

Addictive behaviors: An analysis of support type and relapse rates among college students

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Abstract:

Addictions can be classified as any substance, habit or behavior that one has come to depend upon. These can include a variety of habits or behaviors outside of the traditional illicit drug realm. We studied substances, behaviors and habitual addictions to determine if relapse rates are negatively correlated with positive or negative support. We used a mixed-methods design that examined undergraduate psychology students who were asked to give up an addictive substance, behavior or habit of their choice for 30 days. In addition to investigating data using qualitative measures, two independent samples *t*-tests found that there were significant differences between relapse rates and support levels, $p=.002$, and relapse rates and gender $p=.011$.

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INTRODUCTION

Addictive behaviors can expand beyond the traditional scope of illicit substances, and can include mental and physical characteristics. According to Maisto et al., (2015) an addiction is classified as involvement with a substance and compulsion to use it. There are a variety of substances, behaviors and habits (SBH) that can be classified as addictive. Some of these may evoke similarities in withdrawal symptoms, which may increase relapse rates. These include, but are not limited to the consumption of caffeine, food, sugar, and habitual behaviors. Although these are not considered illegal, there are commonalities associated with relapse, and the understanding of psychopharmacology associated with these areas. Relapse rates and support types were explored in an undergraduate Substance Abuse course, and were specifically utilized to demonstrate the addiction process within the realm of the course.

Support

Support related to any addiction is a key measure to success in any type of recovery program (Maisto et al., 2015). According to the American Addiction Center (2020), the first step in recovery is to begin speaking about the problem, seek counseling, get a sponsor, and tell someone that you are powerless over the substance. The twelve steps of Alcoholics Anonymous include letting go of the negative support, or those that are current drug or alcohol users (American Addiction Centers, 2020). The goal is to foster the development of healthy relationships with family, friends, sponsors and groups. Support is a major factor in successful cessation of the substance, behavior or habit.

Social exchange theory suggests that there are costs and rewards associated with social relationships (Cropanzano et al., 2017). There are two types of support, negative and positive. Positive support is associated with encouraging behaviors or actions. Negative support can be classified as harmful interactions or the lack of support in general; these actions can be counter to desired outcomes and behaviors. Research has shown that social support is associated with mental health, self-esteem, worth and value. The type of support, the closeness of relationship with the individual and the types of interactions within these relationships are key factors to positive or negative outcomes (Lincoln, 2000). Positive support is a type of social reward, that is often associated with healthy relationships in the exchange process. Positive support is conducive to success in a variety of programs, not just those associated with addictions.

Relapse

Relapse is considered a negative action that an individual takes after a period of abstinence from a given substance or behavior. Effective treatment modalities include, but are not limited to: medication, cognitive behavioral therapy and 12-step programs (Maisto et al., 2015). In almost every one of the therapies designed to treat addictions, support is an area of interest. In order to prevent relapse of controlling substances or behaviors,

individuals may engage in the termination of lifestyle habits-including friends, family, hangouts and certain behaviors that encourage relapse. For purposes of this research, relapse will be defined as engaging in the use of a substance, behavior or habit that the individual agreed to give up for a period of 30 days.

Substances, behaviors and habits

Caffeine

Caffeine addiction is very common. Regular caffeine use is reported by 80-90% of Americans, and remains as one of the most prevalent forms of addictions (Ozsungur et al., 2009). Among college students, the percentage is estimated to be even higher, as youth are often the targeted consumers of energy drinks, which have higher levels of caffeinated ingredients. However, if consumed alone, because there are little, if any, negative social stigmas regarding caffeine use, this is not typically noted as a problem behavior. In addition, the Diagnostic Statistical Manual 5th edition, does not have a classification specifically related to caffeine in terms of a mental addiction disorder, but there are items related to intoxication, anxiety, sleeping, and comorbidity in related disorders. Caffeine is a central nervous system stimulant, and is associated with alertness, energy, rapid heartrate and increased blood pressure, which can take between 30-45 minutes for these effects to be felt (Julien, Advokat, Comaty, 2011). Even though there are little to no stereotypes associated with caffeine addiction, there is extensive research regarding the withdrawal effects that occur with caffeine users. Caffeine tends to generate compulsions related to social desires in addition to addictive properties. Many people who consume caffeine do so in a social setting including: morning coffee, meals, breakroom conversations and study groups. Withdrawal from caffeine can be seen within one to two days after cessation, and can include feelings of agitation, lethargy and headaches (Julien, Advokat, Comaty, 2011). According to Spencer (2002), there are similarities between caffeine withdrawal and physical complaints related to migraine headaches; interestingly if caffeine is given, symptoms disappear. These withdrawal symptoms are usually only present with regular users who go cold turkey (Satel, 2006).

