

The Art of Health Promotion

practical information to make programs more effective



January/February 2012

Enhancing Intrinsic Motivation in Health Promotion and Wellness

Colleen M. Seifert, PhD; Larry S. Chapman, MPH; Joseph K. Hart, JD; Paul Perez, CWPC, PCC

Setting the Stage

Health promotion and wellness specialists have long held this belief: “If you build a wellness program to help people lead healthier lives, they will come.” And why wouldn’t they? Start with completing a health risk assessment (HRA) and possibly biometric screening; the process alone can potentially be lifesaving, alerting people with conditions such as high cholesterol, hypertension, and diabetes to the significant risk of these conditions. Similarly, the HRA can help identify predisposition to deadly diseases, such as cancer, that require immediate intervention. Who would not want to know the results of such an important assessment? Wellness interventions such as HRAs can build awareness, lead employees towards making better health decisions, and reduce companies’ ever-increasing health care costs.

So why aren’t employees participating in large numbers in worksite wellness programs? From our general experience with wellness programs, we’ve seen that offering employees opportunities to improve health is simply not enough to cause them to use it. Despite the significant personal advantages from health promotion and wellness programs, many people still do not actively participate.

To build intrinsic motivation for change, we believe that individuals need to discover their own rewards for healthy behavior. Employees must be supported within an organizational health culture to build their own goals, enhance their own knowledge, and follow through on their own concrete action steps. Through this health culture, employees can develop their own intrinsic values or incentives that help maintain their efforts towards achieving health goals. This article reviews scientific studies of behavior change that provide a deeper understanding of human motivation. The issues raised address how to design more effective health promotion and wellness programs, and illustrate ways to implement health change programs so that they enhance intrinsic motivation.

DOI: 10.4278/ajhp.26.3.tahp

To help us accomplish this we will be addressing the following topics:

- Fundamentals of human motivation
- Intrinsic versus extrinsic motivation: Understanding the issues
- How do most health promotion programs currently deal with motivation?
- Some examples of wellness incentive programs
- What does the research literature tell us about motivation?
- What programming strategies can be used to enhance intrinsic motivation?

Fundamentals of Human Motivation

Figure 1 shows the definitions of *motivation*, along with those for *intrinsic* and *extrinsic* motivation, as provided by Wikipedia.¹ It should be recognized that little real consensus exists in the social and educational psychological literature about the exact nature and the practical operation of these core concepts.



In This Issue

Enhancing Intrinsic Motivation in Health Promotion and Wellness by Colleen M. Seifert, Larry S. Chapman, Joseph K. Hart, and Paul Perez	1
References	10
Selected Abstracts	11
Closing Thoughts, by Larry S. Chapman	12

Editorial Team

Editor	Larry S. Chapman, MPH
Publisher	Michael P. O'Donnell, PhD, MBA, MPH
Managing Editor	Danielle J. Price, MA

Figure 1

“**Motivation** is the driving force by which humans achieve their goals. Motivation is said to be intrinsic or extrinsic. According to various theories, motivation may be rooted in a basic need to minimize physical pain and maximize pleasure, or it may include specific needs such as eating and resting, or a desired object, goal, state of being, ideal, or it may be attributed to less-apparent reasons such as altruism, selfishness, morality, or avoiding mortality. Conceptually, motivation should not be confused with either volition or optimism. Motivation is related to, but distinct from, emotion.

Intrinsic motivation refers to motivation that is driven by an interest or enjoyment in the task itself, and exists within the individual rather than relying on any external pressure.

Extrinsic motivation comes from outside of the individual. Common extrinsic motivations are rewards like money and grades, coercion and threat of punishment. Competition is in general extrinsic because it encourages the performer to win and beat others, not to enjoy the intrinsic rewards of the activity. A crowd cheering on the individual and trophies are also extrinsic incentives.”

Most of us recognize that these concepts represent central tenets in the effectiveness of the efforts of health promotion and wellness practitioners.

Intrinsic vs. Extrinsic Motivation: Understanding the Issues

To better understand these key concepts let's start with a simple example of a behavior we'd like to encourage: reading. With a national pizzeria chain, public schools have started a program in which children read for 20 minutes every day for 1 month, and are rewarded with a coupon for a free pizza (<http://www.bookitprogram.com>).

We believe that this is an interesting motivational program. The idea is that you can't compel people to read: they must want to perform the behavior themselves. And doing so is its own reward, as so many avid readers will attest. But when you're seven, the challenging habit of reading may not be something you choose to do for its own value. You may not yet see the value! Instead, the pizza steps in; now, you have an extrinsic (external) reward for doing the desired behavior (reading). But the program's goal is not to feed children; the goal is to get children to do the behavior long enough

that they can experience the joy—the intrinsic (internal) value—of reading for themselves. After some time of practicing the behavior, the intrinsic rewards grow, and become enough to encourage children to engage in the behavior on their own. Kids choose to read because they find it is fun! Then, no more pizzas are required.

Applying this lesson to health promotion and wellness programs, we can see that many of the steps in this motivational process are already in place. We have identified concrete health behaviors that we want to encourage. We frequently install extrinsic incentive programs that help cause people to participate in programs and/or begin new health behaviors. Next, we need methods to identify and reinforce the intrinsic value of health behaviors that will help people maintain these healthy behaviors over time.

How Do Most Health Promotion Programs Currently Deal With Motivation?

Individuals' motivation to change is the most significant stumbling block in health promotion and wellness. Many companies are finding that health promotion programs are not achieving significant or lasting changes in health behavior. Employees' lack of interest in, or reluctance to participate in, health and wellness programs appears to be the main obstacle to changing health behaviors. Further, nearly two-thirds of businesses say the biggest challenge to managing affordable health care coverage is employees' poor health habits: “As companies struggle with low levels of employee engagement and face limited budgets for financial incentives, there is growing interest among employers to impose tougher requirements for members to receive financial incentives around health engagement activities.”²²

The state of the art in building motivation for health promotion programs includes the use of incentives. The role of wellness incentives is to motivate those who are not intrinsically motivated to participate in wellness programs and/or adopt healthy



The Art of Health Promotion is published bi-monthly as part of the American Journal of Health Promotion, by the American Journal of Health Promotion, Inc., 1120 Chester Avenue, Ste. 470, Cleveland, OH 44114. Annual subscriptions to the combined publication are \$139.00 for individuals, \$359 for Tier 1 institutions, \$459 for Tier 2 institutions, and \$559 for Tier 3 institutions in the United States, with postage surcharge for other countries. Copyright 2012 by American Journal of Health Promotion; all rights reserved. To order a subscription, make address changes, or inquire about editorial content, contact the *American Journal of Health Promotion*, P.O. Box 15847, North Hollywood, CA 91615, Phone: 800-783-9913.

For information on submission of articles for *The Art of Health Promotion*, please contact the editor at 206-364-3448.

behaviors. After all, intrinsically motivated people do not need wellness initiatives—they will do it on their own! The size of this group is usually also affected by the novelty effect that occurs when the program is new. However, this group is usually a hard sell when it comes to any form of health promotion or wellness. So how do you reach those people most in need of intervention?

It is human nature that people will engage in new behaviors if they believe there is a reasonable reward (incentive) for it. Some believe that it is inherently wrong to try to motivate people towards health using money or other rewards. But it is difficult to fight human nature, which says that we are often hardwired towards instant gratification. The real rewards of health—feeling better, living longer, and worrying less—seem attached to a distant future. Wellness requires fully embracing delayed gratification, where the reward may be as elusive as the avoidance of a chronic disease. We clearly need some way to help people move toward health improvement by providing salient rewards along the way.

The universally attractive reward is money, particularly larger amounts of money, which has been successful in getting employees to participate in HRAs, biometric screenings, online learning programs, and health coaching. Research supports the use of incentives: for example, in one corporation, HRA use without incentives was found to be only 26%, but with incentives, HRA use rose to 93%.³ Wellness incentives in the form of reductions in health plan premiums and cost sharing have been found to be effective.⁴ Incentives are very helpful in getting people to try something new, and to start along the path toward better health. Most wellness programs have used some form of incentive to provide the largely extrinsic motivation for initial participation or adoption of a new behavior. Unfortunately, most wellness programs have not intentionally introduced strategies or actions to help convert this extrinsic motivation into intrinsic motivation.

