Wellness Promotion Courses in University Settings: A Review of the Outcome Research

James Beauchemin, PhD
Boise State University
Todd Gibbs, PhD
Oregon State University
Paul Granello, PhD
Ohio State University

ABSTRACT

Background: Improving college student wellness continues to be a challenge due to concerns related to lifestyle, unhealthy behavior, and lack of accessible supports, often resulting in poor academic performance and high drop-out rates. As a result there has been an increase in wellness-promoting academic courses across colleges and universities with the goal of helping students to establish healthy lifestyle behaviors.

Aim: This article critically reviews the existing literature related to college courses designed to promote student wellness.

Methods: This scoping review examines research related to courses designed to improve wellness within the college student population between the years 2000-2017 using multiple electronic databases.

Results: Review findings include a lack of rigorous research designs, lack of integration of evidence-based models of wellness, challenges associated with consensus conceptualizations of wellness, fidelity, and replicability of wellness-related courses.

Conclusions: Wellness as an emerging paradigm continues to gain attention in the literature, particularly related to college students. However, there is a need for more rigorous study designs, examination of mechanisms of change, and consensus related to conceptualizations of wellness and component definitions to inform wellness-promotion efforts, and ultimately support health-enhancing change within the existing lifestyle culture on college campuses.

Submitted 26 March 2018: accepted 5 May 2018

Keywords: wellness, college students, multidimensional, lifestyle

The number of people who are living with chronic diseases has escalated steadily over the past twenty years, primarily due to unhealthy lifestyles and behaviors (Bland, Minich, & Eck, 2017). This shift in disease burden has contributed to a movement toward a more holistic understanding of health and mediating factors. The traditional approach employed by the current western medical model of healthcare is effective for treating acute diseases, but lacks the ability to enhance prevention and promote wellness (Bland et al., 2017). Wellness refers to a multi-dimensional construct oriented toward optimizing health potential inherent to each individual (Dunn, 1961; Hettler, 1980; Myers & Sweeney, 2004; Roscoe, 2009), and focuses on establishing healthy lifestyle habits, prevention of chronic illness,



and overall health promotion. The World Health Organization supports this multidimensional conceptualization of wellness, defining health as a state of complete physical, mental, and social well-being; not merely the absence of disease or infirmity (WHO, 2013).

Within the academic community, concerns related to college student wellness have been well documented (Calicchia & Graham, 2006), Significant evidence supports the premise that many of today's university students have existing precursors to chronic health problems including obesity, elevated blood sugar, and cholesterol (Sacheck, Kuder, & Economos, 2010). In addition, data pertaining to lifestyle-related issues in the student population indicate poor diet, low levels of physical activity, and lack of stress management strategies (Downes, 2015), which can result in poor performance and high attrition rates (Calicchia & Graham, 2006; Taras, 2005). Moreover, these concerns ultimately place students at a higher risk for major illness and death, both immediately and throughout their lives (Smith et al., 2013). Research demonstrates that emotional and psychological wellness among college students also continues to be an area of concern in terms of both impairment and prevalence. College students experience mental health problems of greater severity and complexity, and the overall number of students seeking help continues to grow (Watkins, Hunt, & Eisenberg, 2012). Issues associated with college students' well-being are compounded by increased demands on campus resources for health and mental health, resulting in a lack of adequate available support systems (Kitzrow, 2003; Watkins, et al., 2012).

As a response to the wellness-related needs of college students, the prevalence of academic courses that integrate health promotion has increased dramatically across college and university campuses (Kulina, Warfield, Jonaitis, Dean, & Corbin, 2009), in an effort to help students develop knowledge, skills, attitudes, and behaviors needed to adopt healthy behaviors. The purpose of this scoping review is to provide a preliminary assessment of the existing outcome literature related to college wellness-promotion courses, and examine the nature and rigor of research evidence (Grant & Booth, 2009). Increased awareness of these course outcomes, along with identification of their commonalities and differences (e.g. course delivery, format) should yield an identification of areas of need and establish recommendations for future research.