Food and sugar

There is a substantial amount of research regarding the effects that food has on the brain, and the psychological reactions that can be similar to drug addictions (Pedram et al., 2013). Food in general is very powerful and can illicit physiological responses, which can be associated with emotional, social and environmental stimuli. Specifically, addictions related to food that are rich in sugar, can create similar neural mechanisms in the brain, when compared to illicit drug use. According to Fortuna (2010) the consumption of simple sugars can increase serotonin levels in the brain. Likewise, with some illicit substances, there is an increase in dopamine turnover (Fortuna, 2010). Natural pleasure neurotransmitters like serotonin and dopamine help regulate mood, and when sugar is ingested, both humans and

animals crave more. In 2007, a medication called Rimonabant was prescribed to patients who were obese, it was taken off of the market shortly after its debut, because patients were at risk for clinical depression, suicidal ideation and some committed suicide. The drug blocked the individuals desire towards food, by removing the pleasurable sensations associated with eating, and although beneficial for weight loss, it was not beneficial for overall wellbeing (Stapleton, 2009). This goes to show, that the natural pleasure associated with foods are there for a reason, and of course has roots associated with human survival. However, there is a difference between foods that are considered life sustaining and foods that are considered hyperpalatable foods (Avena & Gold, 2011). Hyperpalatable foods are considered to be associated with ingredients that are favorable, such as sugar, fat and foods that are high in sodium. There is also a link between adult children of alcoholics and sugar cravings. According to Fortuna (2010) "individuals with a parental history of alcoholism were three times more likely to prefer stronger sweet solutions" (p. 149). Food can also provide comfort during high stress situations, and there is an overlap between the association of comfort needs met in relation to food and illicit substances.

Habitual behaviors

Habits are considered as repetitive behaviors that are often completed without having to think about the task (Kruglanski & Szumowska, 2020). There are all kinds of habitual behaviors that can be difficult to stop. Online shopping, cursing, skipping class, snoozing one's alarm, internet and social media scrolling can be considered habitual behaviors.

The use of social media and the internet has dramatically increased, and with this emerges a new diagnosis of "internet addictions" (Li et al., 2015). Advancements in technology have created drastic changes within our global society related to addictive social media behaviors. Mahamid and Berte (2018) found that 47% of university students reported addictive behaviors associated with social media usage. During 2019-2020, it was reported that the average person spent approximately 145 minutes per day using social media (Statista, 2021). This number has increased by an additional 55 minutes from the year 2012 (Statista, 2021). Li et al., (2015) found that excessive use of social media has addictive tendencies. Social media addiction has been found to be directly related to emotional exhaustion, stress and problems related to time management. Social media addiction is one that consumes time, energy and conveys quite a bit of negative compulsions (Sriwalai & Charoensukmongkol, 2016). In addition, there are new findings related to social media addictions and a loss of time (Turel & Vavagnaro, 2019). Primarily, users have low awareness that they have indeed been using social media as much as they have. There has been a lot of media discussion regarding the similarities of social media addiction and illicit drug use, but to our knowledge no comparison studies have been conducted. Rehab Center (2019) states that there are some major similarities in social media addiction and illicit drugs including: "social isolation, preoccupation with the next "fix", increasing use, filling time with the addiction instead of hobbies or work, and hiding use" (para. 1).

While there is significant research regarding illicit drugs and habitual use of non-illicit substances such as sugar, caffeine, and social media, there is little research available that addresses these with relapse and support. This study was related to an undergraduate Substance Abuse course, and this project was developed to assist with the transformational learning experience, which allows the student to understand the material in a deeper way. According to Schnepfleitner and Ferreira (2021), some of the key benefits are reflection and individual experience related to the information they learn within the course. The results of this study may be used for the comparison of habitual addictions in future studies. We hypothesized that SBH addictions would result in similar relapse rates, as other drug related substances. This is in response to previous research that indicates that non-illicit addictions show similar addictive brain activity as illicit drug addictions (Kuss & Griffiths, 2017; Ridder et al., 2016). In addition, we hypothesized that support levels would be negatively correlated with relapse rates. Previous research has found that social support directly correlates with relapse rates in illicit drug use (Walter et al., 2006; Snow & Anderson, 2000).