Some Examples of Wellness Incentive Programs

Example 1: The Wellness Challenge

One example of a single hospital-based employee wellness program that used a strong monetary incentive is the Wellness Challenge. The program was originally developed by the staff of Providence Everett Medical Center in Everett, Washington, and is now administered by HealthForce Partners of Bothell, Washington. This pioneering program was first implemented in 1991. The program was designed to reward employees who meet or achieve a minimum of 8 out of 10 wellness criteria during the program year, including:

1. Three out of four calendar quarters without an unscheduled leave day
2. Completing an HRA
3. Attending Wellness at Work educational sessions
4. No lost work time due to injury
5. Minimum of 75 points from participation in the hospital's fitness program
6. Declaration of seat belt use at all times when in a vehicle
7. Blood pressure below 140/90 mm Hg at four quarterly points during the year
8. Participation in nine or more wellness program activities

9. No tobacco use in last 3 months
10. Less than \$250 of personal health claims cost (excluding preventive services)

The program supported participants in reducing modifiable health risks such as elevated blood pressure, overweight status, high cholesterol, smoking, and physical inactivity, as well as self-care practices.

Employees who meet the Wellness Challenge by meeting a minimum of eight wellness criteria received a pretax wellness bonus that increased each successive year until a cap was reached (\$250–\$400). Those who try, but meet less than eight criteria, are given a smaller reward to encourage continued participation. The core concept is that employees can be influenced to improve their long-term health status and minimize their utilization of health care resources by being rewarded for improvement. This becomes a win/win situation for the employee and employer.

The incentive criteria provide a balanced approach to short- and long-term clinical and behavioral health risks. Biometric screening is used in the incentive-based model to enable the individual to meet specific criteria and to qualify for the rewards through achievements as well as participation. The biometrics generally function to reinforce the clinical and medical objectives of the program and to help individuals manage their own health more effectively in the context of the criteria used by the incentive program.

The major outcomes of the program included an average program participation rate of 51% over a 10-year period. The hospital has calculated health care cost and sick leave savings for 1992–2001 in excess of \$13 million. This results in a 1:6.82 average annual cost-benefit ratio for each of the 10 years of this strongly incentive-based program model.

We believe that this incentive-based program model is a valuable approach to attract employees into program activities that often have relatively low levels of participation. Group education activities such as workshops, support groups, and group provision of information are useful, but are infrequently used with other menu-based programming options. We believe that one of the keys to the success of a program like the Wellness Challenge is its combination of significant incentives and targeted education.

Example 2: Asset Health

Another example of a hospital-based employee wellness incentive program with a strong educational focus was implemented by a renowned northeastern university health system in October 2009. This is a large (more than 15,000 employees) health care center in multiple locations, with a diverse work force including doctors, nurses, sanitation, administrative staff, and cafeteria workers. The program, Asset Health, offers a Web-based communication and education system focused on comprehension as a basis for behavior change. It includes clear linkage to employee benefits (health savings accounts, flexible spending accounts, health reimbursement accounts, and health plan linkages) and management of personal health care finances, including budgeting, investing, and saving. In addition, it provides tutorials on wellness topics that provide specific guidance on how to implement behavior change. The goal is both teaching and motivating “consumer” behavior to help employees take direct and active responsibility for their own health and health care. The core message is, “Your health is your most valuable asset.”

Figure 2

- Achieving a healthier weight
- A guide to men's health
- A guide to women's health
- Asthma management
- Begin a simple fitness program
- Coping with depression
- Managing hypertension
- Managing my cholesterol
- Managing stress
- My diet and good health
- Preventing diabetes
- Protecting my back from injury

If people value feeling healthy as a core part of their identity, and an important factor in protecting their families, then it is likely to become a major motivation for behavior change.

To enter the program, employees completed an HRA and one Web-based course, "My Family and My Health." The course focused on health as an asset and ways to protect it through direct actions. Employees were encouraged to feel "direct and active responsibility" for their health, and to understand its ties to their personal and financial security. From there, employees regularly took further courses within the program's Learning Management System based on their interests, including the items shown in Figure 2.

Financial incentives were built into the program through the use of a point system with record keeping on a quarterly basis, which translated annually into a possibility of \$360 of payroll deductions. Additional optional activities included:

- Healthy Prevention—Participate in appropriate screenings and exams
- Healthy Actions—Complete Asset Health courses, exercise, participate in events, work with health coach
- Healthy Lifestyle—Complete actions such as drinking eight glasses of water a day, eating a healthy breakfast, wearing a seatbelt

Quarterly e-mail communications were sent to all employees to remind them about their participation in the program.

The preliminary results documented that the program had a major impact on employee health and employees' health care decisions. Most importantly, employees demonstrated significant knowledge gains based upon the health care center's internal evaluation. The adaptive testing data showed greater than 90% proficiency in multiple key areas of health care knowledge. More than four out of five employees surveyed found high value in the Asset Health program, and indicated a high likelihood that they would change their behavior in the specific areas in which they trained. In all, 75% of employees participated in the Asset Health online courses, including going on to take optional courses in areas of interest beyond those needed for the incentives.

Both of these incentive program examples demonstrate how incentives can help employees take the first step of engaging in

program activities. Once there, they begin to learn how to improve their health, and what steps to tackle in their own health journeys. Along with incentives, both programs emphasized targeted education to build the employees' knowledge and resources for implementing behavior change. We believe that these programs are effective in getting reluctant individuals to extensively engage in worksite-based health promotion and wellness programs. Employers now attract 40% to 80% or more of employees and spouses to their wellness programs, largely through the use of significant extrinsic financial incentives such as a substantial reduction in their health plan premium contribution. However, to capitalize on that short-term high level of participation, we must introduce additional program features that will help to further enhance intrinsic motivation, and help participants maintain the important changes they have frequently only recently begun.

What Does the Research Literature Tell Us About Motivation?

The behavioral health scientific literature supplements these conclusions with evidence from controlled empirical studies.⁵ A meta-analysis of 111 randomized controlled studies concluded, "Financial incentives, if they are big enough, can influence discrete behavior at the individual level in the short run."⁵ Studies of behavior change, such as smoking cessation, showed that incentives worked to increase attendance activity.⁶ Similarly, participants in a weight loss program who were paid showed better attendance.⁷ In a recent survey, 58% of employers are offering incentives to participate in health and wellness programs; of those, 24% also offer them to spouses and dependents.⁸ Recent numbers from Hewitt Associates show that 47% of employers either already use, or plan to use, financial penalties over the next 3 to 5 years for employees who do not participate in certain health improvement programs.⁹

The fundamental fact of motivation is that human beings cannot be forcibly compelled to change their behaviors, such as what and how much they eat, what they feed their children, or whether they smoke or exercise. These behavior changes may be initiated by extrinsic sources of motivation, or factors outside of the individual that influence how they behave. The science of learning called behaviorism has this as its core tenet: Reward the behavior you want, and you will get more of it.¹⁰ But 50 years of psychological science has confirmed, over and over again, that in humans, rewards have a complicated relationship to motivation.¹¹ Human nature is such that we do not necessarily internalize motivation based on rewards. In fact, rewards can backfire, so that we are less likely to choose to repeat behaviors that were supported by incentives.

For example, in a recent study, students at the Massachusetts Institute of Technology completed a variety of tasks involving remembering strings of digits, performing motor skills, or playing creative games.¹² Different groups were given either small, medium, or large financial rewards based on their performance. For mechanical skills, where no thinking was involved, higher rewards did lead to better performance. But if the task involved cognitive skill in even a rudimentary way, the larger reward led to poorer performance. Health behavior change may fit into this latter

category: It requires cognitive effort to establish new, healthier behavior. And it is not only in the laboratory: In 2009, an analysis of 50 studies of “pay for performance” plans in corporations concluded, “We find that financial incentives ... can result in a negative impact on overall performance.”¹³ This finding is one of the most robust in the behavioral sciences, and also the most ignored.¹¹

Why are extrinsic reinforcers less effective over the long term? An early study by Lepper et al.¹⁴ argues extrinsic rewards can become the reason for the behavior, rather than enhancing intrinsic motivation. In a field experiment, children who showed interest in playing with special colored markers were asked to agree to play with the markers in order to obtain a “Good Player” award. The results showed that children who expected a reward showed half as much interest in free play with the markers following the study compared to those not promised a reward. A classic study by Deci¹⁵ showed the same effect in adults. Those paid to complete interesting puzzles did fewer during a break period than those never rewarded. Even in children, the self-perception that their interest in an activity is due to a reward led to little interest in doing it without one. As a result, incentives may actually work against new behaviors because people stop doing the behaviors on their own.

