Which Therapy Treatment is the Most Effective in the Improvement of Sleep Quality in College

Students?

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Introduction

The original study that was examined, "Let's Talk About Sleep: A Systematic Review of Psychological Interventions to Improve Sleep in College Students," explored different types of medical interventions and their impact on individuals who were experiencing poor sleep quality (Friedrich & Schlarb, 2018).

This literature synthesizes data on different medical interventions to treat poor sleep quality. It may be useful to continue this investigation of sleep interventions, and narrow down the focus to only therapy treatments. Despite all of the positive effects it can have on patient prognosis, there is a lot of negative stigma associated with therapy. There is a lack of awareness regarding therapeutic intervention. If this gap is bridged through more research and investigation, it may help several patients have better outcomes without the burden or stigma that currently surrounds therapy. Therapy can be a useful tool in alleviating sleep related issues and improving sleep quality, but there is not enough information on what form of therapy is best at treating different types of sleep conditions. It would likely be beneficial to study what the most efficient type of therapy is to treat sleep related conditions in different target groups. The previously stated literature, written by Friedrich and Schlarb (2018), combines a number of sources and the results that they produced, and applies different interventions to college students struggling with sleep quality issues. These interventions also include form of therapy treatments, and the degree to which they affect sleep quality in a college student population. In particular, it includes data on psychotherapeutic interventions, cognitive behavior therapy and hypnotherapy in the context of sleep quality.

It seems that psychotherapeutic intervention has an effect ranging from moderate to strong in improving sleep in individuals who have poor sleep quality. Psychotherapeutic treatment was shown to have a medium impact regarding sleep quality and sleep related problems in college students. It appeared to be more effective than hypnotherapy, but much less effective than cognitive behavioral therapy (Friedrich and Schlarb, 2017). Another form of psychotherapy is cognitive refocusing therapy. In the following source, written by Gellis (2012), cognitive refocusing therapy was analyzed in the context of improving sleep quality. An investigation was conducted in insomnia patients, who attended four weekly meetings during the course of the study. The participants were given surveys, one was focused on sleep quality and the other three measured insomnia symptoms (Gellis, 2012). These surveys were given at baseline, posttreatment and at a one month follow up. The results showed that there was a striking improvement in several categories of the surveys (Gellis, 2012). This source is focused only on one sleep condition, which helps reduce any confounding variables. Certain psychotherapeutic treatments seem to have a stronger impact than others, it appears that psychotherapeutic treatments have a moderate effect on sleep quality in insomnia patients, while cognitive refocusing therapy has a stronger effect on the improvement of sleep quality regarding insomnia patients (Gellis, 2012). The data in these studies supports the idea that psychotherapeutic intervention has a stronger impact on reducing sleep related issues than hypnotherapy. Additionally, while certain types of psychotherapy interventions show more improvements than others, psychotherapeutic treatments still has a weaker impact on sleep quality cognitive behavioral therapy, which is a distinct, more specific version of psychotherapy.

Hypnotherapy is shown to have a small effect in individuals regarding the decrease of sleep related problems. The article written by Friedrich and Schlarb (2017) supports this claim. The article defines this type of therapy as relaxation interventions, which also includes other related measures in addition to the hypnotherapy. (Friedrich & Schlarb, 2017). This intervention was reported to have a small effect in terms of sleep quality improvement. Another article solely examines the impact that

hypnotherapy has on sleep related issues (Cordi, Schlarb & Rasch, 2014). This literature shows that there is a fair amount of improvement in sleep in women who were subjected to hypnotherapy (Cordi, Schlarb & Rasch, 2014). These participants were exposed to hypnotic suggestions to induce more time spent in SWS during sleep. The only limitation in this source is that it only studied women, so there is a lack of gender diversity in the participant pool. For the next draft, it may be beneficial to also find a study where both men and women are included as participants. This study is supported by the findings from the article written by Friedrich and Schlarb (2017) as well. The results of both articles suggest that this type of therapy results in small degrees of improvement in sleep quality. Hypnotherapy has a weaker impact than both psychotherapy and cognitive behavioral therapy regarding the improvement of sleep quality.