METHOD

Research participants

Participants were 24 undergraduate students at a rural state university, who took an upper level advanced Psychology course. There were 8 males and 16 females that completed the assignment requirements. These students participated in this assignment as a part of their course credit, although they could choose whether or not their data were included in the results.

Materials

The materials consisted of electronic or hard copy journals and discussion board postings that were to be completed during the course. Specifically, students were required to complete a journal to document the experience of giving up a substance, habit or behavior over 30 days. Journaling allowed us to assess qualitative descriptive aspects over the 30-day cessation period.

Procedure

The students were not recruited for this study; they were enrolled in an upper level special topics Substance Abuse course. This class was an upper level elective option for students in a Psychology program. Students that completed the assignment for the class were notified that we would report items in a deidentified format, and that if at any point they wanted to withdraw their work from the study, there would be no penalty related to their grade on the assignment. To analyze the data, we read the journal entries and discussion posts, and then coded the reported symptoms and behaviors to assess patterns.

For the assignment, students were prompted to give up something that would be very difficult for them to refrain from, for a period of 30 days. The most common choices were caffeine and food related items. Each student was required to complete a minimum of 10 journal entries discussing their struggles associated with giving up their substance, behavior or habit. The journaling portion was a free writing format, and the discussion

board was a guided process (See Appendix). After the journal entries were submitted, they were coded across multiple categories including gender, withdrawal behaviors, number of relapses, substance given up, and positive or negative support. Students in this course were concurrently learning about drug addictions and the process, so this served a dual purpose associated with transformational learning.

Research Ethical Permissions

In this study, all rules were followed within the scope of the "Higher Education Institutions Scientific Research and Publication Ethics Directive". No actions or directives stated under the second portion, titled "Actions Against Scientific Research and Publication Ethics" were taken.

This study was approved by the Tarleton State University Institutional Review board, under review number: 2017-042617-17077.

RESULTS

Quantitative results

The common themes of relapse rates and support levels were analyzed to determine if there were differences present. Relapse rates for each level of support were normally distributed as assessed by Levene's test (Levene, 1960) for equality of variances ($p=.400$). An independent samples t-test was conducted to determine if there were differences in relapse rates associated with positive ($M=.73$, $SD=1.10$) and negative ($M=2.77$, $SD=1.58$) support levels. There was a significant difference in relapse rates and support; $t(22) = 3.587$, $p= 0.002$ (See Figure 1).