Why does this happen? Rewards are problematic because people tend to think about the causes of their own behavior. People ask, “Why am I doing this?” If paid to perform, people regard the incentives as the cause for their behavior, removing the need to “own” their behavior. Consider this classic study by Festinger¹⁶: You are asked to perform a boring, difficult task, and you are paid \$20 to do so. Now, you are asked to convince someone else that the task was actually fun. This is difficult because you know you did it simply for the money. Alternatively, suppose you were paid just \$1 for doing the same task. Now, when you tell others it was fun, you can’t rely on the incentive as your self-justification. Instead, you have to reconsider the behavior, and why you did it: Was it really boring, or was there some more interesting aspect? Did you actually enjoy it? You must have, because you certainly would not agree to do it just for the dollar! Without the incentive, people are forced to provide their own motivational account for their behavior: “I did it because I wanted to.”

In the short term, people will perform a broad range of behaviors for an extrinsic incentive. However, the incentive approach itself does not assure increases in the intrinsic motivation needed to sustain behavior change over time. This “introjection” approach of a compelling reward gets people to perform the behavior, but not necessarily to believe in (or understand) its value. Incentives play a key role in health promotion programs by getting reluctant employees “in the door.” The good news is that people do not necessarily need to be forever externally rewarded for their behavior with few exceptions. In addition by using scientific principles, and a high degree of intentionality, people can learn to identify their own internal values for new behaviors, and then can be weaned from external rewards.

So, incentives can form the basis for the development of intrinsically oriented behavior. Once people have become engaged in the desired health behaviors, they can then learn, and internalize, their own perceived benefits. The major theory of human motivation, called *self-determination theory*,¹⁷ recommends integrating the new behaviors into internal values. Through

integration, the regulation of behavior is assimilated into one’s core sense of self. As a result, the behavior becomes self-determined, and can then be maintained primarily by intrinsic motivators. Decades of studies have demonstrated that self-determination is the key factor in long-term motivation. For example, one client gave this feedback: “I started logging my footsteps with a pedometer as part of the incentive program at work; but now, I see that I feel better from walking more, and I’ll keep doing it after the program ends.” By using incentives to initially engage employees in learning, and to initiate new behaviors, they can experience for themselves the personal benefits of the activities. Then, they can recognize primarily intrinsic values that will motivate continuing the new behavior.

Self-determination theory points to three facilitating contextual factors that promote the process of internalization:

- providing a meaningful rationale
- acknowledging feelings
- conveying choice

This means in a practical sense that employees should not simply, for example, perform an HRA for an incentive; instead, they should learn about the results in a way that is meaningful and memorable to them. The goal is that, at the end of the assessment process, they have learned where they stand with their health, and what concerns are priorities for them. This, not the external incentive, is the real reward from participation that they take away from the experience, and that they can internalize as valuable to them. Similarly, addressing the emotions that often surround our health is another factor that can enhance intrinsic motivation.¹⁸ For example, because biometric screenings are effective in detecting individuals in need of specific medical interventions, health professionals are puzzled about why some people don’t take advantage of them. However, the possibility of finding health problems may be so frightening that some people avoid the opportunity to discover them. In addition to recommending screening, addressing concerns about the testing process and possible findings may encourage people to participate. Finally, choice is critical to intrinsic motivation. Imagine being assigned a movie to watch vs. choosing one for yourself. Even if it’s the same movie, the mere act of choosing makes your experience of it much more personal. In building intrinsic motivation, one of the cornerstones is that it must be the individual’s choice: It must mean something to *you*. So, providing as much choice as possible in knowledge delivery, action opportunities, and program follow-up will help people to integrate a wellness program into their self-determined and self-selected goals.

What Programming Strategies Can Be Used to Enhance Intrinsic Motivation?

Self-determination theory asserts that intrinsic motivation is enhanced when an individual decides, based on accurate knowledge, of his or her own volition, to change his or her behavior. The successful program examples above show that wellness programs can intervene by offering extrinsic incentives to

learn about health and wellness, and to begin selected behavior changes. We believe these programs will work even better when implemented in a way that minimizes a sense of pressure, fully informs the individual, and promotes individual choice. These factors help people to integrate program interventions more fully into their own value framework, resulting in increased intrinsic motivation to continue healthy behaviors over the long term.

Now, let's look at some possible programming strategies, plus some practical examples of each, that have the potential to enhance intrinsic motivation. We believe these strategies may help individuals to internalize reasons for, and benefits of, health behavior change over the long term. These programming strategies are identified in Figure 3.

Help to Identify Personal Intentions and Benefits

Psychological science provides a wealth of knowledge about how to support people in their intentions.¹⁹⁻²³ For example, a recent study showed theories of motivation were successful in accounting for short-term weight loss.²⁴ These theories suggest intentions are more likely to result in action when they arise internally, rather than being imposed by external forces.²⁵ One approach to making decisions, and a much more powerful one for our personal decisions, is to follow one's own sense of identity. "Who am I?" "What kind of situation is this?" And, "What would someone like me do in this situation?" For one employee, her answer was her new role as a grandparent: "I want to be here to see my grandchild graduate from college." For another, her health behavior motivation arose from a desire to "finally fit into a size 10 dress." People will obviously differ in their values and in what works as their internal motivators. But wellness programs can help them identify, and keep in mind, the values of importance to them. By looking to an internal value, people become actively responsible for their health, and motivated to take action. Imagine a "reminder" screen saver for these two individuals, and how such a screen could be customized to tap their self-determined goals.

Programs aimed at building personal intentions have an impact: A meta-analysis of 47 experimental tests of intention-behavior relations found that changes in behavioral intention do foster significant behavior change.²⁶ This analysis examined studies in which participants were assigned randomly to treatments that successfully increase the strength of intentions relative to a control condition. Then, differences in actual behavior were compared. The meta-analysis across studies showed that a medium-to-large change in intention led directly to a small-to-medium change in real behaviors. Health promotion programs that help clarify and emphasize personal intentions can enhance intrinsic motivation and increase long term behavior change.

When this approach is utilized, the necessary first step is to start with building the individual's identity: "I am a person who cares about my health."²⁷ Helping people identify the rewards that work for them will help them move from extrinsic to intrinsic motivation.

Practical Examples

A telephonic wellness coach working in your program can focus on the individual's identity as a person who cares about his or her health. As part of the coaching process, motivational interviewing techniques can be used to help uncover personal intentions and to

Figure 3

Help to Identify Personal Intentions and Benefits
Provide "How To" Health Knowledge
Promote Self-Mastery
Foster a Sense of Belonging and Recognition
Harness the Power of Others
Identify Action Steps
Support the Creative Process
Make Change "Fun"

revisit them throughout the coaching process.²⁸ Program communication messages can include, "This is for you and what you want to accomplish with your health." In all wellness program communication and incentive communication, always highlight the personal benefits of meeting the qualifying behaviors for the incentive program. Another example involves incorporating the individual employee's personal wellness goals into the criteria that are used to qualify for the incentive reward.