Cognitive behavioral therapy seems to have the strongest impact when working with individuals who are attempting to increase their sleep quality, when compared to the other therapy forms that were previously discussed. Cognitive behavioral therapy showed overall improvement in sleep conditions as well as substantial improvement in several variables of sleep quality. In the original study, there is ample evidence to support the idea that cognitive behavioral therapy is more efficient than both hypnotherapy and psychotherapy in sleep quality treatment. However, it is important to note that the participants in the original study were composed of students with no major sleep conditions (Friedrich and Schlarb, 2017). In this instance, another source may be helpful regarding the effect of cognitive behavior therapy in individuals with sleep conditions. The following source focuses solely on this subject, studying cognitive behavior therapy's effect on insomnia (Dolan, Taylor, Bramoweth, & Rosenthal, 2010). This is a useful study because again, the only sleep disorder being studied is insomnia, which reduces any confounding variable affects. The results of this data suggested that there was an improvement in the sleep quality of participants. Another source also examined insomnia and cognitive behavioral therapy, with an even narrower focus. This literature focused only on primary insomnia, which is helpful because there may be fundamental differences between primary and secondary insomnia in terms of treatment and prognosis

(Mitchell, Gehrman, Perlis, & Umscheid, 2012). Studying one type of insomnia again, reduces the chances of any confounding variables interfering with data collection. This source also supports the effectiveness of cognitive behavioral therapy in the context of sleep conditions. The results in all of these sources support how effective cognitive behavioral therapy is regarding sleep quality. It is possible that this type of therapy is successful because it targets behavior and focuses on lifestyle habits and sleeping patterns. Throughout this analysis, it is evident that there is a large amount of data to support that cognitive behavioral therapy is the most efficient form of therapy treatment for sleep problems, when compared to hypnotherapy and psychotherapy.

The research question being studied in this assignment is "regarding the treatment of sleep quality issues in college students, how does the increase in sleep quality due to cognitive behavioral therapy compare to the increase in sleep quality due to other forms of therapy, such as hypnotherapy or psychotherapy?

To operationalize the constructs in this study, data will be collected in the form of surveys everyday from college students that self report in several categories. These surveys would record the number of hours that the college students sleep per night, how many times they wake up during their sleep, about how long it takes them to fall asleep, and numerical ranking on their quality of sleep and other categories that are outlined in the Sleep Condition Indicator survey. Using these categories, an average will be calculated and a final score would be assigned. These surveys would be conducted by students before, during and after they start their assigned category of therapy. They will be assigned to a category of therapy completely randomly, and then participate in the method that is outlined above.

The hypothesis in this paper is that college students who undergo cognitive behavioral therapy will report a higher quality of sleep in a shorter amount of time, when compared to students who undergo other types of therapy such as hypnotherapy or psychotherapy. Students who undergo cognitive

behavioral therapy will report a higher combined self reported sleep quality rating in comparison to the scores of students who undergo hypnotherapy or psychotherapy.

Methods

Participants

This study will be collected using about 600 college students, both male and female, that live in dorms on campus. Most likely, the majority of the students will generally be between the ages of 17 and 22. Because of the variety of students, there will be a representation of all genders, and several different socioeconomic groups as well as racial and ethnic groups. While it is important to recognize that there is a surplus of research on college students, it is still valuable to use the college student population to investigate this topic further. The college student body is an extremely diverse population, composed of individuals with different socioeconomic statuses, backgrounds and other factors. If there are any trends prevalent in the data which seem to correspond with the differences in these factors, it would be a useful direction to take the research in. However, without starting with a more broad sample size, it may be more difficult to have any idea or direction with where to take the research further. The demographic will consider of students of different financial backgrounds, gender identities, racial and ethnic backgrounds, and gender, however the age range will be the same, as will their location of residency. This data will be collected using a cluster sampling method, and then use simple random sampling after that. The clusters will be different groups of students, they will be internally heterogeneous as they come from different backgrounds and have unique characteristics, but they are all students who live in college dorms so in that sense they will be externally homogeneous. In regards to compensation, this is a substantial commitment, students will have to consult therapists and spend financial resources. Even if they are serious in trying these therapy methods to see improvement in their own quality of life, and not simply to participate in a study, they deserve a financial compensation for the time and resources they are inputting into playing

their role in this study. Enough money will be allocated so there is enough so there is a compensation of 10 dollars for every appointment that a participant attends. Of course, this is subject to change depending on how many funds that end up being collected.

