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# Using Behavior Change Plans to Make Wellness an Informed Priority: Health Education Meets General Education

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## **Using Behavior Change Plans to Make Wellness an Informed Priority:**

### **Health Education Meets General Education**

#### **Abstract**

Students advanced health education and general education skills through a multi-phased behavior change plan project. Predominantly selecting nutrition or fitness as focus areas for improvement, 145 students set SMART goals, reported BCP progress, perceived obstacles, and behaviors important toward goal attainment, illuminating their importance in successfully teaching/managing health behavior change. One-group posttest-only design included quantitative analysis of reported BCP success. Qualitative evaluation of students' reports were distilled into common themes. Seven behaviors were found important to goal attainment, physical/psychological/financial benefits were reported, correlations to the study site's core values were reported, and final reflections indicated students would use BCP processes again.

#### **Study Purpose**

This study describes a successful approach to teaching the principles and practices of health behavior change framed by SMART goals, through a wellness plan project designed to improve personal health, and advance health knowledge and essential general education intellectual skills. Students' perspectives of obstacles, behaviors important towards goal attainment, and benefits of the behavior change plan (BCP) were also explored, as were their perceptions of how university core values embedded in the course oriented their choices/correlated with their project. The study also illustrates the feasibility, utility and various challenges of theory-based BCPs within a limited context.

## **Theoretical Framework**

### **Modifiable Risk Factors**

Unhealthy lifestyle behaviors have potential for negative health consequences including illness, injury, suffering, disability and early death. Accordingly, citing extensive global evidence from laboratory, clinical, and population-based studies, the World Health Organization warns of “looming epidemics of heart disease, stroke, cancer and other chronic diseases” (2014a: 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; WHO 2014c). The Centers for Disease Control determined a fourth risk factor; excessive alcohol consumption, (2012, 2009). Corroborating and extended these findings, the 2013 National College Health Assessment identified poor sleep habits as an additionally unhealthy, modifiable risk factor for college students (ACHA, 2013a; ACHA 2013b).

### **Behavior Change and TTM**

Fortunately and wisely, a number of universities across the country currently offer required or elective health education courses or cross disciplinary courses relevant to these contemporary health issues and concerns. Moreover, an increasingly enlightened view of health education recognizes 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 prioritize their wellness, they benefit by learning the principles and practices of personal health behavior change to modify common risk factors surrounding them (Insel and Roth, 2016; Kushner, Kessler, and McGaghie, 2011).

However, health education research has historically addressed these risks as categorically separate issues, with only limited investigation of effective multiple behavior change, even though research shows

people frequently engage in multiple risk factors. Prochaska and Prochaska, (2011) further contended that teaching general principles of behavior change may lead to multiple risk adjustment, increased confidence to modify risk behavior 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 behavior therapy, employ self-monitoring, and are often framed by principles from TTM; the Transtheoretical Model for Behavior Change (Prochaska and DiClemente, 1983). In fact, increasing evidence suggests health-promotion interventions based on social and behavioral science theories are more effective than those lacking a theoretical base (Granz & 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 behaviors studied through TTM, found it an effective approach towards achieving a target behavior (Hall & Rossi, 2008). Conceptualized as a spiral through which people cycle forward and back within their behavior commitment, TTM assumes no single theory accounts for all complexities of behavior change.

Describing fluid steps, the model's stages are pre-contemplation (not recognizing need for or having interest in change), contemplation (thinking about change), preparation (planning for change), action (adopting new habits), and maintenance (ongoing new, healthier behavior). 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 & Roth, 2016).

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

### **Behavior Change and SMART Goals**

As goal-setting is integral to behavior 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 in the acronym stand for specific, measurable, attainable, relevant, and time-framed. The University of North Carolina at Chapel Hill (2015) reminds students that mistakes in setting goals include their being too big, not specific, too many, and not written. Additionally, a well-designed health behavior change plan requires more than “Seemingly SMART goals” (MacDonald, 2013, p. 86) which specify an activity the student must do, rather than a student learning outcome.