Provide "How-To" Health Knowledge

Education that frames choices is among one of the most important factors in shaping an individual's decision-making process. Logically, knowledge is the gateway to behavioral change because it precedes and informs the motivation to change behavior. Knowledge about potential health risks may be necessary to initiate the self-regulatory processes that lead to an appropriate behavioral response.²⁹ For example, a study of a simple health behavior—receiving flu shots—found that patients with no prior immunization history were more likely to have the shot only when given an informational brochure, and not when given an incentive.³⁰ When faced with health issues, people seek out information, increasingly through online sources.^{31,32} In some cases, simply receiving needed information can be a powerful factor in motivating behavior change. Of course, people often know they are making poor choices, and yet make them anyway. However, knowledge and comprehension of choices are often prerequisites to successful behavior change.³³

Outcomes are likely to improve if programs move beyond educating about facts to *knowledge management*, or the provision of information in directly applicable form. Knowledge management educates for action, providing a "how-to" of behavior change. For example, milk is the single largest source of saturated fat in the American diet. Is it enough to tell people that fact? Instead, one study gave people a specific plan: "Next time you reach for milk at the grocery store, get 1% instead of whole."³⁴ The campaign included commercials pointing out that one glass of whole milk has as much saturated fat as five strips of bacon. Before the campaign, low-fat milk sales were at 18%; after the campaign, they were at 41%, and even later, still at 35%. In addition to a fact, a simple, specific plan was passed along, and major, sustained changes in health behavior resulted.

Research studies demonstrate the importance of knowledge management in health behavior change. A short intervention³⁵ in a school-based nutrition program was presented in two 30-minute

sessions over 1 week. Significant posttest improvements occurred in knowledge, intention to eat fewer fried foods and fewer sweets, looking more at food labels, and limiting TV watching. A systematic review sponsored by the U.S. Preventive Services Task Force found that even brief behavioral counseling interventions reduced the number of drinks taken by problem drinkers by 13% to 34% for as long as 4 years.³⁶ And a 2003 review commissioned by the U.S. Department of Health and Human Services found that “counseling and behavioral interventions showed modest weight loss sustained over at least one year in obese adults.”³⁷

An important part of building knowledge is the packaging of information in usable chunks. A great wealth of evidence indicates that spacing out presentation of information over time produces much better performance than presenting it once for the same amount of time.³⁸ In general, shorter practice sessions spaced widely apart produce the best effects for long-term retention. In many cases, two spaced presentations are about twice as effective as two massed presentations.³⁹ Other studies have also shown that testing can be a means of improving learning, not just of assessing its results. The simple act of practicing recall can boost your ability to retrieve the information later.⁴⁰ Recall is a means of motivating and improving mastery of the material through the benefits of practice, so that the material is more accessible in memory. As a result, testing incorporated into learning has the benefit of preparing the learner to recall and make use of the information at later times.

Practical Examples

The use of online learning modules on wellness and consumer health topics can be used with brief quizzes that are connected to an incentive. Practice vignettes for medical self-care can be used to help provide how-to knowledge. Watching a brief video that portrays how a patient talks with his or her doctor can be used to enhance a patient’s sense of knowledge regarding health care use. Listening to a sample wellness coaching call can help individuals choose to utilize a wellness coach. In all communication within the program, emphasize that the wellness program, and specifically the incentive program, is expected to be a permanent fixture, and suggest that the individual can get the most personal benefit by participating.

Promote Self-Mastery

This approach emphasizes acquiring greater personal control over one’s behavior, and helping to increase personal satisfaction levels by being able to more successfully control basic impulses and behaviors. The concept of greater mastery over one’s own behavior can be integrated into the wellness program’s philosophy and goals in order to make this connection more explicit. The advantage of this approach is that it can potentially have other spillover effects by providing a higher level of sustained behavior change over time.

One of the most rewarding personal outcomes is to successfully overcome a difficult challenge. Identifying a personal challenge, such as completion of a fun run or triathlon, to take on as a goal often heightens and crystallizes the individual’s motivation. This type of intrinsic motivation is catalyzed by striving for a greater level of accomplishment than one has achieved in the past. Setting goals provides a declaration of intent that helps to motivate towards achievement. Challenge participants to accomplish their own fitness

or weight loss goals, or to improve their health screening scores by next year. Encourage participation and completion of a fun run. Get people to think about what personal health and fitness goals are important to them, and then stress the reward of meeting that personal challenge. This personal reward has no cost, and can act as a source of reinforcement for specific actions. Challenges engage the employee’s inner motivation and struggles, leading to a personal story of accomplishment.

Practical Examples

Helping individuals formulate wellness goals as part of a coaching process is a prerequisite for this strategy. Other examples of this type of program strategy include conducting workshops on techniques for increasing self-control of impulses. Self-esteem workshops also emphasize the importance of self-determination in increasing self-control. Program communication messages that emphasize personal wellness goals is another way to advance this strategy.

Foster a Sense of Belonging and Recognition

The personal sense of value that is derived from being a part of a program is the primary intrinsic motivation referred to as “belonging.”⁴¹ As a basic need for all human beings, the sense of belonging can sustain motivation beyond the point of flagging interest. This strategy includes the affiliation with others based on a common purpose or level of achievement. Status is associated with belonging and is usually highly valued by participants. Visible evidence of membership in a fitness program, such as a branded T-shirt, is a good example of this type of motivational strategy. Providing monogrammed sweats or shirts for all program participants is another example; when the sweats or shirts are worn, the internalization of the group’s values begins.

One way to increase feelings of belonging is to recognize group members for their achievements. Many programs use concrete symbols of membership status, such as program T-shirts or milestone decals or pins, as inducements for accomplishment. Some of the more traditional approaches include certificates of achievement; being singled out for special comments and accolades; and being written up in a work publication that acknowledges a special wellness achievement such as becoming tobacco free, losing a significant amount of weight and then maintaining the loss, participating in a triathlon or marathon, climbing a mountain, or completing a long bike trip or sea kayak trip. Recognition is almost universally appreciated and powerful as a source of motivation.

Fostering a sense of belonging and recognition can include providing the opportunity for participants to “make a difference” through their involvement in programs. This encourages participants to take part by advising, assisting, or mentoring others in program activities, and can provide a direct reward as a result of their personal involvement. A sense of accomplishment from making a contribution can enhance personal satisfaction and improve mood in the workplace.⁴² This strategy of “doing good” can also help build stronger cultural affiliation and support for the program. By providing information on group success, and combining goals such as fund raising for a known charity, people can also take pride in their personal contributions to the program.

Practical Examples

Possibilities include use of peer leaders or mentors in training sessions, an employee advisory board to help refine the program's direction and policies, and use of wellness mentors to provide a peer support opportunity for those who want to successfully make a specific health behavior change. Program communications can include messages emphasizing the value of belonging and recognizing the contributions of others to the program. A wellness program intervention can be used to raise money for a recognized charity.

Harness the Power of Others

Observational learning is a key component of much of the day-to-day learning that guides our behavior in life.⁴³ As we observe others' actions, we mirror them internally through mental simulation of the activity. For example, watching a child eat an ice cream cone, we can imagine the sense of pleasure with the taste, along with a poignant sense of loss when the cone is suddenly dropped. We understand and empathize with other's feelings by experiencing them within our own minds.⁴⁴ Seeing what happens to others, hearing their stories, and watching scenarios of their experiences can help us feel more familiar with new situations. Our brains function to take advantage of our witnessing someone else's life experiences.⁴⁵

So, a very useful strategy in learning is to present instruction in concrete forms designed to depict others' experiences. Through multimedia demonstrations like video and audio recordings, we can virtually experience the life events and emotional reactions of others. Although an ad depicting the dangers of smoking may be compelling, seeing the video story of the 20-year-old son missing his mother who died of lung cancer can provide a more powerful influence. Narratives are powerful sources for meaning making.^{46,47} "Personalization" of instructional materials to present first-person experiences appears to benefit the learner on a variety of motivational measures.⁴⁸ For example, watching videos of others taking the time to consider their health behaviors may encourage the learner by demonstrating how others meet similar goals. More specific, tailored interventions may help to personalize goals.⁴⁹

In fact, recent studies of behavior change have shown that behavior change occurs simply by providing information about what other people are doing. Recent studies have examined specific consumer behaviors around energy use, such as the reduction in electricity use within the home, reusing linens in hotels, and littering in public places. They found that giving people specific, normative information that relates to them works to motivate changes in behavior.⁵⁰ In one study, hotel guests were told, "75% of our guests use their towels more than once." This targeted message alone resulted in more guests using their towels more than once. But the biggest changes happened when the information referred to people just like "you"—your neighbors! In a home energy use study, flyers with comparative information on neighbors' energy use were distributed to homes within a subdivision. Homes that used more power than average changed their energy consumption over the following months to be more in line with the neighborhood.⁵¹ These interventions involved solely information about the behavior choices of "others like you," and produced measurable changes in behavior. These principles have also been successfully applied in influencing physician practice patterns.