Design

This hypothesis is causal in investigating the factors of sleep quality and therapy treatment. Initially, it may appear on the surface that this experiment would not be feasible in regards to a causal investigation. It is impossible to extract students from their environment and integrate them into a completely controlled environment to carry out this investigation. However, while these students all have completely different schedules and lifestyles, and there are many opportunities for confounding variables to skew the results of the study, statistical analysis methods such as regression modeling or multivariate analysis can still be used to combat this. Because of this, it is still possible to create a causal investigation. This hypothesis is causal, therefore, this study will be conducted in the experimental format. This study will have two variables, type of therapy treatment and sleep quality. The type of therapy treatment is the manipulated variable and it will be tested using the between subjects study design. Without foreseeing any order effects or selection effects, there does not seem to be a reason to include any controls designed to combat these effects, so any extra controls for this purpose will not be included. The sleep quality is the measured variable in this study, and ordinal level is the method that will be used to measure this variable.

Materials

Participants will be given a number of surveys in a binder, there will be enough for them to fill out a survey every day. These surveys will be collected everyday from participants and will therefore need to be given to them in advance. The survey used in this investigation will be The Sleep Condition Indicator (Espie et al, 2014) which was developed by researchers and professors of sleep medicine at the

University of Oxford. This appears to be a suitable survey to use for this experiment, it has been developed by individuals with a strong academic background and knowledge regarding this subject. The survey asks questions such as the following: how long it takes the participant to fall asleep, how long (in minutes) they end up staying awake if they wake up in the middle of their sleep, how early they wake up in comparison to their required wake up time, and how well they would descriptively rate their sleep quality. Some questions will have to be modified to fit into the context of this experiment. This survey will be taken daily rather than once, like it is in the original survey. The question "how many nights a week do you have a problem with your sleep" will be changed to "did you have trouble falling asleep last night." The heading will also need to be changed, from "thinking about the past month, to what extent has poor sleep…?" to "considering the previous day, to what extent has poor sleep…?" The questions presented in the survey, asking about impact on mood, energy and relationships, concentration, productivity and ability to stay awake, and general trouble, will remain in the survey. There will also have to be an addition in the questions, about how many hours they slept the previous night. Using these categories, an average will be calculated and a final score will be assigned. There will also be a change in the scoring, and all the descriptive language that corresponds with the total number of points will be removed. This is due to the fact that it may potentially be discouraging for participants. There should be no emotional value added to the data, rather, it should be an observation free from any judgement. These surveys will be taken by students for a month before they start their assigned therapy and during the three months that they receive their assigned category of therapy. In the survey given before the participants have started therapy, they will answer an additional question, regarding how long they've been struggling with sleep quality issues. This survey has a strong construct validity. This is because it is strong in content validity and face validity. There is strong face validity, because the surveys are relevant in the context of the investigation and there is transparency from the perspective of the participants. There is also strong content validity because the survey being used for this investigation is a measure that represents the

components of the construct. The Sleep Condition Indicator is a type of sleep survey, comprised of different measures of the construct, or sleep quality. There is also a high internal validity. Experiments that have a high internal validity involve manipulating the independent variable and controlling any extraneous variables, and both of these factors are true for this experiment as well. Strong internal validity is important because it allows researchers to draw causal conclusions.

