

Modifying exercise habits through positive reinforcement of self-control

[Psychology](#)



In today's modern society, technology plays a central role in the lives of most people. In the past, people enjoyed healthy, active lifestyles; however, the increasing dependence and reinforcement we receive from using technology has negatively impacted on the amount of time we spend active. (Epstein, Roemmich, Robinson, Pauluch, Winiewicz, Fuerch, & Robinson, 2008; Epstein, Roemmich, Saad, & Handley, 2004).

According to behavioural economic theory, in order to successfully increase time spent exercising; time spent on the undesirable behaviour should be substituted with the more desirable behaviour. Epstein, Saelens, & O'Brien, 1995) There are many long term health benefits from increasing exercise participation; however these are generally overlooked due to the negative immediate consequences - fatigue and tenderness. This contrasts with the alternative sedentary activities, which offer positive immediate consequences, enjoyment and relaxation. (Reynolds, 2001) Therefore; in order to substitute the behaviours we must determine the antecedents for the two behaviours, and alter our environment to increase stimuli for the desired behaviour.

We must also dedicate an effective, positive reinforcer and use on each day the exercise goal is achieved. An effective reinforcer should be something that is enjoyable, compelling and manageable; and, used as an immediate consequence of the target behaviour; should increase the rate of occurrence (Nevin, 2009). Before implementing changes we must establish goals, and to do this we need to know the current behavioural habits. To do this, we need to monitor the behaviour for at least a week before making any changes to the target behaviour.

<https://assignbuster.com/modifying-exercise-habits-through-positive-reinforcement-of-self-control/>

Goals should be based around the target behaviour, in this case increasing weekly exercise rates. In order to establish how much my exercise rates need to increase, I need to consult my current habits, professional recommended advice, and ensure I am setting realistic, attainable and challenging goals. (Jaapa, 2005; Reynolds, 2001) I designed a self-control program to increase the amount of exercise I partake in. I analysed my current habits, to determine why my current levels of exercise are insignificant.

From this, I concluded that instead of exercising, I watch television, or surf the internet. These undesirable behaviours are triggered by behavioural stimuli, by sitting down on the couch; and environmental stimuli of seeing the computer on when I enter my room. I aimed to avoid these situations and determine what antecedents lead to my desired behaviour. In this case, it was listening to my iPod, seeing my dog and being asked by family or friends to go for a walk; and I aimed to surround myself with these stimuli.

Based on the guidelines from the world health organisation, and the institute of medicine; plus taking into account my personal history and abilities, the goal I set for the first two weeks of my program was to complete at least 30mins of physical activity per day, for at least 3 days a week (World Health Organisation, 2011). Each day I completed at least 30mins, I received my reinforcer, which was allowing 30mins of time playing my favourite computer game. For every 10mins over the first 30mins of exercise, I was allowed an extra 10mins of game time.

If I reached my weekly goal of at least 3 days, I was allowed to go out on the weekend with my friends. Both of these were effective reinforcers, as they <https://assignbuster.com/modifying-exercise-habits-through-positive-reinforcement-of-self-control/>

were often and immediate, under my control, they did not occur in the absence of the target behaviour, and they were enjoyable and motivating (Domjan, 2010; Dixon, & Tibbetts, 2009). Based on the use of realistic goals, and effective reinforcers; I hypothesise that the implementation of this program will be successful in increasing my self-control and in turn, modifying my current exercise behaviours.

Method Participants I was the participant of this study, a 19 year old female. My exercise history is positive, and I have no current or recurring injuries that will impact my ability to complete the program. **Materials and Apparatus** I used a digital stopwatch to measure the length of my exercise sessions. I started the timer before beginning my workout, and stopped it as soon as I had finished. I recorded the session lengths in a table (See Appendix - Table 1), so I could keep track of my daily and weekly goals.