Practical Examples

Watching a video of how to interact with one's physician with discussion of the value of the demonstrated behavior is an example of this strategy. Another example is using an MP3 file on an eHealth portal that includes the content of a couple of sequential wellness coaching calls. Additionally an online HRA summary page can utilize "what-if" toggles in which an individual can assess the effects of specific health behavior changes, such as quitting smoking, on his or her own cardiovascular disease risk or cancer risk. In addition to the individual's financial reward create a desirable group competition incentive reward to reinforce peer support. Use percentage participation by size of unit and then move to add average number of criteria met.

Identify Action Steps

Once new information is acquired, it must be put into action to be useful. It is not a trivial undertaking to apply new health promotion information to your behavior. The best time, place, needed resources, and methods for putting information to use may not be apparent. It is critical that planning for its implementation takes place during learning. When we want to make a change, we can often identify what we need to do to make it happen. We can form intentions for our future behavior, and imagine what will follow. But specific plans are needed on how to initiate new behaviors. Research shows you are more likely to be successful if you plan some specific behaviors you can do that will help lead to the outcomes you want.⁵² In fact, behavior change has been shown to be much more likely if specific action plans are provided.⁵³

Behavioral studies demonstrate the impact of very specific instructions on creating new behaviors. In one study, college students were asked to bring canned food to a booth on "Tressider Plaza." Only 8% showed up with a contribution. Other students were asked instead to "bring a can of beans, and think of a time when you will be nearby the drop-off booth to conveniently stop by." These very specific instructions led to a 42% donation rate! Providing specific, concrete suggestions, and helping people anticipate how to act on them, greatly improved outcomes. In our own research, asking people to plan ahead about what they need to perform the behavior, and when they will do so, led to a 50% improvement in their remembering to perform the behavior.⁵⁴ Providing specific direction places an "action trigger" in memory, so that the planned behavior can be spurred by cues in the world.

This approach has already been shown to be effective with selected health behaviors. A study of hip and knee replacement patients showed that simply asking them to plan when they would perform specific health behaviors cut their recovery time in half. Setting action triggers to remind them to follow their intended behaviors, such as when and where they would take a walk in the next week, led to faster recovery.⁵⁵ A meta-analysis of 8155 participants in 85 studies found that those who set up action triggers for their behavior changes performed better than 74% of the people on the same task who did not develop specific action plans.⁵⁶ For example, a 2010 study followed women for 2 years, measuring their consumption of fruits and vegetables using food diaries.⁵⁷ Half of the women were informed about the importance of consuming more fruits and vegetables, and the other half were informed and then asked to plan how they would accomplish this increased level of consumption. Both groups

improved their intake over the first 4 months (from less than half to one serving per day). But by setting their action triggers in advance, the planning group maintained a higher intake up to 2 years later, whereas the information-only group returned to their baseline levels. Adding instructions on planning very specific action steps greatly increased the effectiveness for long-term behavior change.

Practical Examples

Having a wellness coach assist in the development of an action plan for increasing the individual's level of physical activity is one example of this programming strategy. Another example is the inclusion of a detailed action planning sequence in an online lifestyle improvement program, or the inclusion of that action planning sequence in a self-guided change booklet on stress management practices. Having program communications recommend the establishment of personal wellness goals and an action plan for achieving the goals is another way to enhance intrinsic motivation and improve behavioral change success.

Support the Individual's Creative Process

By encouraging people to take personal ownership of their health, the wellness program can provide an outlet for individuals to express themselves and their values through the choices they make. Participants can express their personal creativity in the ways they choose to participate, and involve themselves and their families in "their" wellness program. Some people enjoy expressing their creative abilities,⁵⁸ and wellness programs can benefit by maximizing the opportunities for employees to identify and establish their own personal take on what works for them. The advantages of this strategy are that it is inexpensive, it makes use of the creative potential of the group to invent effective solutions to the health challenges faced at a worksite by other employees, and it can reinforce more of the quality-of-life types of issues in programming.

Another potential advantage of this strategy is that depending on what the creative opportunity involves, it can also reinforce a greater sense of ownership and personal connection to the program. Whereas the wellness program can be a standardized offering, the program pursued by each employee can be completely personalized, including time, attire, activity, location, and effort. Rather than providing a rote "script," encourage the "art" of healthy living, and acknowledge the many individual differences that go into devising a healthier lifestyle that works for each individual. What exactly is a "healthier lifestyle?" It depends on your starting point, resources, and imagination to create the changes that are possible for you. It also helps to celebrate the small successes we make in improving our lifestyles. This is individual, creative, and very thoughtful work. Wellness programs need to support every employee in each small step they take to become "healthier."

Practical Examples

Some examples for this programming strategy include conducting a healthy recipe contest with a cook-off and "taste-off," with the winners receiving clear recognition for their accomplishments. Offer a writing opportunity for use with a wellness blog that includes publication of personal stories of how individuals are choosing to "make health happen." Using as one of several wellness criteria a requirement for writing out your own journey to a healthier lifestyle is another example of this programming strategy.

Make Change Fun

Behavioral studies show the addition of appropriately designed motivational embellishments to a learning activity—controlling for cognitive factors—produces corresponding increases in learning from the activity.⁵⁹ In school studies, both boys and girls showed significant, and equally large, preferences for a motivationally embellished "game" version over the relatively unadorned "drill" version of math activities.⁶⁰ Furthermore, game-based instruction raised students' subsequent interest in the subject matter itself.⁵⁹ Adding the game element to the instruction led to direct enhancement of interest and learning. Wellness programs can utilize this programming strategy for enhancing intrinsic motivation by offering humor, fun, and lightness as a part of learning.

Malone and Lepper⁶¹ identified four basic sources of internal motivation—challenge, curiosity, control, and fantasy—each of which might be targeted by a wellness program. Humor, along with factors like surprise and attractive design, is a very effective motivator in facilitating behavior change.⁶² Humor is also highly valued by most people and a wonderful anecdote to the usual seriousness of work life. It attracts people and helps bring them back, and so it can be a positive and popular part of wellness programming.

Consider Volkswagen's experiment to see if making stairs more fun would spur subway riders to take them instead of the escalator.⁶³ When ordinary stairs within a Stockholm subway station were changed into ones that functioned as piano keys, a 66% increase in the use of stairs resulted. Fun is a wonderful source of motivation for desirable behaviors that are also health promoting.

Practical Examples

Some examples of this strategy include providing workshops on humor in the workplace, providing a "game show" contest to test knowledge of health, or creating a quality of life-oriented approach to cultivating a sense of humor. Placing cartoons with a health message on a special area of Web sites or bulletin boards with links to wellness program announcements is another example. Including the use of "new" games at the start of a workshop on resilience as an icebreaker or new experience for participants is another possibility.

Conclusion

We believe that health promotion and wellness programs have been successful in motivating people to participate by providing incentives to get them started. This first step in behavior change is often the hardest, and the use of incentives to motivate adoption of new behaviors has been promising. Extrinsic incentives are needed to help people begin new behaviors that don't necessarily feel good on their own, or have benefits that may be abstract or too distant. Applying extrinsic incentives has worked well at getting people into health promotion and wellness programs and at getting participation rates up significantly.

We believe that the next important step for health promotion and wellness practitioners is to fully or partially wean people from extrinsic incentives by helping them notice and appreciate the intrinsic value of these health behaviors. With the wealth of findings from the behavioral sciences, we know how to enhance intrinsic motivation that will lead to long-term behavior change. Together with providing knowledge, examples, action steps, and some fun, this approach has the potential to lead employees towards developing their own reasons

and rewards for improving their health. Increasing the variety of features within a wellness program may have the potential to enhance intrinsic motivation. Furthermore, these intrinsic motivators may be much more likely to last through the experiential period needed for adoption of long-term behavior change.