Procedure

To choose the participants in this investigation, cluster sampling will be used initially and then simple random sampling will follow. In cluster sampling, the sample population is divided into clusters that are both internally heterogeneous and mutually homogenous. The clusters will be different dorms on campus. Certain clusters will be chosen for the study, and will be homogenous in the sense that every participant in each cluster will reside in the same dorm as the other participants in their cluster. A single cluster will have participants in it that are all different from each other, so there is internal variability in characteristics. The participants will be composed of students who live in dorms throughout the university of Washington's campus. Then each individual will be assigned to a type of therapy treatment using simple random sampling, which is completely random in the same way that it is random to pull names out of a hat. Each therapy intervention will have the same number of participants assigned to it. For a month before they begin their treatment, participants will fill out the surveys that were mentioned in the previous paragraph daily evaluating their sleep quality. They will then begin the therapy treatment they were assigned to. The participants will be assigned to a category of therapy randomly, either cognitive behavioral therapy, hypnotherapy and psychotherapy, and then participate in the survey outlined above. Each type of therapy will be handled by a distinct group of therapists. For example, every participant who is receiving cognitive behavioral therapy will see a therapist from this distinct group. This treatment will continue for three months, and the participants will continue filling out the surveys daily. The data will

then be collected and analyzed. The participants will be debriefed at the end of the study, and they will be given their compensation.

Ethics

All participants will be debriefed at the end of the study and given a compensation for their contribution. This debriefing process will be in interview form. The researchers will review every component of the investigation in depth with the participants individually and answer any pending questions. The investigation's aim, results and the implications of these results will be communicated clearly with the participants. While there were no deceptions in this study, this would be the place to clarify any misconceptions. The participants will also be given the chance to ask for clarification or ask any questions that they may have. Any type of harm that the participants may have endured will be identified and minimize at this stage. This is done by doing a health check in and making sure the participant is in a good mental state. Any issue found will be carefully corrected, as it would be highly irresponsible to allow an investigation to be detrimental to an individual's overall health. After the debriefing interview is finished, the participants will be given contact information so they will know where to reach out to in case they have any questions or concerns.

Every participant will be asked to sign consent forms before the investigation, that highlight everything the study entails. There will be a very clear outline of the investigation, explaining the procedure and details of the study. The participants will be told what the aim of the study is, any possible risks that may occur as a result of the study, the procedure, the benefits, the duration, and any other necessary details. This includes adhering to the therapy treatments, committing to filling out surveys every day, and allowing these surveys to be used for data purposes. They will be informed that their participation is voluntary, and that they can choose to stop participating or remove their data at any time. Other information, such as an emergency contact or any relevant information will be collected. Usually,

students at college will be 18 or older and therefore, authorized to properly consent participating in this investigation. If a student happens to be underage, they will need to have their parents fill out a consent form in addition to the form that they fill out themselves. It is very important for anyone participating in a study to not only physically and mentally have the capacity to consent, but to know exactly what it entails and what they are consenting to.

Confidentiality is absolutely vital. Under no condition will any information be given to any external party. All personal information will continue to be kept private, by creating a code to use in place of names and using this method to store and collect data. A key keeping track of which code corresponds to which participant will be used during the study to keep track of data, and then destroyed immediately after the investigation. As this is sensitive information, only authorized researchers will even be allowed to access it during the course of the study. If any data is published, it will use these codes as a substitute for names. Extreme care and deliberate effort will be made to ensure that all ethical guidelines are strictly adhered to.

There are not many risks in this study, except for the fact that students may spend a lot of financial resources and time, and still not achieve the sleep quality they would like to have. There is also the risk that the treatment makes things worse for the participants in terms of their sleep quality, but this risk is seemingly minimal. The benefits however, outweigh these risks because chances are the treatment will improve things, or at the very least, tell them what type of intervention isn't very effective for them, and they can eliminate that technique to find another course of treatment. It is worth debating whether a control group should be created, where participants either don't receive any therapy treatment, or are told that they are receiving treatment when they are not. Ultimately, it was decided that this is ethically questionable and would decrease the benefits for a lot of the participants, who would have to commit to not receiving any therapy treatment for the entirety of the study.

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