Planning, practising and prioritising wellness through an integrative behaviour change plan

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Abstract
Study objective: To describe a successful approach to teaching principles and practices of behaviour change through a behaviour change plan (BCP) initiative to improve personal health while advancing health knowledge and general education intellectual skills. Students’ perspectives of obstacles, behaviours important towards goal attainment and the benefits of the BCP were also explored. The paper illustrates the feasibility, utility and various challenges of theory-based BCPs within a limited context.

Design: A one-group posttest-only design was utilised to conduct quantitative analysis of reported BCP success and qualitative evaluation of students’ perspectives. Participants were 145 students enrolled in eight sections of a required freshman-level health education/general education course.

Methodology: Students set and tracked a nutrition, fitness, sleep, smoking cessation or spirituality goal. They strategised to mitigate anticipated challenges, established support systems, rewards, self-assessed progress, described corresponding implications, reviewed evidence-based research and wrote reflections. Goal achievement data were tabulated for each focus area, and report narratives distilled into common themes.

Results: Among 145 students, 71 set fitness goals (55% achieved, 39% partially achieved, 11.3% did not achieve) and 63 set nutrition goals (63.5% achieved, 27% partially achieved, 8% did not achieve). Commonly reported barriers were lack of time, laziness/apathy/boredom, discouragement, temptations and sickness/injury/pain. Behaviours important to goal attainment were utilising time management, enlisting support or competition, using visual cues, trying something new, re-adjusting expectations, removing temptations and using rewards. Benefits included physical, psychological and financial types. Final reflections showed students would use the BCP process again.

Conclusion: This approach to teaching health behaviour change provides real-life opportunity for planning, practising and prioritising wellness. Grounded in behaviour therapy, and framed by the Transtheoretical Model for Behaviour Change and essential health education and general education intellectual outcomes, this BCP highlights the inherent link between personal health principles and liberal learning outcomes. It may be adopted or refined by health educators willing to engage in this type of student-centred learning.

Keywords
Behaviour change, general education, health education, integrative learning, wellness

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Theoretical background

An increasingly enlightened view of health education recognises its potential for influencing and motivating college students to adopt a wellness approach to learning and living by taking responsibility for their optimal health and vitality. As students learn to prioritise their wellness, they benefit by learning the principles and practices of personal health behaviour change to modify common risk factors surrounding them (Insel and Roth, 2016; Kushner et al., 2011). Given the deleterious effects such risk factors can have on quality of life and academic performance, there is need to increase understanding and application of a successful approach to teaching students to design and manage health behaviour change plans (BCPs). Moreover, and with clear intentionality, effective health BCPs can also advance essential general education learning outcomes in goal-setting, decision-making, critical thinking, information literacy and communication. Such BCPs highlight the inherent link between personal health principles and liberal learning outcomes.

Research shows that people frequently engage in multiple unhealthy lifestyle behaviours with potential for negative health consequences including illness, injury, suffering, disability and early death. Citing extensive global evidence from laboratory, clinical and population-based studies, the World Health Organization (WHO, 2014a) warns of ‘looming epidemics of heart disease, stroke, cancer and other chronic diseases’ (p. 1). Largely responsible for most leading chronic diseases among men and women in all regions studied are three principle modifiable risk factors: unhealthy diet and excessive energy intake, physical inactivity and tobacco use (WHO, 2014b, 2014c). The US Centers for Disease Control and Prevention (CDC) has identified a fourth risk factor – excessive alcohol consumption (CDC National Center for Chronic Disease Prevention, 2009, 2012). Corroborating and extending these findings, the 2013 National College Health Assessment identified poor sleep habits as an additionally unhealthy, modifiable risk factor for college students (American College Health Association [ACHA], 2013a, 2013b).

Historically, health education research has addressed these risks as categorically separate issues, with only limited investigation of effective multiple behaviour change. Prochaska and Prochaska (2011) further contended that teaching general principles of behaviour change may lead to multiple risk adjustment, increased confidence to modify risk behaviour for which there is low motivation to change and may lead to overall healthful lifestyle change. Directed to those already engaging in a perilous lifestyle as well as preventing the acquisition of unhealthy practices, BCPs help students gain knowledge and skills essential to well-being and learn to use knowledge more effectively, ask and answer questions and make sound judgments.

