

Using Response Deprivation and Positive Reinforcement to Increase My Mindful Behavior

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Introduction

A behavior I would like to increase is how many times I am mindful each day.

Mindfulness is focusing on the present moment, and refraining from “mind-wandering” or worrying about the past or future (Puddicombe, 2012). Different forms of practicing mindfulness are meditation, yoga, or simply just focusing on actions in the present moment (Lu, 2015).

Mindfulness can improve working memory. It can help people reduce stress and know how to respond better to different types of stress, such as work related or relationship stress (Davis & Hayes, 2012). It has been shown help alleviate pain, moderately reduce anxiety, and help depression (Lu, 2015). Mindfulness overall has a positive effect on health.

Mindfulness is a behavior I want to incorporate into my daily life for a variety of reasons. For one, I am an over thinker, and worry about things more than I should. Due to that, part of my motivation for choosing to change my behavior is to help alleviate my anxiety. Additionally, being a student in college is an extrinsic stressor, that I feel increasing my mindfulness can help with. Since, it has been shown to help with pain, I am hoping it might also help with my migraines. In general, I have been introduced to mindfulness and meditation in psychology courses and informational workshops, but have only meditated a couple of times. As far as being in the present moment, I have a difficulty doing so, and am often distracted worrying about something. This is apparent in my baseline data, which has the frequency of 0 mindful behaviors for the two-week interval. I plan on incorporating yoga and meditation more into my daily habits by using behavior modification to increase my mindful behavior.

Method

An app I used as a mediation guide, is the Pacifica app, which gives short and long audio tutorials. I watched the videos on YouTube, for instruction in yoga. I'm tracking my data through excel sheets, each time I am mindful. Since I am using an ABA design, my baseline data was tracked for two weeks. Next, my intervention was added and tracked, for two more weeks. Lastly, the intervention is removed during the last week and I tracked my mindful habits post intervention.