This review examines the literature related specifically to courses designed to enhance wellness within the college student population. Search parameters included peer-reviewed studies that were published within the years 2000-2017. This range was selected due to the emergence of this particular type of intervention and the related research focused on college student wellness during this time period, as well as the dearth of relevant outcome studies prior to the indicated parameters. Various electronic databases were used including Academic Onefile, Academic Search Complete, MasterFILE Complete, WorldCat.org, OAlster, and Google Scholar. One particular challenge faced by this review was the lack of a standardized definition for the construct of wellness. Wellness may be described as "a way of life oriented toward optimal health and well-being, in which mind, body, and spirit are integrated by the individual to live life more fully within the human and natural community" (Myers, Sweeney, & Witmer, 2000, p. 252). "Well-being" according to the CDC, "includes the presence of positive emotions and moods, the absence of negative emotions, satisfaction with life, fulfillment and positive functioning" (CDC, 2013). The overlap in conceptualization of these constructs led to the inclusion of both search terms. Therefore this review cross-referenced both "wellness" and "well-being" with "college" and "university" to obtain all relevant results. The organization of this review includes major sections discussing: background related to wellness as a multidimensional construct, studies focusing on outcomes of university wellness courses, wellness course format (e.g. online, face-to-face), and discussion of findings. A table

is included that highlights sample, methodology, and outcomes for relevant wellness-focused studies with the college student population for the past ten years.

Wellness Courses

A number of published studies focus on outcomes of university wellness-based academic courses. Although the curriculum content, outcomes, and assessment methods varied considerably, these studies were consistent in their efforts to evaluate the impact of health and wellness courses on college students. For example, McCormick and Lockwood (2006) examined pre and post-course differences in perception and knowledge of wellness topics using a sample of 225 college students enrolled in a 'Lifetime Wellness' course. The authors used a 96-item knowledge test covering course content and a perception survey designed to assess students' confidence in answering wellness-related questions to measure outcomes from the course, and found significantly higher perception (p < .01) and knowledge scores on post-course measures (p < .01).

Lockwood and Wohl (2012) utilized the TestWell Wellness Inventory – Standard Edition (TWI-SE) (National Wellness Institute, 1999), the General Self-Efficacy Scale (GSE) (Sherer et al., 1982), and the Physical Self-Efficacy Scale (PSES) (Ryckman, Robbins, Thornton, & Cantrell, 1982) to assess changes in wellness behaviors, and global and physical self-efficacy as a result of participation in a 15-week 'Lifetime Wellness' course. This quasi-experimental study utilized a convenience sample of 71 students enrolled in a required course. Data reflected significant changes in physical fitness and nutrition behaviors (Pre M = 28.7, Post M = 31.0; p < .01), physical self-efficacy (Pre M = 89.4, Post M = 93.5; p < .01), perceived physical ability (Pre M = 42.6, Post M = 44.8; p < .01), and physical self-perception (Pre M = 49.8, Post M = 52.2; p < .01). Similarly, Higgins, Lauzon, Yew, Bratseth and Morley (2009) also examined the impact of a semester-long academic course, with perceptions of wellness as the primary outcome variable. The study did not incorporate a validated wellness measure. Instead, the 346 undergraduate participants completed "one-minute" reflective papers on the final day of class [that were analyzed for particular themes and outcomes]. Implications of course participation included a more holistic understanding of health, including physical, psychological and spiritual well-being, as well as an explicit desire for a greater sense of community and belonging.

Wharf Higgins, Lauzon, Yew, Bratseth, and McLeod (2010) utilized a mixed method, two-phased approach in a study of wellness practices among Canadian university students and the impact of a 'Personal Health and Wellness' (PHW) course on student wellness practices. Using the standardized TestWell questionnaire, Phase I of the study revealed overall mean wellness scores of 779.7 out of 1,000 or "good" among the 855 primarily undergraduate students, with the highest scores reflected in sexuality and safety, and lowest in physical activity and nutrition. Phase II results demonstrated significant change for PHW students' overall wellness scores from pre-intervention (M = 794.24) to post-intervention (M = 827.33; p < .01). The study also identified significant change in specific dimensions including nutrition (p < .01), social and environmental wellness (p < .01), emotional wellness (p < .01), occupational wellness (p < .05), and values (p < .05).