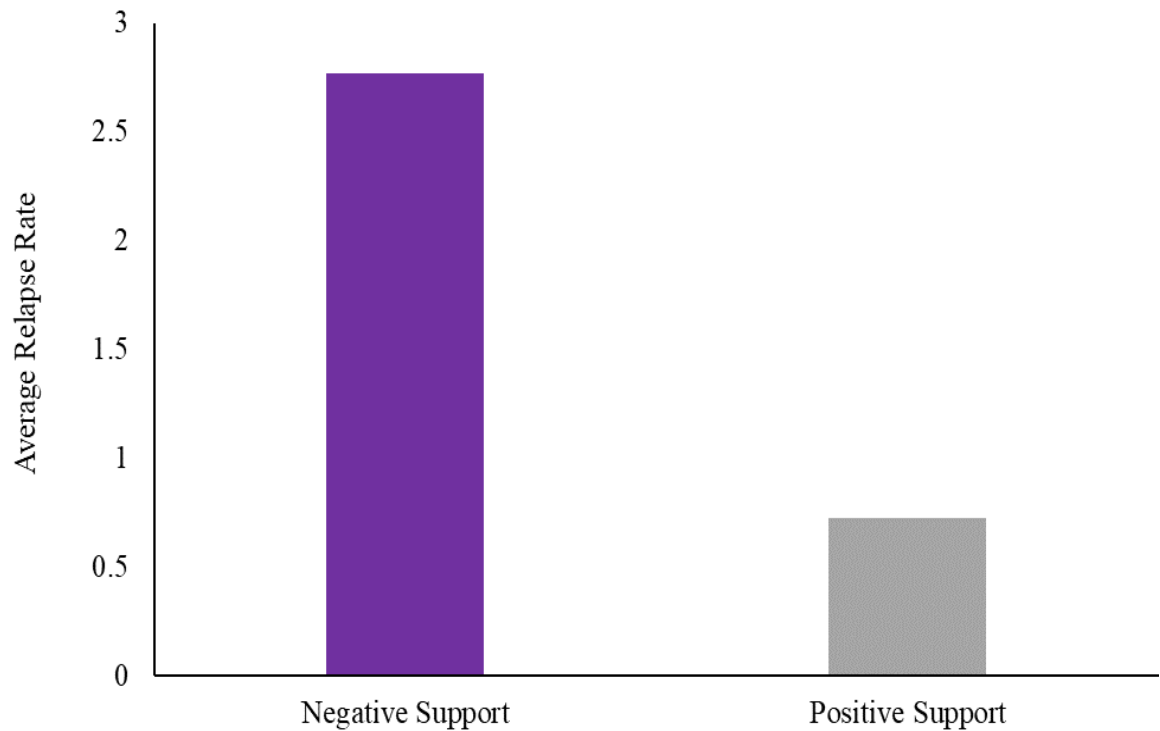


Figure 1: The mean difference between negative and positive support and average relapse rates.

We also compared the differences between males and females and the number of relapses. An independent samples t-test was conducted to determine if there were differences in relapse rates associated with males and females. It was determined that males $N=8$ ($M=.63$, $SD=.744$) had lower relapse rates than females ($N=16$), ($M=2.44$, $SD=1.75$). There was a significant difference in the number of relapses and gender; $t(22)=-2.782$, $p=.011$.

In addition, we reported information related to the difficulty of the item given up, plans to go back to the substance, behavior or habit, the amount of times that they relapsed and support networks as determined by the guided discussion board posting (See figure 2).

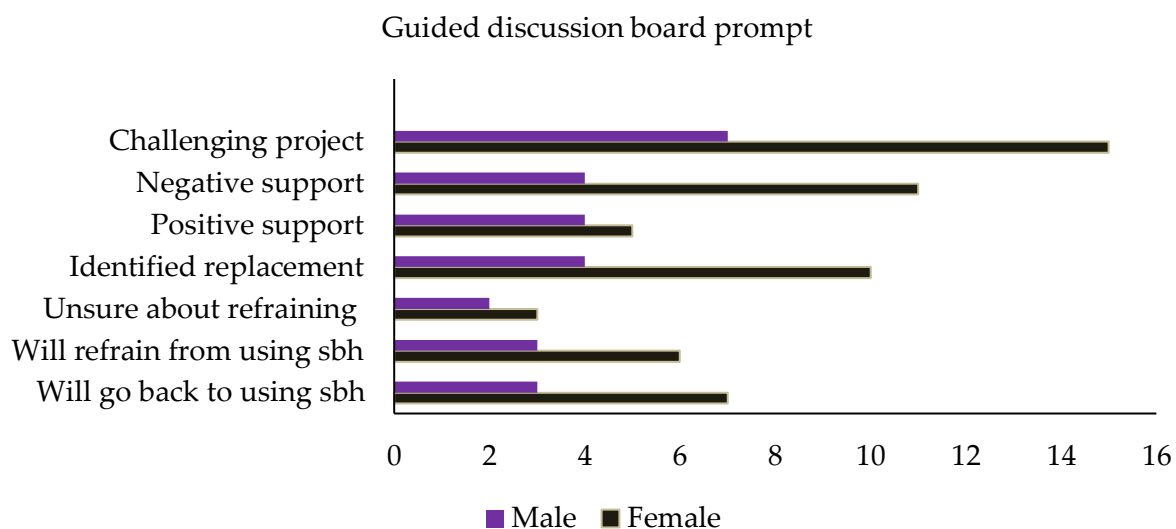


Figure 2: Gender differences related to the guided discussion board prompts. Note: SBH is substance, behavior or habit. These are the differences reported from male and female participants that came directly from the discussion board posting responses.

Qualitative results

When participants were asked to give up a substance, behavior or habit of their choice for the 30-day period, participants expressed their struggles, frustrations, and moments of satisfaction in a free-stream writing format.