BCPs are grounded in behaviour therapy, employ self-monitoring and are often framed by principles from the Transtheoretical Model (TTM) for behaviour change (Prochaska and DiClemente, 1983). In fact, increasing evidence suggests health-promotion interventions based on social and behavioural science theories are more effective than those lacking a theoretical base (Glanz and Bishop, 2010). TTM has been applied in a wide range of health studies focused on drug and alcohol abuse, smoking cessation, dieting and exercise. A meta-analysis examining 48 different health behaviours studied through TTM found it an effective approach towards achieving a target behaviour (Hall and Rossi, 2008). Conceptualised as a spiral through which people cycle forward and back within their behaviour commitment, the TTM assumes no single theory accounts for all complexities of behaviour change.

Describing fluid steps, the model’s stages are precontemplation (not recognising the need for or having an interest in change), contemplation (thinking about change), preparation (planning for change), action (adopting new habits) and maintenance (ongoing new, healthier behaviour). TTM further assumes that people will not likely move through the stages of change in a linear manner,
but rather often recycle and repeat some stages, may relapse and go back to an earlier stage depending on their levels of motivation and self-efficacy (Insel and Roth, 2016; Glanz and Bishop, 2010).

As a theoretical mechanism underlying the components of the BCP project occasioning this paper, TTM was applied to the content and approach as follows. Precontemplation (not recognising need for or having interest in change) and contemplation (thinking about change) TTM stages were applied through class discussion and through a wellness assessment survey of five focus areas: nutrition, fitness, sleep, smoking cessation or spirituality.

The TTM preparation stage (planning for change) was applied when students crafted a SMART goal for behaviour change in Phase 1 of the BCP project. Action (adopting new habits) and maintenance (ongoing new, healthier behaviour) TTM stages were applied as students engaged in Phases 1, 2 and 3 of the project. In keeping with TTM, students fluidly moved forward and back through the cycles. As students progressed through each phase of the BCP, they were guided by resources, templates, rubrics and record-keeping charts overviewed in class and available on-line through the course management system. Each phase of the project was assessed. Given its premise that behaviour change is a process not an event and that individuals’ motivation and readiness to change vary, TTM underpinnings were applied to content and approach in each stage of the BCP project.

Watson and Tharp (2002) noted that a fundamental assumption of behaviour change is our capacity for self-regulation and self-direction. They recommended strategising to increase a desirable behaviour. Even if the goal is to stop doing something, they argued that it is important to develop an alternative, desirable behaviour to replace the one we are trying to stop. Moreover, they found that those who are successful with behaviour change understand well what the goal actually requires.

As goal-setting is integral to behaviour change, the SMART Goal Model proves efficient and effective in its design and potential for successful goal achievement. MacDonald (2013) noted that despite the abundance of acronyms used in education, and at the risk of ‘acronym reflux’ (p. 82), it is important to consider the meaning behind each letter in SMART. All essential components of a goal, the letters stand for specific, measurable, attainable, relevant and time-framed. A well-designed health BCP, however, requires more than ‘Seemingly SMART goals’ (MacDonald, 2013: 86), which specify an activity the student must do rather than a student learning outcome.

For example, the three-phase health BCP project that occasions this paper integrates student attainment of a SMART goal with opportunities for students to demonstrate these health education learning outcomes: (1) explore problems, issues and behaviours that affect optimum wellness; (2) demonstrate wellness literacy; (3) use decision-making processes to improve wellness practices; (4) use goal-setting skills to advance wellness; and (5) practise and reflect upon wellness-enhancing behaviours. Paralleling US Joint Committee on National Health Education Standards (2007), these learning outcomes advance and rely upon impactful general education skills including goal-setting, decision-making, critical thinking, information literacy and clear communication. Consistent with findings from five earlier national surveys commissioned by Association of American Colleges and Universities (AAC&U) to identify employers’ priorities for skills requisite for long-term career success, employers overwhelmingly advocate these cross-cutting general education skills (AAC&U, 2015).

As a social science drawing from the biological, environmental, psychological, physical and medical sciences, health education is interdisciplinary by nature. Fulfilling its purpose to positively influence the health behaviour of individuals and communities as well as the living and working conditions that influence their health clearly exceeds the capability of any single discipline. Health education supported by general education intellectual skill outcomes becomes an even broader and more comprehensive exploration of what it means to be well and how to take control of personal wellness through behaviour change. Given the complexity of effective behaviour change and
importance of promoting healthy behaviours among college students, the need exists to increase understanding and application of a successful approach to teaching students the principles and practices of wellness behaviour change.

**Study objective**

This paper describes a successful approach to teaching students the principles and practices of behaviour change through a three-phase personal wellness plan project designed to improve personal health and advance health knowledge and essential general education intellectual skills. Students’ perspectives of obstacles, behaviours important towards goal attainment and benefits of the BCP were also explored. The paper also illustrates the feasibility, utility and various challenges of theory-based BCPs within a limited context.

