Critical Issues and Trends

To Reward?...Or Not To Reward?: Questioning the Wisdom of Using External Reinforcement in Health Promotion Programs

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Positive reinforcement through the use of rewards and incentives is generally accepted as an effective technique to change behavior and is regularly used to help raise children, teach students, and motivate workers. Ironically, research does not support the contention that rewards and incentives promote lasting behavior change. Nevertheless, many health promotion programs, from smoking cessation classes to exercise and weight loss competitions to worksite initiatives for lowering blood pressure and cholesterol have incorporated the use of rewards and incentives to help promote participation and health behavior change.

This article summarizes four major problems associated with the use of positive reinforcement strategies: 1) the improper use of positive reinforcement, 2) the failure to address the underlying causes of problems, 3) the lack of long-term effectiveness of externally applied rewards and incentives, and 4) the potential detrimental effect of such approaches on internal motivation. We place specific emphasis on the implications of these problems for promoting health behavior change, and we discuss future research considerations for health promotion.

BACKGROUND

The principles of behavior modification are most closely identified with the work of B.F. Skinner. According to Skinner, all human behavior can be explained by the principle of “reinforcement.” Behaviors that are followed by rewards (that is, reinforced) are likely to be repeated. Skinner believed that human beings have no free will to act but are merely "repertoires of behaviors" that can be fully explained by the environmental consequences that follow them. This important theory of human behavior was developed by Skinner from research almost exclusively on pigeons, rodents, and dogs. However, he and other behaviorists believe that humans differ from animals only in the kind and sophistication of the behaviors they display. Therefore, "there is no place in the scientific analysis of behavior for a mind or self."¹ In addition to all human behavior, creativity, love, morality,
and freedom are also seen as resulting from series of behaviors selected by the environment.

   Skinner has this to say about love: When two people meet,

   One of them is nice to the other and predisposes the other to be nice to him, and that makes him even more likely to be nice. It goes back and forth, and it may reach the point at which they are very highly disposed to do nice things to the other and not to hurt. And I suppose that is what would be called “being in love.”

**DISCUSSION**

It would be difficult to overstate the extent to which this theory of human behavior has saturated our culture. From enticing children to behave by offering them extra TV time, desserts, and toys to inducing students to learn with stickers, gold stars, and grades to rewarding factory workers and executives with parking places, bonuses, and vacations, the Skinnerian approach to motivation is rarely questioned even though there is little evidence that rewarding people in this manner results in lasting changes in behavior. In his book *Punished By Rewards*, Alfie Kohn summarizes the effects of rewards:

   If your objective is to get people to obey an order, show up on time, and do what they’re told, then bribing or threatening them may be sensible strategies. But if your objective is to get long-term quality in the workplace, to help students to become careful thinkers and self-directed learners, or to support children in developing good values, then rewards, like punishments are absolutely useless.

Many health promotion interventions have incorporated the concept of positive reinforcement through the use of rewards and incentives. A recent nationwide benchmarking study of worksite health promotion programs concluded that most “use some sort of incentive program, especially for joining a program [81%] or successfully completing a behavior change [62%].” Interventions that use a variety of theoretical models include positive reinforcement techniques as an important component of their behavior change strategies. For example, in the transtheoretical model, individuals in the action and maintenance stages use positive reinforcement techniques as a tool for change.

A variety of rewards and incentives have been shown to “significantly affect participation and adherence to a health promotion program.” However, as summarized below, there is little evidence that these techniques promote long-term behavior change. Furthermore, as suggested by the research in other areas where they have been applied, their use may create additional problems as well.

**Improper Use of Positive Reinforcement**

By reinforcing (rewarding) certain behaviors, we can get people to do things that they might not otherwise do. However, health educators often use the principle of reinforcement incorrectly, which results in a failure to achieve the desired behavior change and creates additional problems. In health promotion, the most frequent misuse of reinforcement occurs when it is applied to outcomes rather than behaviors. For example, although rewarding people for losing weight is likely to result in weight loss, it gives no
direction for the development of appropriate behaviors to reach the desired outcome. The methods used by people to reach their goals are likely to be those that are least desired, such as restricting eating, skipping meals, taking laxatives, and exercising excessively. These behaviors are not only unhealthy but may actually contribute to weight gain, the opposite of the originally desired outcome.

Similarly, rewarding workers for lowering their blood pressure or cholesterol as part of a worksite competition or risk-rated insurance plan is a misuse of the principle of reinforcement. As with weight loss, these desired change are outcomes and not behaviors. Because such outcomes are the complicated result of many behaviors over time, as well as genetics and other influences, individuals will have different responses to similar interventions. For employees who fail to reduce their blood pressure or cholesterol levels with a particular intervention the result is likely to be anger, resentment and shame, contributing to a less healthy rather than a more healthy workplace. In addition, these types of outcomes are often strongly influenced by social, cultural and environmental conditions not directly controllable by the individual. In such instances the use of rewards and risk-rating techniques may result in “systemized lifestyle discrimination…under the guise of incentives that encourage health improvement and individual responsibility.”