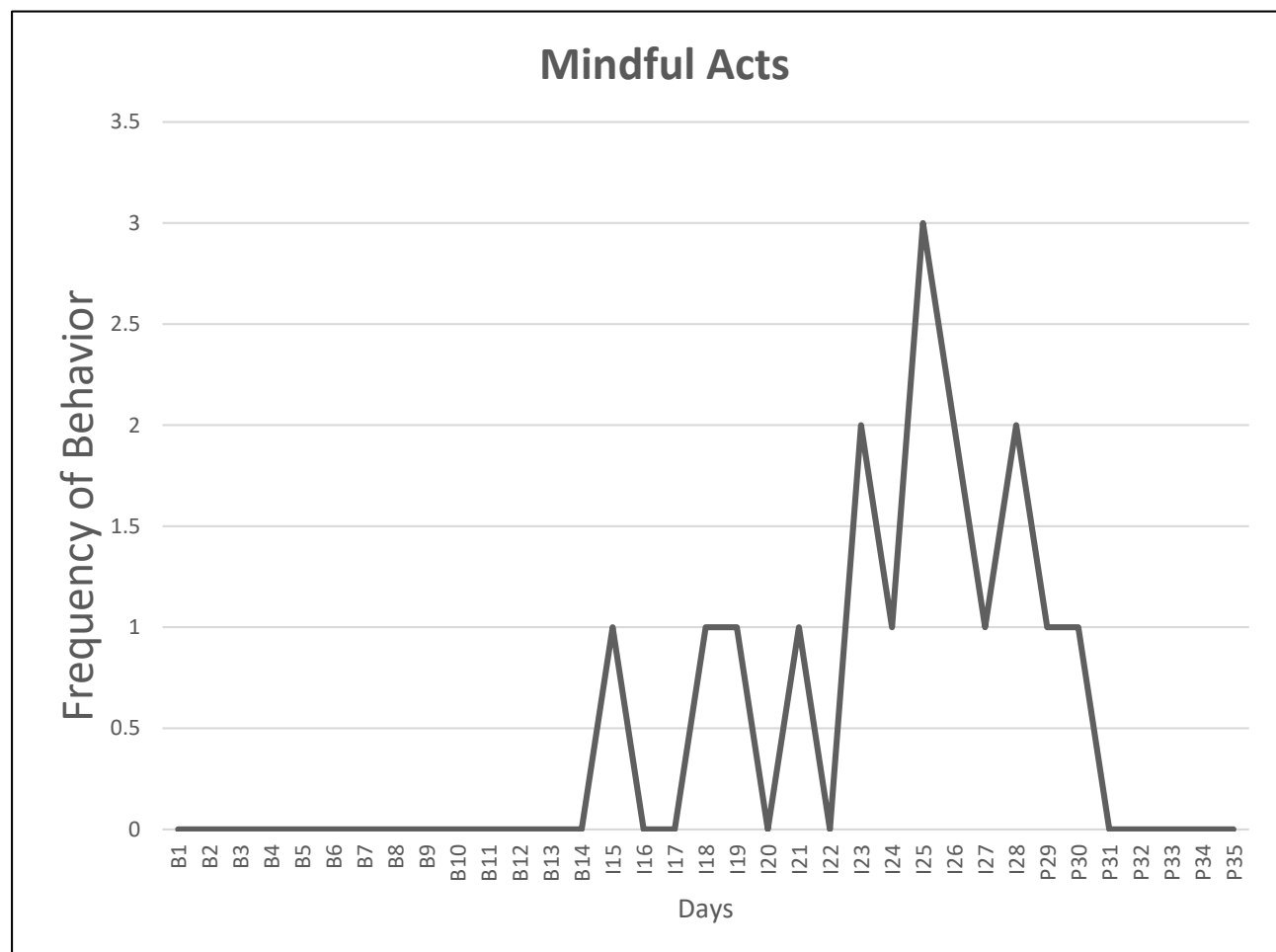
In my intervention, I want to implement operant conditioning. I am using positive reinforcement to increase the likelihood of my desired behavior happening (Winward, 2018). Each time that I complete a mindful act, I will reinforce myself with a piece of chocolate. Chocolate is a strong, secondary reinforcer for me because I love chocolate. I will have chocolate in my apartment as well as in my backpack or purse, to ensure that I will be able to reinforce myself immediately after I complete a mindful behavior. To make the intervention more effective, I am also going to use the Response Deprivation Hypothesis as a model.

The Response Deprivation Hypothesis is restricting the reinforcer to only when the desired behavior is completed (Winward, 2018). This has been shown to be effective in behavior change. For instance, in one study, Response Deprivation was considered "necessary" to help students increase their correctly written cursive words. In the condition, where no Response Deprivation was used, there was "no positive effect on writing" (Konarski, Crowell, & Duggan, 2005). In another study, Response Deprivation was used to increase color activity. This study's results "indicate that both children demonstrated an increase of coloring over their baseline levels when the RD schedule was in effect and little or no increase when the RD [Condition

without Response Deprivation] schedule was present” (Konarski, Johnson, Crowell, & Whitman, 1980). In both cases, the desired behavior was increased, compared to the conditions that did not implement deprivation.

Chocolate is rewarding for me alone, but without having access to eating chocolate whenever I want, chocolate becomes stronger as a reinforcer. Thus, by depriving myself of chocolate, unless I complete a mindful act, I should be more driven to complete my low probability behavior.

Results



In the above graph, the results are shown during the baseline (B1-B14), intervention (I15-28), and post-intervention (P29-P35) periods. The average number of mindful acts during the intervention period is 1.07, compared to 0 acts during my baseline, and 0.28 during the post-intervention. During intervention, there was an increase in my mindful behavior, but a decrease after the intervention was removed.

Discussion

My intervention did help me be more mindful during the 2-week period, however, after removing the intervention, my baseline habits returned, and I did not reach my goal to make mindfulness more of a daily habit. A combination of internal and external factors affected my motivation and the results of my intervention.