A common topic of participant discussion was regarding the number of times they relapsed during the 30-day period. Those who had few relapses reported that they were extremely proud, and noted how positive their overall experience was. For example, some participants who gave up caffeine or junk food noted that they had saved money, felt better, lost weight and had higher energy levels after a two-week period. In contrast, some participants who had reported relapses over the 30-day period interpreted them as learning experiences. For example, some participants reported that they were able to see how difficult it was to give up something that they love or enjoy. They stated that it made the information in the class more relatable. In the beginning of the process, many students expressed their belief that the assignment would not be a challenge for them, but as time progressed addictive tendencies were revealed upon the cessation of the behaviors, habits or substances. In fact, 22 participants ended up reporting that this assignment was very challenging. Participants with three or more relapses seemed to give up on the challenge, and had often noted that they were unable to continue without the substance, habit or behavior that they had given up.

Another common theme discussed by participants, was support. Two clear groups appeared from the data; those who experienced positive support, and those who experienced negative support. Positive support is defined for this study, as a support system who expresses encouraging phrases such as, but not limited to: “you can do it,” “I will do it with you” or “keep going, you are doing great”. These support systems also include family and friends who act in ways that encourage the participant to complete their goal, using affirmative and up-lifting communication.

Negative support is defined for this study, as a support system that expresses no form of support, or directs phrases such as “why are you trying to do that,” “you can just do it this one time, it won’t hurt you” or “you’ll never be able to do that”. Negative support

includes friends and family members who act in non-supportive ways towards the participant. We saw a significant difference regarding negative and positive support levels. Those who received negative or no support were almost twice as likely to relapse, then those who received positive support.

Quite a few of our participants gave up caffeinated beverages. Many of the participants referred to headaches, mood swings, and low energy during the first few weeks. One individual stated that at the two-week mark, she was still experiencing these symptoms. She relapsed on day 16, and reported that she felt awful and very strange the rest of the day. One individual reported that he had replaced sodas with water, and that he was feeling very tired of the bland and boring taste of water on a regular basis. Another participant stated on day 19, that he went to a restaurant and someone beside him ordered a soda, and all he could do was concentrate on the bubbles and fizzle of the soda beside him. Another participant stated that she had convinced herself that there was something wrong with the water in this town due to the taste.

The vast majority of our participants gave up something related to a food item. Some of the statements made by our participants included things like: I always eat this food item during football games, I am very nervous about this upcoming game. I hate it when my coworkers are eating fast food during lunch. One participant noted that she did not want to go out to eat with friends, as it was so disturbing watching them enjoy their food and drinks. Most of our relapses occurred with food related items.

For the individuals who gave up internet or social media, we saw replacement behaviors. For example, one individual believed that she could simply occupy her time with online videos, and gave herself permission to do so because it was not really considered social media. Behaviors such as sending more text messages to fill the void of notification and checking, scrolling through phone pictures to get the feeling of swiping were reported. There were feelings of frustration and disappointment that included disconnect with others and feeling lost. Positive behaviors related to giving up social media included, sleeping better, less stress and feeling more connected to individuals who were in front of them.

DISCUSSION

The purpose of this study was to further understand the role of positive and negative support and relapse rates in individuals dealing with SBH addictions. Using the self-evaluated discussion board postings together with the ten journal entries, we coded the findings to analyze withdrawal symptoms and relapse rates. Using previous research regarding the addictive properties and symptoms of illicit drug use, a comparison of behaviors showed similarities of SBH addictions and illicit drug addictions.

Eleven participants reported receiving positive support in the journal entries, and had significantly lower relapse rates than the thirteen individuals who reported negative support. In addition, we compared the differences between male and female relapses. Males reported a significantly lower number of relapses than women. Females were 1.81 times more likely to relapse than males in our study. Walton, Low and Booth (2001) reported that males typically report higher support levels while in treatment facilities than do their female counterparts. This is an interesting finding, because males have also reported lower coping skills, and higher exposure to substances than women in substance abuse treatment facilities. It is possible that “women are more likely to use substances alone or with intimate

partners" (Walton, Low & Booth, 2001, p. 236). This is consistent with our study, for example, a female reported that her significant other bought her candy, even when he knew she was giving up sugar.

It is interesting to note that the addictive properties of that particular SBH and their individual support system may be directly linked to social rewards. Caffeine and food for example, provide social opportunities for the individual; therefore, our participants may have found it difficult to abstain from these areas, and maintain their social network. Although we did not ask this directly, individuals may be more likely to relapse with caffeine because of the social aspect related to drinking coffee or grabbing a soda. Often times, the consumption of caffeine is a social networking opportunity (Sriwalai & Charoensukmongkol, 2016). In our population, those that received negative social support related to caffeine might have had higher relapse rates in order to maintain that social desire related to belonging, although more research is needed to confirm this hypothesis. Coffee groups in particular have been studied, and it has been found that these groups can provide a feeling of social connectedness. Being part of this group is good for a variety of behaviors related to social and emotional well-being (Broughton, Payne & Liechty, 2017).