Colleen M. Seifert, PhD, is Arthur F. Thurnau Professor and Professor of Psychology, Department of Psychology, University of Michigan, Ann Arbor, Michigan. Larry S. Chapman, MPH, is President and CEO, Chapman Institute, Lake Forest Park, Washington. Joseph K. Hart, JD, is with Asset Health Inc., Troy, Michigan. Paul Perez, CWPC, PCC, is in Edmonds, Washington.

References

- Motivation. Available at: http://en.wikipedia.org/wiki/Intrinsic_motivation#Intrinsic_motivation. Accessed October 17, 2011.
- 15th Annual National Business Group on Health, Towers Watson. *Survey on Purchasing Value in Health Care*. New York, NY: Towers Watson; 2010.
- Bruno J. Health Promotion Strategies That Promote Participation. Presented at the 15th American Journal of Health Promotion Annual Conference; March 18, 2005; San Francisco, Calif.
- Chapman L, Whitehead D, Connors M. The changing role of incentives in health promotion and wellness. *Am J Health Promot*. 2009;23(1):1-12.
- Kane RL, Johnson PE, Town RJ, Butler M. A structured review of the effect of economic incentives on consumers' preventive behavior. *Am J Prev Med*. 2004;27:327-352.
- Curry SJ, Wagner EH, Grothaus LC. Evaluation of intrinsic and extrinsic motivation interventions with a self-help smoking cessation program. *J Consult Clin Psychol*. 1991;59:318-324.
- Follick MJ, Fowler JL, Brown RA. Attrition in worksite weight-loss interventions: the effects of an incentive procedure. *J Consult Clin Psychol*. 1984;52:139-140.
- Butler KM. Instead of cash wellness incentives/penalties, try piano stairs. *Employee Benefit News*. May 24, 2010;3-4.
- Ibid., 2010.
- Baum WM. *Understanding Behaviorism: Science, Behavior, and Culture*. New York, NY: HarperCollins College Publishers; 1994.
- Pink DH. *Drive: The Surprising Truth About What Motivates Us*. New York, NY: Riverhead Books; 2009.
- Ariely D, Gneezy U, Loewenstein G, Mazar N. Large stakes and big mistakes. *Rev Econ Stud*. 2009;76:451-469.
- Irlenbusch B. When performance-related pay backfires. London School of Economics Department of Management. 2011. Available at: <http://www2.lse.ac.uk/newsAndMedia/news/archives/2009/06/performancepay.aspx>. Accessed October 17, 2011.
- Lepper M, Greene D, Nisbett R. Undermining children's intrinsic interest with extrinsic rewards: a test of the "overjustification" hypothesis. *J Pers Soc Psychol*. 1973;28:129-137.
- Deci EL. Effects of externally mediated rewards on intrinsic motivation. *J Pers Soc Psychol*. 1971;18:105-115.
- Festinger L. *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press; 1957.
- Ibid., 1985.
- Schuetzler D, Kiviniemi M. Does how I feel about it matter? The role of affect in cognitive and behavioral reactions to an illness diagnosis. *J Appl Psychol*. 2006;36:2599-2618.
- Bandura A. Self-efficacy: toward a unifying theory of behavioral change. *Psychol Rev*. 1977;84:191-215.
- Kuhl J, Beckman J, eds. *Action-Control: From Cognition to Behavior*. Heidelberg, Germany: Springer.
- De Vries H, Dijkstra M, Kuhlman P. Self-efficacy: the third factor besides attitude and subjective norm as a predictor of behavioral intentions. *Health Educ Res*. 1988;3:273-282.
- Booth-Butterfield S, Reger B. The message changes belief and the rest is theory: the "1% or Less" milk campaign and reasoned action. *Prev Med*. 2004;39:581-588.
- Ryan RM, Deci EL. Intrinsic and extrinsic motivations: classic definitions and new directions. *Contemp Educ Psychol*. 2000;25:54-67.
- Palmeira AL, Teixeira PJ, Branco TL, et al. Predicting short-term weight loss using four leading health behavior change theories. *Int J Behav Nutr Phys Act*. 2007;4:14.
- Deci EL, Ryan RM. The "what" and "why" of goal pursuits: human needs and the self-determination of behavior. *Psychol Inq*. 2000;11:227-268.
- Webb TL, Sheeran P. Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. *Psychol Bull*. 2006;132:249-268.
- March J. *A Primer on Decision Making: How Decisions Happen*. New York, NY: Free Press; 1994.
- Miller WR. Motivational interviewing in service to health promotion. *Am J Health Promot*. 2004;18(3):1-12.
- Rothman AJ, Kiviniemi MT. Treating people with information: an analysis and review of approaches to communicating health risk information. *J Natl Cancer Inst Monogr*. 1999;25:44-51.
- Moran WP, Nelson K, Wofford JL, et al. Increasing influenza immunization among high-risk patients: education or financial incentive? *Am J Med*. 1996;101:612-620.
- Cline RJW, Haynes KM. Consumer health information seeking on the Internet: the state of the art. *Health Educ Res*. 2001;16:671-692.
- Hu Y, Sundar SS. Effects of online health sources on credibility and behavioral intentions. *Commun Res*. 2010;37:105-132.
- Heath C, Heath D. *Switch: How to Change Things When Change Is Hard*. New York, NY: Broadway Books; 2010.
- Booth-Butterfield S, Reger B. The message changes belief and the rest is theory: the "1% or Less" milk campaign and reasoned action. *Prev Med*. 2004;39:581-588.
- Aboud DA, Black DR, Coster DC. Evaluation of a school-based teen obesity prevention minimal intervention. *J Nutr Educ Behav*. 2008;40:168-174.
- Whitlock EP, Polen MR, Green CA, et al. Behavioral counseling interventions in primary care to reduce risky/harmful alcohol use by adults. *Ann Intern Med*. 2004;140:558-569.
- US Preventive Services Task Force. Screening for obesity in adults: recommendations and rationale. *Ann Intern Med*. 2003;139:930-932.
- Cepeda NJ, Pashler H, Vul E, et al. Distributed practice in verbal recall tasks: a review and quantitative synthesis. *Psychol Bull*. 2006;132:354-380.
- Hintzman DL. Theoretical implications of the spacing effect. In: Solso RL, ed. *Theories in Cognitive Psychology: The Loyola Symposium*. Potomac, MD: Erlbaum; 1974:77-99.
- Carrier M, Pashler H. The influence of retrieval on retention. *Mem Cogn*. 1992;20:633-642.
- Baumeister RF. The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychol Bull*. 1991;117:497-529.
- George JM, Brief AP. Feeling good-doing good: a conceptual analysis of the mood at work-organizational spontaneity relationship. *Psychol Bull*. 1992;112:310-329.
- Bandura A. *Social Learning Theory*. Englewood Cliffs, NJ: Prentice-Hall; 1977.
- Preston SD, de Waal FBM. Empathy: its ultimate and proximate bases. *Behav Brain Sci*. 2002;25:1-71.
- Iacoboni M. *Mirroring People: The New Science of How We Connect to Others*. New York, NY: Farrar Straus & Giroux; 2002.
- Bruner J. *Making Stories*. New York, NY: Farrar, Straus, and Giroux; 2002.
- Jackson PW. On the place of narrative in teaching. In: McEwan H, Egan K, eds. *Narrative in Teaching, Learning, and Research*. New York, NY: Teachers College Press; 1995:3-23.
- Hawkins RP, Kreuter M, Resnicow K, et al. Understanding tailoring in communicating about health. *Health Educ Res*. 2008;23:454-466.
- De Vries H, Kremers S, Smeets T, et al. The effectiveness of tailored feedback and action plans in an intervention addressing multiple health behaviors. *Am J Health Promot*. 2008;22:417-425.
- Cialdini RB. *Influence: The Psychology of Persuasion*. New York, NY: Harper Collins; 2006.
- Nolan JM, Schultz PW, Cialdini RB, et al. Normative social influence is underdetected. *Pers Soc Psychol Bull*. 2008;34:913-923.
- Patalano AL, Seifert CM. Opportunistic planning: being reminded of pending goals. *Cogn Psychol*. 1997;34:1-36.
- Gollwitzer PM. Implementation intentions: strong effects of simple plans. *Am Psychol*. 1999;54:493-503.
- Seifert CM, Patalano AL. Opportunism in memory: preparing for chance encounters. *Curr Dir Psychol Sci*. 2001;10:198-201.
- Orbell S, Sheeran P. Motivational and volitional processes in action initiation: a field study of the role of implementation intentions. *J Appl Soc Psychol*. 2000;30:780-797.
- Gollwitzer P, Sheeran P, Webb TL. Implementation intentions and health behaviors. In: Connor M, Norman P, eds. *Predicting Health Behavior: Research and Practice With Social Cognition Models*. 2nd ed. Buckingham, UK: Open University Press; 2005:780-797.
- Stadler G, Oettingen G, Gollwitzer PM. Intervention effects of information and self-regulation on eating fruits and vegetables over two years. *Health Psychol*. 2010;29:274-283.
- Sternberg RJ, Lubart TL. *Defying the crowd: cultivating creativity in a culture of conformity*. New York, NY: Free Press; 1995.
- Lepper MR. Motivational considerations in the study of instruction. *Cogn Instr*. 1988;5:289-309.
- Cordova D, Lepper M. Intrinsic motivation and the process of learning: beneficial effects of contextualization, personalization, and choice. *J Educ Psychol*. 1996;88:715-730.
- Malone TW, Lepper MR. Making learning fun: a taxonomy of intrinsic motivations for learning. In: Snow RE, Farr MJ, eds. *Aptitude, Learning, and Instruction: Cognitive and Affective Process Analyses*. Hillsdale, NJ: Erlbaum; 1987:223-253.
- Dalton A. Fun for a change. *Stanford Soc Innov Rev*. 2010;8:63-65.
- Volkswagen. Piano staircase [video]. Available at: www.thefuntheory.com. Accessed October 19, 2011.