The effectiveness of a wellness promotion seminar for first year students was assessed by Conley, Travers, and Bryant (2013). The study used a quasi-experimental cohort-controlled design. Participants were first-year undergraduate students enrolled in either a 'Promoting Psychosocial Wellness' seminar (n = 29) or a 'Global Citizenship' seminar (n = 22). A variety of measures that focused on psychosocial adjustment, positive well-being, negative distress, stress management, and perceived improvements were administered at the beginning and end of the academic year. Although analyses revealed no significant group main effects for psychosocial adjustment or stress

management outcomes, significant between-group differences were found for perceived improvements in both domains (psychosocial adjustment, p < .05; stress management, p < .01) among participants post-intervention. Choate and Smith (2003), also examined changes in wellness with a sample of first year college students. Integrating the Wheel of Wellness model (Witmer & Sweeney, 1991) into a semester-long, one-credit course, researchers found that students' wellness scores increased significantly over the course of the semester using the Wellness Evaluation of Lifestyle (WEL; Myers, Sweeney, & Witmer, 2000) (M = 76.1, SD = 6.9; p < .01) with notable changes in stress management and nutrition.

The impact of wellness courses were assessed specific to medically-focused curricula. Hawk, Rupert, Hyland and Odhwani (2005) used pre and post-course measures with a sample of 165 chiropractic students enrolled in a required "wellness concepts" course. Although the study did not examine changes in perceived wellness or wellness-related behaviors, it examined student intentions to use wellness-related practices, and students' familiarity with key wellness concepts. Outcomes included increases in students' familiarity with key concepts, and were significant for all but two of 23 topics. However, few changes were detected in their intention to use various wellness practices. Lee and Graham (2001) analyzed essays (n = 54) and follow-up surveys (n = 22) completed by medical students enrolled in an elective wellness-based course. Included in the essays were: a critique of the wellness course, description of medical school stressors, coping strategies, and future wellness plans. Findings indicated that students were able to identify common stressors of medical school, coping strategies including emotional venting and accessing support systems, and an appreciation of the importance of personal wellbeing.

While not specifically examining the impact of academic courses on overall wellness, several studies have utilized wellness-based college courses as a forum to investigate specific domains or aspects of wellness. For example, LaFountaine, Neisen, and Parsons (2006) used a 'Skills for Healthy Living' course as a forum to examine various components of wellness with a sample of first-year college students (N = 1,007). Results from this cross-sectional study indicated that on a scale ranging up to a score of 100, students scored highest on subscales for love (M = 85.67) and self-worth (M = 83.81), and lowest on subscales for nutrition (M = 67.16) and stress management (M = 73.48) using the Wellness Evaluation of Lifestyle (WEL; Myers, Sweeney, & Witmer, 2000). Nelms, Hutchins, Hutchins, and Pursley (2007) specifically focused on spiritual and physical aspects of wellness among college students enrolled in a 'Personal Health and Wellness' course. Instruments included the Spirituality Scale (SS) (Delaney, 2005) and the College Student Appraisal of Risks Survey (CARS) (Nelms, Hutchins, Hutchins, & Purseley, 2007). Among the findings were significant relationships between spirituality and self-reported physical health (r = .180; p < .05), and consequently, higher levels of physical activity predicted higher scores on the SS (p < .05).

Muller, Dennis, and Gorrow (2006) examined differences in emotional wellness among college students enrolled in a lecture-only health-related course compared with similar curriculums that specifically integrated an exercise component. A convenience sample of 584 college students completed select subscales of the Self-Perception Profile for College Students (Neeman & Harter, 1986). Results demonstrated significant pre- and post-intervention differences for those students enrolled in the course that included exercise components, in four indices of emotional well-being including: Global Self-Worth (p < .01), Appearance (p < .01), Romantic Relationships (p < .01), and Social Acceptance (p < .01), while no pre/post-test differences were identified for lecture-only course participants. Similarly, Esslinger, Grimes, and Pyle (2016) investigated attitudes toward physical activity among college students enrolled in a mandatory personal wellness class. This study employed a treatment group in which a physical activity requirement was integrated into the course, and a comparison group that participated in a wellness class without an activity

requirement. Contrary to previous findings, results indicated no significant differences (p = .11) between experimental (Pre M = 59.24, Post M = 61.89) and control (Pre M = 59.64, Post M = 62.39) groups in attitudes based on a required physical activity component.