For example, the three-phase health behavior change plan project utilized in this study integrates student attainment of a SMART goal with opportunities for students to demonstrate these health education learning outcomes: 1) Explore problems, issues, and behaviors 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. 5) Practice and reflect upon wellness-enhancing behaviors.

### **Health Education and General Education Intellectual Skills**

Paralleling 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 AAC&U to identify employers' priorities for skills requisite for long-term career success, employers overwhelmingly advocate these cross-cutting general education skills (Association of American Colleges and Universities, 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 behavior 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 behavior change. Health education courses at the university study site are supported by general education intellectual skill outcomes.

### **Core Values as Moral Guidelines**

Moreover, the university study site remains dedicated to student-centered liberal arts education, and balanced growth in mind, body and spirit for all members of its community. The university ascribes to six core values: *Respect, community, excellence, responsible stewardship, personal development, and integrity* (Saint Leo University, 2015). Every course embeds one or more of these moral guidelines as environments that manifest the values.

Morrill (1980) defined values as “standards and patterns of choice that guide persons and groups toward satisfaction, fulfillment, and meaning...and serve as the authorities in the name of which choices are made and action is taken” (p. 63). Thus, values correlate self and the broader community. He further noted that values “link human needs and purposes with the opportunities and obstacles [i.e., challenges]” (p. 67)...“values orient choice, they do not determine it” (p. 69).

The course through which the multi-phased behavior change plan project is taught champions two core values: *Respect*, and *personal development*. Students were asked to consider both core values as essential and enduring tenets/guiding principles, and correlate the intrinsic value or importance of one of them to their BCP. In both in *Phase 1* and in *Phase 3* of the project, students were required to reflect upon BCP learning and experiences, and explain how one core value oriented their choices/correlated.

### **Rationale**

Taken together, and given the complexity of effective behavior change and importance of promoting healthy behaviors among college students, the need exists to increase understanding and application of a successful approach to teaching students the principles and practices of wellness behavior change. In view of the deleterious effects modifiable 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 behavior change plans (BCPs). Additionally, 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, liberal learning outcomes, and values.

### **Design**

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

Participants were 145 students enrolled in eight sections of a required freshman-level health education/general education course during the 2014-2015 academic year. The three credit semester-long course includes a wellness behavior change project centered 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 the author's university Institutional Review Board.

### **Setting**

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

### **Methodology**

Pilot study data were analyzed from the *Personal Wellness Plan*, a three phase behavior change project embedded in a freshmen-level required health education/general education course. To begin their behavior change project, students chose a target behavior to modify as informed by a wellness assessment survey of five focus areas: Nutrition, fitness, sleep, smoking cessation, or spirituality. The survey directions ask students to read each of the 38 statements and score each as 2 (True/Mostly True); 1 (Partly True); 0 (False). The survey statements were informed by Insel and Roth (2013). *Connect core concepts in health* (13<sup>th</sup> 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 behavioral change SMART goal that you will commit to this semester for your Personal Wellness Plan."

As students progressed through each phase of the behavior change plan, they were guided by resources, templates, and recordkeeping 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. Students were required in *Phase 1* and in *Phase 3* to identify and explain the direct relevance of one of two university core values; *Personal Development* or *Respect*. These two core values are embedded throughout this particular course, with each course at the university championing at least one of the university's six core values: *Community, Respect, Integrity, Responsible Stewardship, Excellence* and *Personal Development*.

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 one 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 once again identify and explain the relevance of the embedded university core value, then 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; summarized 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:

1. 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.

2. If your plan included a skill or practice that was new for you, what did you need to learn?

Was that enjoyable, intimidating, frustrating, etc.? Explain. OR Did you improve upon something you generally do anyway? Explain. Was it enough of a challenge? Why/Why not?

3. 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.

4. 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?