To start, my environment, acted as a confounding factor in my data. When starting this process, I underestimated how difficult it was going to be to meditate in my room in an on-campus apartment. Since my room is adjacent to tennis and basketball courts, as well as constant construction on a future trolley, I found it difficult to relax and focus on the app and video instructions, with the noise. Additionally, I found myself visiting my family more often on weekends than I had anticipated. At home, I am less focused on college and schoolwork, and I remembered less often to be mindful. Going home a lot also decreased how much time I had during the week to complete schoolwork, which in return further affected how much time I had available to schedule mindfulness.

Another confounding variable in my data, was my own internal dialogue. I was in a depressed state of mind for most of this quarter. Although, mindfulness is supposed to improve

mood and wellbeing, the state I was in negatively affected my mindset. I was overall less motivated to complete my priorities. Another factor I did not expect while designing my intervention, was that a health psychology course I am taking would significantly affect my mindset. It outlined all the behaviors that I realized were unhealthy and the long-term costs of unhealthy behaviors. I began to feel guilty for eating unhealthily, and I had this internal dialogue of “I should not be eating chocolate.”

Although the Pacifica mindfulness app and YouTube videos were helpful in informing me on how to be in the present moment more, I think it lacked as an authority figure in my goal to change my behavior. I think if I had taken a class on yoga or meditation, it would have been more motivating to be mindful, because I had no choice. With the app and the videos, I had more freedom to complete them whenever I felt like doing so.

Furthermore, there were many problems with my reinforcer. As I mentioned, I started to associate guilt with eating chocolate. Even though I know it is important to reward immediately after completion of the behavior, sometimes I did not reward myself after completing my mindful behavior. Additionally, since I went home more often, my family satiated me with comfort foods and sweets other than chocolate. By being satiated with all of that, chocolate became less as reinforcer than I had predicted it to be. These problems with the reinforcer are probably the reason behind why my behavior returned back to what it was during baseline, once I removed the intervention. Ultimately, the connection between the reinforcer and behavior was not as strong as I had planned.

Another problem with my intervention, was that the Response Deprivation method was not as effective as I had thought. Since my reinforcer became less reinforcing, depriving myself

of chocolate was not strict enough. Especially, after being satiated with comfort food on weekends with my family. In retrospect, the Response Deprivation method would have been more effective, if I had controlled for all sugary foods.

If I could redo my process, I would also try adding a different reinforcer. For instance, Netflix is also very reinforcing to me. I think by adding up how many times I am mindful at the end of the day and multiply that by 5, to determine how many minutes I can watch Netflix, could be an effective method. With the addition of a second reinforcer, I think it would motivate me more to incorporate mindfulness more into my day. I would keep the Response Deprivation aspect of my intervention, because it has been shown to be effective, and the reason it did not work well is because I did not deprive myself of other sugary treats.

I would also add to my intervention would be a cue to remind myself to be more mindful. For instance, I would set daily reminders on my phone. I think that would increase the likelihood of me successfully completing mindful actions. Additionally, by setting the times for the reminders at the same specific times each day, I think that would ensure that once I remove my intervention, I would still remember to be mindful. Even removing the reminder notification from my phone, I would still know that usually at, 3 PM for instance, and hopefully I should be more mindful.

Lastly, I think, despite knowing the benefits of mindfulness, I did not fully acknowledge them. To fix this, I would also add a mood habit tracker. By recognizing how I feel after each mindful moment, it might help me see the benefits that I did not see with my intervention. Another thing I would add is journaling my experiences throughout the process. I think that

would help me recognize if my cognition has changed and would also help me clearly see if I am progressing or regressing over time.

Although, my results did not indicate a behavioral change, I learned a lot about mindfulness. Additionally, I learned how difficult it is to change your own behavior and have grown more empathetic towards others who go through similar processes. Overall, this learning process has led me to want to continue increasing my mindfulness behaviors, and has inspired me to modify other behaviors that I feel I need to change or add to my lifestyle.

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