WELLNESS COURSE FORMAT

Due in part to the evolution of internet-based education, and the subsequent potential to reach a greater number of students in a cost-effective manner, a number of recent studies have examined the effectiveness of online wellness courses. For example, Hager, George, Le Cheminant, Bailey and Vincent (2011) used a quasi-experimental design to assess the impact of a required single-semester health and wellness course on physical activity and dietary habits of college students that was delivered via online and in-person formats. Among the 2971 undergraduate student participants, pre/post changes included improved levels of self-reported physical activity (p < .01), fitness level (VO_{2max}) (p < .01), and diet (vegetable consumption) (p < .01). Additionally, face to face delivery was more effective than the online delivery format in improving diet (p < .01) and physical activity (p < .01). Everhart and Dimon (2013) also examined the impact of course delivery on wellness-related habits, comparing traditional, on-line, and blended formats with a sample of 103 college students. Students who completed the wellness course demonstrated improved muscular strength exercise (p < .05) and decreased red meat intake (p < .01) regardless of format. However, traditional or blended course formats were shown to improve cardiovascular endurance more than the exclusively online format (p < .05) (Everhart & Dimon, 2013).

Conversely, the results of an examination of wellness course delivery by Milroy, Orsini, Abundo, and Sidman (2013) conflicted with the previously-mentioned studies. Using the Perceived Wellness Survey (PWS) (Adams, Bezner, & Steinhardt, 1997), this study examined perceptions of wellness among college students (N = 378) enrolled in a required physical activity and wellness course in face-to-face, online, or hybrid delivery formats. Findings indicated that students in hybrid or online format classes (M = 166.81, SD = 25.37) had higher perceived wellness scores than students in face to face classes (M = 160.85, SD = 25.43; p < .05). Sidman, Fiala and D'Abundo (2011) also examined online, face-to-face, and blended formats in their evaluation of exercise motivation of college students. For this study, 602 students were surveyed using a demographic questionnaire and the Behavioral Regulation in Exercise Questionnaire (BREQ-2) (Markland, 2000). Primary findings indicated that exercise motivation was not related to self-selected enrollment in online, face-to-face, or blended course formats (p > .05).

DISCUSSION

The current review has identified the need for improved rigor in study design and methodology for research related to wellness-focused courses in higher education. Although numerous studies incorporate quasi-experimental, prepost designs, there is a lack of research comparing course effectiveness with an appropriate control group. To improve the adoption and dissemination of wellness-promoting courses within the college student population, research design needs to move beyond the assessment of students' perceptions of personal wellness, influences on student wellness, and pre-post changes in wellness. The use of true experimental research designs that compare wellness-based courses with control groups or alternative evidence-based modalities would help to establish a more rigorous research base, and effectively address the growing needs of the college student population.

Similarly, few empirical studies reviewed in this study assessed lasting impacts. Although there is some compelling evidence of academic course effectiveness in improving college student wellness, additional research should include follow-up assessment. For example, Lockwood and Wohl (2012) demonstrated significant changes in physical fitness and nutrition behaviors as a result of participation in a 15-week wellness course. Follow-up assessment at six and/or twelve months would help to illuminate the sustained impact of these interventions over time, and clarify whether participants maintained changes in lifestyle behaviors as a result of these interventions. This additional rigor may also help to clarify which intervention types, formats, approaches, and wellness models are most effective in contributing to lasting change.

The lack of a standardized, consensus definition for the construct of wellness and the limited use of evidence-based wellness models contributes to the challenges in establishing a clear understanding of the most effective approaches to improving college student wellness. Most evidence-based models of wellness are multidimensional in nature, and frequently include domains that reference the social, spiritual, emotional, physical, and intellectual dimensions of human functioning (Roscoe, 2009). Although some studies have assessed multiple domains of wellness (e.g. LaFountaine, Neisen, & Parsons, 2006; Muller, Dennis, & Gorrow, 2006), the vast majority of studies to date have focused primarily on the domain of physical wellness, and its related behaviors and outcomes such as nutrition and physical activity (e.g. Esslinger, Grimes, & Pyle, 2016; Everhart & Dimon, 2013). Of the outcome studies included in this review, only one examined a wellness course that integrated an evidence-based model of wellness (Choate & Smith, 2003), further illustrating the disconnect between wellness as an evidence-based, multidimensional construct, and the way that it is conceptualized in the majority of wellness-promotion college courses, To truly promote wellness among college student populations, courses should integrate holistic, evidence-based models aimed at facilitating growth across multiple domains of functioning. In the absence of a universally accepted model of wellness, a common factors approach (e.g. Roscoe, 2009) may facilitate course replication and evaluation across multiple contexts.