Food is another social activity. Almost everything we do socially, revolves around the consumption of food. Therefore, it seems to be another area related to social support. If a person attempts to give up a particular type of food, being in a situation where that food is available or offered on a regular basis, has the potential to set the person up for failure. This is similar to what individuals face when giving up alcohol, tobacco or drugs. In addition, these items go back to the research conducted on food and pleasurable sensations.

Social media addiction has quite a bit of similarities to illicit drug use, but there really isn't the same type of social aspect related to using social media compared to the food and drinks above. Individuals often do this in the comfort of their own home in isolation, therefore more research is needed in this area.

CONCLUSION

Overall, this study was beneficial in addressing some similarities between giving up substances, behaviors and habits. Some of the struggles that individuals faced during this 30-day cessation were similar to what we might see with people giving up other illicit substances. This study could provide some insight as to how social support is necessary for not only the cessation of illicit substances, but all substances, habits and behaviors. Individuals who had positive social support were less likely to relapse. In addition, differences in relapse rates between males and females should be considered when treating addictions as a whole.

This assignment was able to help students engage in the transformational learning process, where they were able to directly relate the information in the textbook to the activities in their daily life. This is one of the best types of learning, as it not only engages the learner, but it provides a hands-on experience that fosters encoding in long term memory.

Future studies should look at gathering more individuals from a variety of age groups, as this population was very small. In addition, it would be beneficial to ask specific questions regarding the way that the participants were feeling on a regular basis. It would be valuable to have individuals journal on a daily basis, and have specified prompts about

relapse, support, behaviors and feelings. Even though our participants reported ten times, it would have been beneficial to see the gradual changes taking place more often.

In addition, instead of allowing participants to choose any substance, habit or behavior, a future study should look at one area more in depth to search for patterns. Social media and internet addiction would be an area of interest to investigate further, as this appears to be an ongoing issue with the amount of screen time increasing on a yearly basis.

The takeaway is that support networks are very valuable in any cessation program, no matter what the substance, behavior or habit is associated with. This research has contributed to the body of literature related to addictions, and can be further used to encourage positive support in any form of addictive behavior and cessation programs.

Declarations of interest: No conflict of interest associated with either author

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (5). A waiver of informed consent was requested from all participants included in the study. Participants had the right to remove their data from the research report, and all information was deindividualized.

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Appendix

Discussion Board Prompt

I'm giving this up for 30 Days!

Your assignment is to give up something that would be relatively difficult to give up. Choose something that takes some effort to work with (e.g. don't give up going to eat at Panda Express if you only go every 45 days, as this will not benefit you at all, give up something that will be hard and hopefully beneficial). The purpose of this assignment is to allow you to experience some of the issues that one might face in the realm of addiction. This is by no means a way to accurately show you what giving up an illicit substance is actually like (as it may be much more difficult to give up an illicit drug than to give up social media for example). One reason in particular is the fact that withdrawal from an illicit drug is associated with physical withdrawals and often times has a deep-rooted psychological issue.

You will need to tell me what you are giving up and why. I would like this section to be at least one paragraph in length. Address questions such as: What are you giving up? Why would you benefit in giving this up? What potential issues might you face in giving this up? What benefits could come of this? What has it been like for you thus far? Have you relapsed? When do you think about this item the most? Have your friends or family members been supportive? These questions will need in depth discussion related to each entry.

You will need to journal at least 10 times during the course of the 30 days. The entries will be added to this discussion board as an attachment. (Please note, if you are sensitive about your journal entries, come see me, and you can turn this portion in to me alone). For this section of the discussion post, simply tell us about a few of your journal entries within the discussion board posting.

Finish up the discussion board posting with a paragraph explaining your overall thoughts about the project. Was it difficult? What were your expectations going into this compared to the outcome? What are your thoughts if you did indeed relapse? How did you keep yourself on track? Finally, you will need to relate your experience to the substance abuse realm in some form or fashion. You will need to use your textbook as a reference. Please use in text and at the end of the paragraph citations for this section.