**Design**

A one-group posttest-only design was employed to conduct a quantitative analysis of students’ reported success with their health BCPs. Qualitative evaluation of students’ BCPs was used to discover and describe perspectives and patterns that emerged regarding obstacles to goal attainment, behaviours important towards goal attainment and perceived benefits of the BCP.

Participants were 145 students enrolled in eight sections of a required first-year university undergraduate health education/general education course during the 2014–2015 academic year. The three-credit, semester-long course includes a wellness behaviour change project centred on five focus areas: nutrition, fitness, sleep, smoking cessation and spirituality. These represent modifiable risk factors identified by the WHO, CDC and ACHA, and the study site’s commitment to balanced growth in mind, body and spirit. The study was approved by Saint Leo University’s Institutional Review Board.

**Setting**

The study site was a private, Catholic university in Florida.

**Methodology**

Pilot study data were analysed from the Personal Wellness Plan, a three-phase behaviour change project embedded in a first-year university undergraduate required health education/general education course. To begin their behaviour change project, students chose a target behaviour to modify as informed by a wellness assessment survey of five focus areas: nutrition, fitness, sleep, smoking cessation and spirituality. The survey directions ask students to read each of the 38 statements and score each as 2 (True/Mostly True), 1 (Partly True) and 0 (False). The survey statements were informed by Insel and Roth’s (2013) book, *Connect Core Concepts in Health* (13th ed.). The final survey directions state,

Scores of 2’s may be an area of strength; Scores of 1’s may be an area for you to consider for your Personal Wellness Plan; Scores of 0’s are likely important for you to consider. This is NOT comprehensive health assessment. Its purpose is to help you identify a behavioural change SMART goal that you will commit to this semester for your Personal Wellness Plan.

As students progressed through each phase of the BCP, they were guided by resources, templates, rubrics and record-keeping charts overviewed in class and available on-line through the
course management system. During Phase 1: Taking Responsibility, students set a SMART goal towards improved wellness in their selected focus area. They identified three anticipated challenges to the BCP and planned strategies to overcome the expected obstacles.

Next, students consulted the course textbook chapter or approved websites and explained two specific psychological or physiological benefits they might expect by achieving their goal.

They further established a support system (i.e. workout partner, or accountability partner), a reward for progress and tracked 1 week’s data on a provided record-keeping chart. The weekly charts also required that students pose two questions relevant to their focus area and provide an answer derived from the course textbook or approved websites. To complete Phase 1, students wrote a brief reflection about what worked well that week and plans for the next week.

Phase 2: Progress Report required three additional weeks of record-keeping charts and corresponding reflections. Students were also required to report any refinements to their SMART goal. As an extra credit opportunity, students were encouraged to identify, describe and use an app to record progress for three additional days.

Phase 3: Final Report required students to review progress data to discover themes and patterns that may also encourage their success with future goals. Next, students identified achievements and corresponding implications, selected evidence-based research to corroborate their findings, summarised additional important information learned about their wellness focus area and set a future wellness goal. Students also reported whether they achieved, partially achieved or did not achieve their goal.

Next, students were required to reflect on their BCP by answering questions from one of two sets. Choice ‘A’ asked the following:

- What Dimension of Wellness did your Personal Wellness Plan help you to improve? Why/How? Provide details. Select one additional Dimension of Wellness you would like to improve upon. Write a corresponding SMART goal.
- If your plan included a skill or practice that was new for you, what did you need to learn? Was that enjoyable, intimidating, frustrating and so on? Explain. OR Did you improve upon something you generally do anyway? Explain. Was it enough of a challenge? Why/Why not?
- Was there a ‘turning point’ when your Wellness Plan began to feel fairly routine? Do you think you might keep it as a habit/practice? Explain.
- What decisions about your wellness did you/can you make because of the patterns/themes you identified? Regarding your wellness focus area, what else would you like to learn about? Who would you interview (if you could) to find out?
- What logical inferences can you make about yourself relevant to your wellness plan? (Interpretations or conclusions drawn from the collected data and reflections)

Choice ‘B’ asked the following:

- What Dimension of Wellness did your Personal Wellness Plan help you to improve? Why/How? Provide details. Select one additional Dimension of Wellness you would like to improve upon. Write a corresponding SMART goal.
- When you were successful with your goal, Were you most often alone? Were you most often with others? Did/How did that matter?
- Describe the settings where you successfully followed your plan (i.e. indoors, outdoors, your room [with what accommodations], etc.). What times of day/night were best for you? Why? What days of the week were best for you? Why? Did you choose those out of convenience, or was that setting more motivating? Explain.
• What particular settings made it difficult to follow your plan (i.e. at a restaurant, at school/home/at an event, etc.)? Why? What did you do about it? Describe your ‘self-talk’ when you were not motivated to follow your plan or were challenged by it.