Similar to conclusions made by Osborn (2005) in her review of research on college student wellness, consistent use of validated wellness measures would also help to minimize variation among outcomes and reinforce the multidimensional nature of wellness. Although the subjective nature of wellness can be beneficial for facilitating individualized practices among college students, consistent utilization of validated measures may provide a greater benefit by contributing to outcomes that are more readily comparable, thereby providing more consistent interpretations of these complex constructs. Several studies included in this review utilized informal measures or instruments designed for a specific study (e.g. Everhart & Dimon, 2013), while others used reliable, validated instruments measuring constructs related to, but not directly assessing wellness (e.g. Satisfaction with Life Scale; Diener, Emmons, Larsen, & Griffin, 1985). Few of the studies identified in this review incorporated measures specifically validated for assessing wellness (e.g. Lockwood & Wohl, 2012; Milroy, Orsini, Abundo, & Sidman, 2013).

In conjunction with the challenges associated with a lack of consensus definition and utilization of numerous wellness instruments, an additional complicating factor is the difficulty in ensuring fidelity and replicability due to the variability inherent in academic coursework. The numerous wellness conceptualizations and models utilized as a course framework make comparisons across universities, and between courses and formats, difficult. Additionally, inconclusive differential findings between web-based or traditional face to face course formats indicate a need for further research in this area. Also of note, the existence of numerous potential confounding variables (e.g. time of year/semester, student population, instructor competence/effectiveness) limits the ability to assess mechanisms of change which in turn creates challenges related to fidelity and replicability. For example, the studies included in this

review consistently assessed the impacts of semester-long courses but little information was provided about the number of credit hours or frequency of class meetings, creating potential variations in the intensity of the wellness promoting education and activities.

An examination of the mechanisms of change and opportunities to minimize variability is essential for effectively moving beyond single group, quasi-experimental, and cross-sectional designs toward more rigorous controlled research studies. A component analysis across multiple universities and courses would provide insight into the most impactful aspects of wellness courses in both traditional and online formats, and serve as a template for replication. Once impactful components have been identified, a more standardized approach to college wellness courses can be established, consistent measures can be utilized, and randomization and comparison groups can be employed to increase rigor and control for extraneous variables.

CONCLUSION

This scoping review illustrated an emerging research base related to wellness-promoting college and university courses. Among the findings are challenges associated with consensus definitions and the integration of evidence-based models of wellness, lack of research study rigor, and limited generalizability of wellness courses. As the field of wellness continues to gain acceptance as an emerging paradigm for healthcare and health promotion, the understanding of its multidimensional nature should influence promotion interventions. To ensure that a more consistent, evidence-based conceptualization of wellness, as defined by the literature is being targeted, evidence-based models that include multiple domains (e.g. social, emotional) should be integrated into courses. Due to the prominent health and wellness-related challenges among that college students face on a regular basis (Calicchia & Graham, 2006; Watkins et al., 2012), this population is ideal for wellness-related research. Preliminary assessment of the wellness promotion research within the college student population indicates an overall lack of rigor, which could be improved with an increase in controlled, longitudinal studies that will further reinforce wellness as a priority across college campuses.