5. 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:

1. 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.

2. When you were successful with your goal: Were you most often alone? Were you most often with others? Did/How did that matter?

3. 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.
4. 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.
5. 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 four steps. First, reports were categorized into the five focus areas (nutrition, fitness, sleep, smoking cessation, or spirituality). Second, goal achievement was tabulated for each focus area. Third, core value choice and explanation was tabulated for each focus area. Fourth, students’ report narratives were analyzed to discover emerging themes. Textual data were distilled into common themes based on repetition, cutting and sorting, and similarities.

## **Results**

### **Focus Areas and Goal Achievement**

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.

### **SMART Goal Categories**

All goals were written in a SMART goal format. Subcategories for fitness included cardio, 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; cutting excessive napping. Subcategories for spirituality included meditating; and writing journal reflections. Subcategory for smoking included cutting down consumption to none.

### **Core Values**

All except 8 students identified “Personal Development” as the core value most relevant to their BCP. Explanations of such relevance centered on the university’s commitment to mind/body/spirit, developing tenacity for achieving or trying to achieve the goal, and learning more about health issues. Students noted feeling proud, building confidence, reaching out to others for support or challenge, discerning reliable health information, learning about health norms, developing new fitness skills, paying attention to emotions and bodily needs, and practicing reflection.

### **Common Barriers to Goal Attainment**

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.

## **Behaviors Common Toward Goal Attainment**

Seven behaviors were commonly reported as important towards goal attainment.

These included **Utilizing 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, and improved time management skills overall.)

**Enlisting support or engaging in competition** (i.e. accountability buddy, workout partner, teammate, 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.)

**Readjusting expectations** (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. didn't sit near fried food station, didn't go outside while friends smoked, refused late invitations, didn't 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.)

**Using 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, mani/pedi.)

### **Commonly Reported Benefits**

Commonly reported benefits included physical, psychological, and financial types. (i.e. feeling more alert when hydrated; having more energy in class, sports and activities; not being winded; noticing muscle definition; being less tired, 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 socialization; feel supported by others; feel more autonomy; improving athletic performance; saving money. Many students elaborated on these and further described them as "personal development."

### **Adopting BCP Process**

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 realized that having support from friends, teammates, family, and others was helpful.

## Conclusions

This study showed that the principles and practices of health behavior change introduced through the *Personal Wellness Plan* project was 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 behavior change.

Quantitative analysis of students' reported success with their health behavior change plans showed that among the five general target areas, 92.4% of students selected to modify nutrition or fitness behaviors. Of this nutrition and fitness group, 90% reported improving their chosen health behaviors, 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 spiraled through the stages of the TTM, which framed design of this BCP 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 (2011) and 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 contextualized data revealed multiple behavioral themes as important to students' goal attainment. These were utilizing time management, enlisting support or engaging in competition, using visual cues, trying something new, readjusting 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 behavior change, it is interesting to note that the behaviors students identified as helpful in this study have proven successful across the life-span. For example, research recognized by the National Council on Aging provided well-founded guidance to health behavior change. Haber's (2013) evidence-based framework suggested making a new health behavior a habit by enhancing memory in multiple ways such as visual cues, social support, and setting specific times for the behavior 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; ACHA 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 analyzing student narratives, it was apparent they practiced goal-setting, decision-making, wellness literacy, and reflection skills and identified values in action, while improving chosen health behaviors.

The study has limitations. It did not intend to offer generalizations 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, pre-test data were not



collected, and while integral to behavior 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 pre-test and extend quantitative analysis. Another possibility may be to follow up with participants over time to learn if their experience with the BCP affects their current health behavior practices and/or values.

### **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 behavior change, three-phase *Personal Wellness Plan* project is grounded in behavior 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 behavior change. Skill sets practiced in this BCP including health information literacy, goal-setting, decision-making, reflection, and health-enhancing behavior 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-centered 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 we may continue to guide them towards better health.

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