• Would you use these or similar motivations/rewards and/or support to help you achieve other goals? Why/Why not? Explain. What logical inferences can you make about yourself relevant to your wellness plan? (Interpretations or conclusions drawn from the collected data and reflections)

Data analysis was performed in three steps. First, reports were categorised into the five focus areas (nutrition, fitness, sleep, smoking cessation or spirituality). Second, goal achievement was tabulated for each focus area. Third, students’ report narratives were analysed to discover emerging themes. Textual data were systematically distilled into categories of common themes based on word/phrase repetition, cutting and sorting, and similarities in the descriptions of reported barriers to goal attainment and behaviours reported as important towards goal attainment.

Results

Among the 145 participants, and from the 5 focus areas, 71 students set BCP fitness goals, reporting that 55% achieved, 39% partially achieved and 11.3% did not achieve their goal. Also, 63 students set BCP nutrition goals, reporting that 63.5% achieved, 27% partially achieved and 8% did not achieve their goal. Only 6 of 145 students set sleep-modifying goals, 4 set spirituality goals and 1 set a smoking cessation goal. Sleep, spirituality and smoking achievement/partial achievement/non-achievement percentages are not relevant due to their limited number. All goals were written in a SMART goal format. Subcategories for fitness included cardiovascular exercise, strength training and taking fitness classes (i.e. yoga, Zumba, butts and guts, flat belly, etc.). Subcategories for nutrition included increasing intakes of fruits, vegetables, dairy and water; decreasing fried food, soda and sweet tea consumption; and regularly eating breakfast. Subcategories for sleep included getting 7 hours of uninterrupted sleep, going to bed at a regulated time most nights and cutting excessive napping. Subcategories for spirituality included meditating and writing journal reflections. The subcategory for smoking was cutting down consumption to none.

The factors students commonly reported as barriers to their goal attainment included lack of time, laziness/apathy/boredom, discouragement, temptations and sickness/injury/pain. Students most often noted lack of time was due to school work, athletics and jobs.

Seven behaviours were commonly reported as important towards goal attainment.

Utilising Time management (i.e. setting specific days/times to work on BCP, planning ahead, completing a workout before going back to dorm, packing a healthy snack or workout clothes in backpack, carrying a water bottle, getting up earlier to go to breakfast, setting reminders or do not disturb messages on phone, working out before class or later in the evening);

Enlisting support or engaging in competition (i.e. accountability buddy, workout partner, team-mate, roommate, parents, coaches, boy/girlfriend);

Using visual cues (i.e. keeping record-keeping charts visible, placing stickers on data collection charts, ‘picture of the dress I want to fit in’, ‘picture of me 2 years ago when I was in shape’, picture of a celebrity, jug of water on top of refrigerator, fruit in refrigerator at eye level, app on phone, ‘seeing really fit people motivated me’);

Trying something new (i.e. trying new foods, fitness class, route, spiritual passages, playlist or app; eating a smaller portion; eating salad or soup first; mixing sugar free with sugared tea;
working out with a video; tasting food before salting or tasting coffee/tea before adding more sugar; new spices; new workout activity; eating more slowly; waiting longer before getting another plate of food; not eating while watching TV);

*Adopting a winning attitude* (i.e. revised goal, ‘can’t keep up with the athletes so worked out in dorm room instead of gym’, accepted soreness and worked through it, did not weigh in every day, considered fitness not weight loss, considered that any progress is good, ran on treadmill when it was raining or too hot outside);

*Purposefully removing temptations* (i.e. did not sit near fried food station, did not go outside while friends smoked, refused late invitations, did not carry change for soda machine, ordered one meal to split with a friend, asked friends not to call/text/or visit on school nights after certain time);

*Used intermittent rewards in addition to the planned final reward for goal achievement* (i.e. food reward cheat days, clothing reward/some relevant to goal such as new running shoes, movies, music, new video games, TV, beach day, day trips, manicure/pedicure);

Commonly reported benefits included physical, psychological and financial types, that is, feeling more alert when hydrated; having more energy in class, sports and activities; not being winded; noticing muscle definition; being less tired, being less grumpy, less frustrated, less stressed; having more stamina to work out for longer periods of time; feeling proud; not craving or missing sweets or fried foods as much; feeling like clothes fit better; losing weight; skin is clearer; looking better; enjoying the challenge; enjoying the fitness class, activity or food; enjoying socialisation; feel supported by others; feel more autonomy; improving athletic performance; and saving money.