REFERENCES

- Adams, T., Bezner, J., & Steinhardt, M. (1997). The conceptualization and measurement of perceived wellness: Integrating balance across and within dimensions. *American Journal of health promotion*, 11(3), 208-218. https://doi.org/10.4278/0890-1171-11.3.208
- Bland, J. S., Minich, D. M., & Eck, B. M. (2017). A systems medicine approach: Translating emerging science into individualized wellness. *Advances in Medicine*, 2017. https://doi.org/10.1155/2017/1718957
- Calicchia, J.A., & Graham, L. B. (2006). Assessing the relationship between spirituality, life stressors, and social resources: Buffers of stress in graduate students. *North American Journal of Psychology*, 8(2), 307-320.
- Center for Disease Control (CDC). (2013). Health-Related Quality of Life (HRQOL). http://www.cdc.gov/hrqol/wellbeing.htm
- Choate, L. H., & Smith, S. L. (2003). Enhancing development in 1st-year college student success courses: A holistic approach. *The Journal of Humanistic Counseling*, 42(2), 178-193. https://doi.org/10.1002/j.2164-490X.2003.tb00005.x
- Conley, C. S., Travers, L. V., & Bryant, F. B. (2013). Promoting psychosocial adjustment and stress management in first-year college students: The benefits of engagement in a psychosocial wellness seminar. *Journal of American College Health*, 61(2), 75-86. https://doi.org/10.1080/07448481.2012.754757
- Delaney, C. (2005). The spirituality scale: Development and psychometric testing of a holistic instrument to assess the human spiritual dimension. *Journal of Holistic Nursing*, 23(2), 145-167. https://doi.org/10.1177/0898010105276180
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13
- Downes, L. (2015). Physical activity and dietary habits of college students. *The Journal for Nurse Practitioners*, 11(2), 192-198. https://doi.org/10.1016/j.nurpra.2014.11.015
- Dunn, H.L. (1977). High-level wellness. Thorofare: NJ: Charles B. Slack.
- Esslinger, K. A., Grimes, A. R., & Pyle, E. (2016). Effects of requiring physical fitness in a lecture-based college course: students' attitudes toward physical activity. *Physical Educator*, 73(1), 161. https://doi.org/10.18666/TPE-2016-V73-I1-5100
- Everhart, K., & Dimon, C. (2013). The impact of course delivery format on wellness patterns of university students. *Education*, 133(3), 310-318.
- Hager, R., George, J. D., LeCheminant, J. D., Bailey, B. W., & Vincent, W. J. (2012). Evaluation of a university general education health and wellness course delivered by lecture or online. *American Journal of Health Promotion*, 26(5), 263-269. https://doi.org/10.4278/ajhp.101020-QUAN-344
- Hawk, C., Rupert, R. L., Hyland, J. K., & Odhwani, A. (2005). Implementation of a course on wellness concepts into a chiropractic college curriculum. *Journal of Manipulative and Physiological Therapeutics*, 28(6), 423-428. https://doi.org/10.1016/j.jmpt.2005.06.015

- Hettler, B. (1980). Wellness promotion on a university campus. Family & Community Health, 3(1), 77-95. https://doi.org/10.1097/00003727-198005000-00008
- Higgins, J. W., Lauzon, L. L., Yew, A., Bratseth, C., & Morley, V. (2009). University students wellness what difference can a course make? *College Student Journal*, 43(3), 766.
- LaFountaine, J., Neisen, M., & Parsons, R. (2006). Wellness factors in first year college students. *American Journal of Health Studies*, 21(3/4), 214.
- Lee, J., & Graham, A. V. (2001). Students' perception of medical school stress and their evaluation of a wellness elective. *Medical education*, 35(7), 652-659. https://doi.org/10.1046/j.1365-2923.2001.00956.x
- Lockwood, P., & Wohl, R. (2012). The impact of a 15-week lifetime wellness course on behavior change and self-efficacy in college students. *College Student Journal*, 46(3), 628-641.
- Markland, D. (2000). Behavioral Regulation in Exercise Questionnaire (BREQ-2).
- McCormick, J., & Lockwood, P. (2006). College student perception of wellness concepts. *Physical Educator*, 63(2), 78.
- Milroy, J. J., Orsini, M. M., D'Abundo, M. L., & Sidman, C. L. (2013). College students' perceived wellness among online, face-to-face, and hybrid formats of a lifetime physical activity and wellness course. *American Journal of Health Education*, 44(5), 252-258. https://doi.org/10.1080/19325037.2013.807754
- Muller, S. M., Dennis, D. L., & Gorrow, T. (2006). Emotional well-being of college students in health courses with and without an exercise component. *Perceptual and Motor Skills*, 103(3), 717-725. https://doi.org/10.2466/pms.103.3.717-725
- Myers, J. E., & Sweeney, T. J. (2004). The indivisible self: An evidence-based model of wellness. *Journal of Individual Psychology*, 60, 234-244.
- Myers, J. E., Sweeney, T. J., & Witmer, J. M. (2000). The wheel of wellness counseling for wellness: A holistic model for treatment planning. *Journal of Counseling & Development, 78(3), 251-266.* https://doi.org/10.1002/j.1556-6676.2000.tb01906.x
- National Wellness Institute TestWell: A Wellness Inventory. Stevens Point Wisconsin. National Wellness Institute. 1999.
- Neeman, J., & Harter, S. (1986). Self-perception profile for college students. University of Denver.
- Nelms, L. W., Hutchins, E., Hutchins, D., & Pursley, R. J. (2007). Spirituality and the health of college students. *Journal of Religion and Health*, 46(2), 249-265. https://doi.org/10.1007/s10943-006-9075-0
- Osborn, C.J. (2005). Research on college student wellness. In J.E. Myers & T.J. Sweeney (Eds.) *Counseling for Wellness: Theory, Research, and Practice* (77-88). Alexandria, VA: American Counseling Association.
- Roscoe, L. J. (2009). Wellness: A review of theory and measurement for counselors. *Journal of Counseling & Development*, 87, 216-226. https://doi.org/10.1002/j.1556-6678.2009.tb00570.x