**Symptom Suppression**
Applying rewards is a simple way to get a child to behave differently, a student to learn more quickly, or a worker to produce more. However, this approach does not place any value on why the problems develop in the first place. Overlooking underlying causes rarely solves problems and may lead to additional ones. If a young child continually wanders out of her room at bedtime, a simple way of dealing with the problem might be to offer her a reward for staying in her room. Yet this would do nothing to rectify potential underlying causes. Perhaps she is being put to bed too early, it is too cold in her room, it is too noisy in nearby rooms, or there is a dinosaur under her bed.

In health promotion, people's "unhealthy" behaviors, such as smoking, drinking, overeating, or not exercising, often represent coping strategies for some kind of underlying distress caused by fear, loss, pain, or other stress-related issues. The use of rewards to control or suppress these "symptoms" can alter behaviors in the short term but does not address underlying sources of distress. This not only minimizes the chances of long-term success but often leads to a cycle of repeated failure that can have significant negative health effects and may exacerbate the original problem.

**Initial Change Versus Maintenance**
Behaviorally oriented health promotion programs do help people do things such as lose weight, start exercising, or stop smoking. However, even when behavioral techniques are applied appropriately, the evidence that these programs result in successful long-term behavior change for most people is sparse. A recent review of the research on over 300 workplace health promotion programs concluded that while short-term changes in attitudes and behavior were common, there was “little evidence that these changes last after the programs end.” This is not to suggest that these programs do not have value. As with other applications of external reinforcement, initial compliance to new behaviors will
almost certainly increase under such circumstances. Similarly, however, the frequency of these new behaviors typically diminishes once reinforcements are removed. One possibility is that these external reinforcements establish an “artificial” culture in which activities not normally regarded as priorities (in this case exercising, eating well, relaxing, etc.) are temporarily rewarded. However, once programs end, people reenter the larger culture in which these activities may not be naturally reinforced. It should not be surprising, therefore, that these new behaviors usually disappear.

**External Versus Internal Motivation**

It is commonly argued that external reinforcement strategies are advantageous for promoting initial change and providing time for the development of more internal motivation. However, a considerable body of experimental evidence indicates that external motivators can actually decrease internal motivation to perform a wide variety of targeted behaviors.\(^\text{12}\) This finding holds true for children and adults for activities ranging from eating certain foods to reading to thinking creatively. It also holds true regardless of whether money or token economies are used as reinforcement.

The use of external rewards in exercise, weight loss, and smoking cessation programs is said to lead to increased adherence, which in turn leads to improvements in health, fitness, and self-esteem, which then contribute to increased internal motivation to continue the desired behavior. In spite of apparent short-term successes in exercise and weight loss interventions however, the research shows a 6-month dropout rate of 50% in the former\(^\text{13}\) and a failure rate of greater than 95% in the latter.\(^\text{14}\) Although there may be other explanations for this lack of enduring success, the potential contribution of decreased internal motivation as a result of behavioral intervention should not be overlooked.

Results from a recent large smoking cessation intervention lend support to this hypothesis. Individuals who were offered prizes for turning in weekly progress reports were twice as likely to turn in the first week's report. However, after 3 months, they were more likely to have relapsed than were those individuals who were not offered rewards; and saliva samples showed that they were twice as likely to lie about their having quit.\(^\text{15}\)

**SUMMARY AND FUTURE DIRECTIONS**

The explanations offered by behavioral researchers for the relatively poor long-term success record of health behavior change interventions include the need to refine research methodology, apply stronger theoretical bases, increase resource investments, and develop more effective behavioral strategies for maintenance.\(^\text{16}\) Continued research in these areas will determine if such changes can further improve outcomes. It is also possible that the refinement and manipulation of reinforcement techniques may provide improved maintenance of some behavior changes.

However, another potential factor contributing to this lack of behavior change sustainability may be the use of external rewards. The substantial body of research
documenting the lack of effectiveness and the potential negative consequences of the use of external reinforcers for promoting behavior change over a wide range of applications would suggest that this is at least a researchable possibility. In order to ensure that we are at the very least “doing no harm,” health professionals should become familiar with this literature and apply the appropriate scientific scrutiny to the question of whether similar conclusions hold true for health behavior change.

Alternative approaches to health behavior change focusing on empowerment and internally directed motivation need to be examined. Internal motivation is believed to occur “without external prods, controls, and rewards, and, in fact, is often undermined by their presence.”17 Preliminary findings suggest that such approaches can be effective in helping people to improve their health in both clinical and worksite environments.18,19 These approaches need to be refined, thoroughly evaluated, and compared with outcomes from more traditionally focused programming. Although the thought of such an endeavor contradicts much of what our culture has taught us about human motivation, the potential consequences of not examining the possibilities may be too vast for us to ignore.

References