Additionally noteworthy among the final reflections, students commonly reported that they would use the BCP process again. However, a number of students reported losing interest in the plan and feeling stressed by all their responsibilities. Students often reported feeling proud of their BCP accomplishments and realised that having support from friends, teammates, family and others was helpful.

**Conclusion**

This study showed that the principles and practices of health behaviour change introduced through the Personal Wellness Plan project were a valuable learning experience that improved students’ wellness practices, advanced health education and general education skills and helped students strategically plan for and manage a behaviour change.

Quantitative analysis of students’ reported success with their health BCPs showed that among the five general target areas, 92.4% of students selected to modify nutrition or fitness behaviours. Of this nutrition and fitness group, 90% reported improving their chosen health behaviours, with 59% achieving their goal and 31% partially achieving their goal. Given the academic, employment and athletic demands placed upon students and their various levels of motivation, we would expect variations in success levels. Moreover, we would also expect changes in decisional balance as students spiralled through the stages of the TTM, which framed the design of this project.

The qualitative findings illuminate how a qualitative approach can enrich our understanding of the BCP from the participants’ view. For example, students reported and described barriers to their goal attainment. These were lack of time, laziness/apathy/boredom, discouragement, temptations and sickness/injury/pain and are similarly noted in CDC (CDC National Center for Chronic Disease Prevention, 2011) and National Institutes of Health (NIH, 2013) reports. Future iterations of the
BCP project could address these reported barriers as well as those students had anticipated and planned strategies to overcome.

The qualitative analysis of contextualised data revealed multiple behavioural themes as important to students’ goal attainment. These were utilising time management, enlisting support or engaging in competition, using visual cues, trying something new, re-adjusting expectations, purposefully removing temptations and using intermittent rewards in addition to the planned final reward for goal achievement.

While it is clear that many factors influence the success or failure of a person’s attempt at health behaviour change, it is interesting to note that the behaviours students identified as helpful in this study have proven successful across the life-span. For example, research recognised by the National Council on Aging has provided well-founded guidance to health behaviour change. Haber’s (2013) evidence-based framework suggested making a new health behaviour a habit by enhancing memory in multiple ways such as visual cues, social support and setting specific times for the behaviour change. He further recommended taking deep breaths to manage the stress associated with achieving a health goal. This might be a helpful strategy to recommend in future BCP projects, given study participants’ common reports that stress negatively affected their BCP. Moreover, since stress has been reported as the leading factor that most affected students’ individual academic performance (ACHA, 2013a, 2013b), future iterations of the BCP project could further address stress reduction as motivation for goal persistence.

The physical, psychological and financial benefits students commonly reported were widely supported in the study’s reviewed literature. Additionally, students demonstrated with varying success the BCP health education and general education learning outcomes. Finally, by analysing student narratives, it was apparent they practised goal-setting, decision-making, wellness literacy and reflection skills while improving chosen health behaviours.

The study has limitations. It did not intend to offer generalisations across populations, but to offer contextual findings, as is basic to the philosophic underpinning of the qualitative approach. The study was conducted at a single institution, pretest data were not collected and while integral to behaviour therapy, self-monitored self-reporting was the means for data collection.

Next steps in the BCP could include using the findings to strengthen the project for subsequent groups. Future research could extend class discussions regarding potential barriers to goal persistence and strategies to mitigate these and could extend discussion about stress reduction as a potential outcome of the goal to encourage persistence. Future research could include a pretest and extend quantitative analysis. Another possibility may be to follow up with participants over time to learn whether their experience with the BCP affects their current health behaviour practices.


Educational implications

The results of this study are intended to provide educators with an understanding of this transformative method of guiding students towards improving their personal health and making wellness their informed priority. A successful approach to teaching students the principles and practices
of health behaviour change, three-phase Personal Wellness Plan project is grounded in behaviour therapy and framed by TTM and essential health education and general education intellectual outcomes. This BCP highlights the inherent link between personal health principles and liberal learning outcomes.

Health education supported by general education intellectual skill outcomes becomes an even broader and more comprehensive exploration of what it means to be well and how to take control of personal wellness through self-regulation, self-direction and behaviour change. Skill sets practised in this BCP, including health information literacy, goal-setting, decision-making, reflection and health-enhancing behaviour change, will continue to be an important part of students’ education.

Finally, the Personal Wellness Plan project may be adopted or refined by health educators willing to engage in this type of student-centred learning. Its underlying assumption is that students’ perspectives and experiences are valuable. In the end, BCP success depends upon our willingness to encourage and act upon students’ honest reflection about their health practices so that we may continue to guide them towards better health.

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