- Ryckman, R. M., Robbins, M. A., Thornton, B., and Cantrell, P. (1982). Development and validation of a physical self-efficacy scale. *Journal of Personality and Social Psychology*, 42(5), 891-900. https://doi.org/10.1037/0022-3514.42.5.891
- Sacheck, J. M., Kuder, J. F., & Economos, C. D. (2010). Physical fitness, adiposity, and metabolic risk factors in young college students. *Medicine and Science in Sports and Exercise*, 42(6), 1039-1044.
- Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The self-efficacy scale: Construction and validation. *Psychological reports*, 51(2), 663-671. https://doi.org/10.2466/pr0.1982.51.2.663
- Sidman, C. L., Fiala, K. A., & D'Abundo, M. L. (2011). Exercise motivation of college students in online, face-to-face, and blended basic studies physical activity and wellness course delivery formats. *Journal of American College Health*, 59(7), 662-664. https://doi.org/10.1080/07448481.2010.524683
- Taras, H. (2005). Physical activity and student performance at school. *Journal of School Health*, 75(6), 214-218. https://doi.org/10.1111/j.1746-1561.2005.00026.x
- Watkins, D. C., Hunt, J. B., & Eisenberg, D. (2012). Increased demand for mental health services on college campuses:

 Perspectives from administrators. *Qualitative Social Work*, 11(3), 319-337.

 https://doi.org/10.1177/1473325011401468
- Wharf Higgins, S. J., Lauzon, L. L., Yew, A. C., Bratseth, C. D., & McLeod, N. (2010). Wellness 101: Health education for the university student. *Health Education*, 110(4), 309-327. https://doi.org/10.1108/09654281011052655
- World Health Organization. (2013). *Draft action plan for the prevention and control of noncommunicable diseases 2013–2020*. Retrieved from http://apps.who.int/gb/ebwha/pdf_files/EB132/B132_7-en.pdf

Address author correspondence to:

James Beauchemin, PhD
Boise State University
1910 University Drive,
Boise, Idaho 83725
jamesbeauchemin@boisestate.edu

Table 1

Author(s)	Year	Title	Study Design	Sample	Primary outcomes of interest	Measures	Findings
Conley, Travers, & Bryant	2013	Promoting Psychosocial Adjustment and Stress Management in First Year College Students: The Benefits of Engagement in a Psychosocial Wellness Seminar	Quasi- experimental , cohort- controlled design (pre and post academic year assessment)	51 students enrolled in either Promoting Psychosocial Wellness (29)seminar or Global Citizenship (22) seminar	Psychosocial adjustment, management of college-related stress and adaptation, perceived improvement in psychosocial adjustment and stress management	Multiple measures of psychosocial adjustment including positive well-being and negative distress	Intervention participants demonstrated gains in psychosocial adjustment and stress management at the end of the academic year compared with control
Esslinger, Grimes, & Pyle	2009	Effects of Requiring Physical Fitness in a Lecture- Based College Course: Students' Attitudes Toward Physical Activity	Pre/post, treatment / "group-at- hand" control design	93 students enrolled in four personal wellness courses at a Midwestern university	Attitudes toward physical activity	Corbin Attitude Test	No significant increase or decrease in attitude for either treatment or control group, indicating that required physical activity does not significantly improve attitude
Everhart & Dimon	2013	The impact of course delivery format on	Quasi- experimental	103 students enrolled in	Examine changes in physical activity habits, nutritional	Questionnaire developed by PI to	Completing the wellness course improved physical activity and nutritional habits regardless of