Selected Abstracts

Keeping Women Active: An Examination of the Impacts of Self-Efficacy, Intrinsic Motivation, and Leadership on Women's Persistence in Physical Activity.

Lloyd KM, Little DE.

Physical inactivity in women is a worldwide problem that has not only been well-documented but has provoked much government concern and policy activity. However, an even more important issue is encouraging women's persistence in physical activity. The purpose of this study was to examine the links between women's experiences of participation in a government-funded physical activity festival, their intentions to continue participation, and their participation behavior six months after the festival. Results from semi-structured, in-depth interviews with 20 women revealed that enhanced self-efficacy, intrinsic motivation, and supportive leadership had motivated the women's future intentions to participate. Follow-up surveys showed their levels of interest and participation in physical activity had been maintained. These results enhance our understanding of the relationship between key outcomes of women's physical activity participation and their persistence in physical activity.

Women Health. 2010;50:652-669.

Exercise Motivation of College Students in Online, Face-to-Face, and Blended Basic Studies Physical Activity and Wellness Course Delivery Formats.

Sidman CL, Fiala KA, D'Abundo ML.

OBJECTIVE: The purpose of this study was to assess exercise motivation among college students self-selected into 4 online (OL) and face-to-face (F2F) basic studies' physical activity and wellness course delivery formats. PARTICIPANTS/METHODS: Out of 1,037 enrolled students during the Spring 2009 semester, 602 responded online to demographic questions and to the Behavioural Regulation in Exercise Questionnaire, which assessed exercise motivation on 5 subscales. RESULTS: There were no significant differences ($p > .05$) in exercise motivation for students across course delivery formats, but there was a significant difference in age and employment status between the completely OL and F2F course formats. CONCLUSIONS: Health and physical educators can utilize these findings to better understand that physical activity and wellness students are not necessarily trying to avoid physical activity when selecting the OL course format, but are more likely trying to balance work and school responsibilities and need greater flexibility in time and location.

J Am Coll Health. 2011;59:662-664.

Motivational "Spill-Over" During Weight Control: Increased Self-Determination and Exercise Intrinsic Motivation Predict Eating Self-Regulation.

Mata J, Silva MN, Vieira PN, Carraça EV, Andrade AM, Coutinho SR, Sardinha LB, Teixeira PJ.

OBJECTIVE: Successful weight management relies on at least two health behaviors, eating and exercise. However, little is known about their interaction on a motivational and behavioral level. Based on the Hierarchical Model of Motivation the authors examined whether exercise-specific motivation can transfer to eating regulation during a lifestyle weight control program. The authors further investigated whether general, treatment-related, and exercise motivation underlie the relation between increased exercise and improved eating regulation. DESIGN: Overweight/obese women participated in a 1-year randomized controlled trial (N = 239). The intervention focused on promoting physical activity and internal motivation for exercise and weight loss, following Self-Determination Theory. The control group received general health education. MAIN OUTCOME MEASURES: General and exercise specific self-determination, eating self-regulation variables, and physical activity behavior. RESULTS: General self-determination and more autonomous exercise motivation predicted eating self-regulation over 12 months. Additionally, general and exercise self-determination fully mediated the relation between physical activity and eating self-regulation. CONCLUSION: Increased general self-determination and exercise motivation seem to facilitate improvements in eating self-regulation during weight control in women. These motivational mechanisms also underlie the relationship between improvements in exercise behavior and eating regulation.

Health Psychol. 2009;28:709-716.

Older Adults' Intrinsic and Extrinsic Motivation Toward Physical Activity.

Dacey M, Baltzell A, Zaichkowsky L.

OBJECTIVES: To examine how motives discriminate 3 physical activity levels of inactive, active, and sustained maintainers. METHODS: Six hundred forty-five adults (M age = 63.8) completed stage-of-change and Exercise Motivations Inventory (EMI-2) scales. Exploratory factor analysis established psychometric properties of the EMI-2 suitable for older adults. RESULTS: Six factors emerged in the EMI-2: health and fitness, social/emotional benefits, weight management, stress management, enjoyment, and appearance. Enjoyment contributed most to differentiating activity levels. Moderators of age and gender were delineated. CONCLUSIONS: Intrinsic motivation and self-determined extrinsic motivation distinguish older adults' activity levels.

Am J Health Behav. 2008;32:570-582.

The Effects of Choice on Intrinsic Motivation and Related Outcomes: A Meta-Analysis of Research Findings.

Patall EA, Cooper H, Robinson JC.

A meta-analysis of 41 studies examined the effect of choice on intrinsic motivation and related outcomes in a variety of settings with both child and adult samples. Results indicated that providing choice enhanced intrinsic motivation, effort, task performance, and perceived competence, among other outcomes. Moderator tests revealed the effect of choice on intrinsic motivation was

stronger (a) for instructionally irrelevant choices compared to choices made between activities, versions of a task, rewards, and instructionally relevant options, (b) when 2 to 4 successive choices were given, (c) when rewards were not given after the choice manipulation, (d) when participants given choice were compared to the most controlling forms of control groups, (e) for children compared to adults, (f) for designs that yoked choice and control

conditions compared to matched designs in which choice was reduced or designs in which non-yoked, non-matched controls were used, and (g) when the experiment was conducted in a laboratory embedded in a natural setting. Implications for future research and applications to real-world settings are discussed.

Psychol Bull. 2008;134:270–300.

Closing Thoughts

By Larry S. Chapman, MPH



Motivation is at the heart of health promotion and wellness. We cannot overestimate its importance. The authors in this edition of *The Art of Health Promotion* make a strong case for adding programming modifications so that we capitalize on the effect of the extrinsic incentives we use and, at the same time, enhance intrinsic motivation to the greatest extent we can achieve. I believe that

this makes a lot of sense.

At the same time, I don't view incentives the same way that many of my colleagues do. That shouldn't be a surprise to anyone. Here are some of my reasons:

1. **Intrinsic and extrinsic motivation represent a false dichotomy.** I believe that this false dichotomy comes from our inability to correctly identify the interrelationships and fluidity between intrinsic and extrinsic motivation. Extrinsic motivation can become intrinsic motivation and vice versa. This happens through learning and experience, and I believe it is a much more fluid situation than we recognize. My own reasons for doing a particular thing always seem to vacillate between internal and external factors.
2. **There seems to be a relatively strong bias against anything that smacks of behaviorism.** Incentives always seem to be panned by psychological and behavioral research. We also seem to use a great deal of research on young children performing meaningless tasks for minor incentive rewards as inherently valid for application to working adults. Yet our global markets operate with enormous numbers of incentives at all levels. Meanwhile, the "research" says they don't "work." Seems like a contradiction to me.

