lab must be taken into consideration.

TRANSLATION TO HEALTH EDUCATION PRACTICE

Overall, differences in perceived wellness across course delivery formats suggest numerous ways that health education can be enhanced for both face-to-face and online students. With this information, those delivering HRF courses have the opportunity to capitalize on this trend by tailoring instructional activities accordingly.

Considering that online students reported higher perceived psychological, emotional, intellectual, and social wellness, educators of online health students ought to nourish these dimensions of wellness by including relevant course content and instructional activities. Instructors could require students to consider lifestyle congruency; that is, exploit their higher levels of optimism

and self-image to foster greater commitment to engaging in behaviors that are consistent with their future aspirations. Furthermore, online instructors should not hesitate to engage their students in highly challenging instructional activities related to health and wellness because they are more likely to already be involved in stimulating mental activities.

Conversely, instructors of face-to-face students should cultivate optimism, self-concept, and the desire to engage in stimulating mental activities to promote lifelong wellness. This could be accomplished by having students explore intrapersonal characteristics such as resiliency and empathy, both of which are positively related to self-concept. Additionally, instructors should include activities to ensure that face-to-face students experience success during instructional activities, practice speaking and thinking using positive words, and approach problem solving with a solution-oriented mindset.

Though there were no significant differences in perceived physical and spiritual wellness between face-to-face and online students, this does not imply that instructors of health education should ignore the importance of these dimensions of wellness and their relationship to future health outcomes. Simply, the findings of this study suggest that instructors of health education do not need to differentiate instruction for the purpose of improving perceived physical or spiritual wellness for face-to-face and online learners.

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