		wellness patterns of university students	, pre/post survey	multiple required wellness courses at small northeastern public university (online or face- to-face)	eating habits, as result of completing wellness course delivered by traditional format or online	assess frequency, duration, and intensity of physical activity and nutritional patterns	format. Traditional or blended delivery improved cardiovascular endurance than online format
Hager, George, LeChemi nant, Bailey, & Vincent	2011	Evaluation of a university general education health and wellness course delivered by lecture or online	Quasi- experimental , pre-post one group design	undergraduate students at a large western university, required health and wellness course	Assess impact of single-semester health and wellness course on physical activity and dietary habits of college students; compare course delivery methods	Questionnaire developed by Department of Exercise Sciences,	Pre/post changes included improved levels of physical activity, fitness level, and dietary changes. Face to face delivery more effective than online The course influenced students' delivery
Higgins, Lauzon, Yew, Bratseth, & Morley	2009	University students' wellness – What difference can a course make?	Qualitative self- reflection papers, personal interviews	346 undergraduate students, as well as seven former participants (interviews)	Evaluate the influence of a health education course on first year university students	"One-minute" student self-reflection papers, interviews	Course influence included themes: physical, spiritual, psychological being; physical, social, community belonging; practical, growth, leisure becoming

Lockwoo d & Wohl	2012	The impact of a 15-week Lifetime Wellness course on behavior change and self- efficacy in college students	Quasi- experimental , pre/post no control	71 college students from an urban university enrolled in required course	Impact of wellness course on wellness behaviors, and global and physical self- efficacy	TestWell Wellness Inventory – Standard edition (TWI-SE), The General Self- Efficacy Scale (GSE). Physical Self-Efficacy Scale (PSES)	Significant changes in physical fitness and nutrition behaviors, significant changes in physical self-efficacy, physical self-perception, and perceived physical ability
Milroy, Orsini, Abundo, & Sidman	2013	College Students' Perceived Wellness among Online, Face-to- Face, and hybrid Formats of a Lifetime Physical Activity and wellness Course	Comparison of course delivery format	378 college students enrolled in required physical activity and wellness course (freshman excluded)	Perceptions of wellness among students in face-to- face, online, or hybrid courses	Perceived wellness survey (PWS)	Overall wellness scores indicated that students in hybrid format classes total scores were greater than online or face to face, and online format yielded higher total scores than F2F
Nelms, Hutchins , Hutchins , & Pursley	2007	Spirituality and the health of college students	Cross- sectional surveys	undergraduate students enrolled in Personal Health and Wellness course	Examine the influence of spirituality on the self-reported health of college students	Spirituality Scale (SS), and the College Student Appraisal of Risks Survey (CARS)	Significant relationships between spirituality and self-reported health; positive relationships between: health status, physical activity, spirituality, and life satisfaction

Sidman, Fiala, & D'Abund o	2011	Exercise Motivation of College Students in Online, Face- to-Face, and Blended Basic Studies Physical Activity and wellness Course Delivery Formats	Cross-sectional survey	602 students enrolled in basic studies life-time physical activity and wellness course (F2F or Online)	Assessment of exercise motivation of students self-selected into online or F2F life-time physical activity and wellness course	Demographic questionnaire, Behavioral Regulation in Exercise Questionnaire(BRE Q-2)	Exercise motivation is not related to self-selected enrollment in OL, F2F, or blended course formats. Differences found in demographics of those selecting OL or F2F formats
Wharf Higgins, Lauzon, Yew, Bratseth, & McLeod	2010	Wellness 101: Health education for the university student	Mixed methods: cross- sectional survey, pre- post assessment, focus groups	855 college students from Canadian University, 60 students participated in focus groups	Examine wellness practices of students at Canadian university, assess the impact of wellness course on students' practices and understanding	TestWell instrument to assess wellness, focus group interviews/qualitati ve analysis	Wellness scores were "good"; highest in sexuality and safety subscales, and lowest in physical activity and nutrition. Significant changes in seven pre/post wellness scores