For a few of the workouts, I used a treadmill and weights that I own, in order to avoid repetition and boredom. **Procedure** I began the baseline measurements on a Wednesday, timing and recording the length each time I exercised for 14 days. I graphed the results, and determined the average length of each session. With this information, and professional guidelines, I set my goal to a minimum 30mins per session, and at least 3 sessions per week. I determined the goal was realistic, based on the baseline results, and my exercise history.

I then implemented the program for a further 14 days, using reinforcers. When I achieved my daily goal, I allowed myself time to play my computer game; and when I achieved my weekly goal, I went out with my friends on the weekend. On the days I didn't achieve my goals, I did not allow myself to <https://assignbuster.com/modifying-exercise-habits-through-positive-reinforcement-of-self-control/>

play the computer, or go out with friends. Results Graph 1 shows a comparison of the results, before and after the program was implemented. The average duration of each session was 21mins, and average 2 days per week. In the first week, I completed 2 sessions; one went for 15mins, and the other lasted 30mins.

In the second week of the baseline, I completed a further 3 sessions, two lasting 15mins, and the other lasted 30mins. I then began the program. On the first week of the program, I improved the duration of the workouts, pushing myself to achieve the minimum 30mins so I could play the game. I successfully completed 30mins and the 3 day minimum in the first week of the program, with the average being 41mins. In the second week, I improved on the first week of the program, with the average being increased to 49mins per session.

As hypothesised, I achieved all my targets during both weeks of the program, so I was able to reinforce myself and play my game after each session, and I went out with my friends on the weekends. Graph 1 Graph 1 - Length of exercise sessions over the 4 week period. On the left is the baseline, compared with the right side - when the program was implemented. Sessions over 30mins were rewarded through reinforcement. Discussion The findings of the study support the hypothesis that reinforcement is effective in modifying exercise behaviours, and increasing self-control in an area.

The effectiveness of the reinforcer is evident in the results of the program - the length of exercise sessions increased during the program, as well as the number of sessions per week. The consequence of being able to play my <https://assignbuster.com/modifying-exercise-habits-through-positive-reinforcement-of-self-control/>

computer game after successfully completing a session was enough incentive to increase my exercise substantially. These results support the findings of Dixon and Tibbetts (2009) , Birkimer and Bledsoe (1999), and Epstein, Saelens and O'Brien (1995); who agree that an effective reinforcer, implemented correctly, can successfully modify a behaviour.

During the baseline, I was spending most of my spare time on the computer, or watching TV instead of exercising. This is contrary to the program, where I found myself using my spare time to exercise, and the time spent watching TV decreased significantly during the program. This is consistent with the Behavioural economic theory; when I increased my physical activity levels, the rate of sedentary activities decreased rapidly (Epstein et al. , 1995; 2004).

This was a result of the reinforcers for physical activity becoming stronger and more rewarding, and overshadowing the incentive for sedentary activities. As the program went on, I began to feel some immediate benefits from increasing physical activity; decreased stress, and more energy - made me want to exercise more, which explains why my exercise levels increased again in the second week. If I was to continue the program for a few more weeks, the program will need evaluation and reassessment of goals and reinforcers.

The reinforcers were very effective for the first 2 weeks; however it is possible that participants may get bored, and require further reinforcement.

The goals would need to be reassessed, so subjects are further improving, and getting closer to their long-term goals. (Dixon, & Tibbetts, 2009) In

conclusion, the study showed that reinforcers are effective in modifying self-
<https://assignbuster.com/modifying-exercise-habits-through-positive-reinforcement-of-self-control/>

control behaviours, for short-term. The results of this study are limited to short-term behaviour modification, as it was only implemented over a short period of time.

Additional research is needed to explore the effects of positive reinforcement and operant conditioning on long-term behaviour modification, and whether the modification has lasting effects once reinforcers are removed. These results suggest, with further research; this method could be effective and useful in a clinical setting - the behaviour modification of individuals in relation to exercise may help prevent and tackle obesity. In a broader sense, reinforcement may be used to help modify any behaviour over time.