3. **People often decry the cost of incentives as being infeasible.** I often hear the view that you shouldn't use incentives because they will have to be increased over time and they imbalance the economic return associated with health promotion and wellness. My response has always been to recommend using employee dollars to finance the wellness incentive, ideally in the form of increased premium contributions for health plan coverage, and then waiving or "forgiving" them for wellness participation and achievements. This approach eliminates any cost associated with incentives. The employer still pays all the costs of the wellness program itself.
4. **Some things will always need "incentives."** The view that we should always try and wean people off incentives over time is a popular one. Yet if we consider our financial compensation for working as an employee as an incentive, I personally don't see a time when we can stop paying people and still expect them to come to work. In fact, I see wellness behavior as very similar to work behavior. I believe that we will ultimately have to pay people to do wellness, even if we pay them with their own money.
5. **Wellness needs to be a regular choice or option.** All of the various behaviors of wellness need to clearly be a choice for each individual, but we will still need a periodic nudge to engage. I believe every individual, regardless of age, needs at least once a year to have a meaningful opportunity to "get on the wellness bus." In order to make that opportunity meaningful, I think it will have to be associated with \$500 to \$2500 of value.

Intrinsic is good, but I don't believe wellness behaviors will happen without at least an annual meaningful extrinsic incentive for the vast majority of our populations.

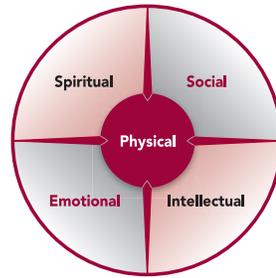
Larry S. Chapman, MPH, is Editor of The Art of Health Promotion.

The Wisdom of Practice and the Rigor of Research

Online subscriptions now available

Definition of Health Promotion

“Health Promotion is the art and science of helping people discover the synergies between their core passions and optimal health, enhancing their motivation to strive for optimal health, and supporting them in changing their lifestyle to move toward a state of optimal health. Optimal health is a dynamic balance of physical, emotional, social, spiritual, and intellectual health. Lifestyle change can be facilitated through a combination of learning experiences that enhance awareness, increase motivation, and build skills and, most important, through the creation of opportunities that open access to environments that make positive health practices the easiest choice.”



DIMENSIONS OF OPTIMAL HEALTH

(O'Donnell, *American Journal of Health Promotion*, 2009, 24,1,iv)

THE SCIENCE OF HEALTH PROMOTION
REFLECTIONS ON THE 25TH ANNIVERSARY OF PUBLISHING THE AMERICAN JOURNAL OF HEALTH PROMOTION
Michael P. O'Donnell

Editor's Note: Reflections on the 25th Anniversary of Publishing the *American Journal of Health Promotion*: People, Scientific Progress, and Missions
From Founding Members of the *American Journal of Health Promotion* Editorial Board

Barry A. Franklin
Ron Z. Goetzel
Lawrence W. Green
Melissa Grim
Brian Horze
Rick Penno
Ellenor K. Olander
Frank E. Eyes
Marlene M. Zakman
Nancy McNeelin
Debra Beaudry
Sheree M. Schrage
Caroly E. Wong
Laura Rosen
David Zucker
David Brody
Christine E. Cook
Raymond G. Hoffman
Mary J. Mueller
Ana D. Good
Elizabeth A. H. Winkler
Shelagh P. Lander
LeeAnn M. Wilson
Billie Giles-Corti
Nicola W. Burton
Nore C. Crepsio
James F. Sallis
Terry L. Coanson
Laura C. Williams
Brian E. Day

211
217
227
231
237
244
248
250
257
257
257
264
264
272
281
287

Systems Thinking and Health Promotion
Health Implications of Low Cardiorespiratory Fitness, Too Little Exercise, and Too Much Sitting Time: Changing Paradigms and Perceptions
Reflections on 25 Years of Health Promotion—Where Have We Been and Where Are We Going?
What Has Changed Most Dramatically Since the Inauguration of the *American Journal of Health Promotion*?
Impact Evaluation of a Pilot Web-Based Intervention to Increase Physical Activity
Effectiveness and Cost of Two Stair-Climbing Interventions—Less Is More
Effects of Resistance Training on Functional Ability in Elderly Individuals
Human Immunodeficiency Virus Testing and Risk Behaviors Among Men Who Have Sex With Men in Los Angeles County
Enabling Hygienic Behavior Among Preschoolers: Improving Environmental Conditions Through a Multifaceted Intervention
Effects of a Culturally Tailored Intervention on Changes in Body Mass Index and Health-Related Quality of Life of Latino Children and Their Parents
A Telephone-Delivered Physical Activity and Dietary Intervention for Type 2 Diabetes and Hypertension: Does Intervention Dose Influence Outcomes?
The Association Between Objectively Measured Neighborhood Features and Walking in Middle-Aged Adults
Worksite Physical Activity Policies and Environments in Relation to Employee Physical Activity
Medical Cost Savings for Web-Based Wellness Program Participants From Employees Engaged in Health Promotion Activities
Database: Research and Evaluation Results

The Art of Health Promotion
Mark Northridge
Larry S. Chapman

291
297

Health Promotion in Faith-Based Institutions and Communities

“The *American Journal of Health Promotion* provides a forum for that rare commodity — *practical and intellectual exchange between researchers and practitioners.*”

Kenneth E. Warner, PhD
Dean and Avedis Donabedian Distinguished University Professor of Public Health
School of Public Health, University of Michigan

“The contents of the *American Journal of Health Promotion* are timely, relevant, and most important, *written and reviewed by the most respected researchers in our field.*”

David R. Anderson, PhD, LP
Senior Vice President & Chief Health Officer, StayWell Health Management

Subscribe today...

ANNUAL SUBSCRIPTION RATES: (Effective 1-1-12 through 12-31-12)

	INDIVIDUAL Print + Online	Print Only*	INSTITUTION		
			Tier 1 Print + Online	Tier 2 Print + Online	Tier 3 Print + Online
U.S.	\$139	\$184	\$359	\$459	\$559
Canada and Mexico	\$148	\$193	\$368	\$468	\$568
Other Countries	\$157	\$202	\$377	\$477	\$577

Call 800-783-9913 (U.S. only) or 731-645-4496

*Print-only subscriptions are based on location. For multi-site institutions, each site must have its own subscription.
Tier 1 — Most Employers and Corporations except Health Organizations, Libraries and Schools
Tier 2 — Health Organizations including Hospitals, Clinics, Health Promotion Providers, Insurance Companies and Voluntary Health Agencies
Tier 3 — Libraries, Colleges and Universities

Editor in Chief
Michael P. O'Donnell, PhD, MBA, MPH

Associate Editors in Chief
Margaret Schneider, PhD
Jennie Jacobs Kronenfeld, PhD
Shirley A. Musich, PhD
Kerry J. Redican, MPH, PhD, CHES

SECTION EDITORS
Interventions
Fitness
Barry A. Franklin, PhD
Medical Self-Care
Lucy N. Marion, PhD, RN
Nutrition
Karen Glanz, PhD, MPH
Smoking Control
Michael P. Eriksen, ScD
Weight Control
Kelly D. Brownell, PhD
Stress Management
Cary Cooper, CBE
Mind-Body Health
Kenneth R. Pelletier, PhD, MD (hc)
Social Health
Kenneth R. McLeroy, PhD
Spiritual Health
Larry S. Chapman, MPH

Strategies
Behavior Change
James F. Prochaska, PhD
Culture Change
Daniel Stokols, PhD
Population Health
David R. Anderson, PhD, LP

Applications
Underserved Populations
Antronette K. (Toni) Yancey, MD, MPH
Health Promoting Community Design
Bradley J. Cardinal, PhD
The Art of Health Promotion
Larry S. Chapman, MPH

Research
Database
Leslie Spenser, PhD
Financial Analysis
Ron Z. Goetzel, PhD
Measurement Issues
Shawna L. Mercer, MSc, PhD

Check out our new online format:
<http://www.HealthPromotionJournal.com/online.htm>