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Online Therapy's Influences on College Student's Emotional Health

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Abstract

Based on previous research, online therapy has been found as effective as traditional face-to-face therapy in reducing emotional health-related symptoms. Still, people tend to prefer face-to-face therapy more. Using theories from previous research, we adopted the "Depression, Anxiety, and Stress Scale" (DASS-21) to study our hypothesis that effective scores on DASS-21 will not differ between the students receiving the online therapy and face-to-face therapy. Also, the "Satisfaction with Treatment Questionnaire" has been used to study our hypothesis that students will prefer face-to-face therapy. This study examines the effectiveness of online therapy and the population's preferences while focusing on Trinity college students. This study found no significant difference between the DASS-21 score, self-reported change, and level of satisfaction between online therapy and face-to-face therapy groups. Our finding also showed no significant difference between the DASS-21 score, self-reported change, and level of satisfaction between male and female groups. These findings support the first hypothesis that effective scores on DASS-21 will not differ between the students receiving the online therapy and face-to-face therapy. In contrast, the second hypothesis that students will prefer face-to-face therapy has not been supported.

Online Therapy's Influences on College Student's Emotional Health

Online therapy is defined as a form of therapy between qualified mental health professionals and clients that is done via an online platform (Rochlen et al., 2004). Just like other therapies, online therapy has also been used to improve emotional health and treat related symptoms such as depression or anxiety (Hamdan-Mansour et al., 2009). However, mainstream research has mainly focused on general online therapy and its effectiveness in a larger population while its focus within college students has been less frequently studied. Therefore, in this current study, the focus will be on online therapy's influence on college students' emotional health and its comparison with face-to-face therapy.

Even though there is some existing research that focused on online therapy, a certain clarify for definition of the important concept is still needed. This study will be focused on online therapy conducted through video phone calls. The first and the most important finding in previous studies of college students is that online therapy is effective in reducing negative emotional health related symptoms. (Attridge et al., 2020) Research from Attridge and coworkers has demonstrated that Cognitive Behavioral Therapy based self-directed online programs effectively reduce various symptoms including anxiety, depression, social anxiety, and insomnia for college students. Other findings also show that online therapy can help reduce symptoms more effectively when researchers focus on therapist-assisted online (TAO) intervention (Benton et al., 2016). Other meta-analysis that focused on online therapy also shows similar results (Harrer et al., 2019). Specifically, for online therapy, the meta-analysis collected 90 studies and analyzed their main research finding about online therapy. Result of this shows that online

therapy could have positive effects on students' depression, anxiety, and stress. However, those effects are relatively small compared with online therapy's effects on students' eating disorders and social and academic functioning. Which shows the lack of direct effect of online therapy on certain college student's emotional disorders. These are the foundational findings from previous studies and will become the support of the current study's main hypothesis.

The second reoccurring theme within the previous research is the student's preference for face-to-face therapy. Similar to the finding of the effectiveness of online therapy, this theme also occurred across the research that focused on cognitive behavioral therapy, therapist-assisted online (TAO) intervention, and the meta-analysis focused on general online therapy. For online cognitive behavior therapy, research showed that most of their participants prefer having online therapy with therapeutic support, and they tend to favor face-to-face CBT (Mitchell & Gordon, 2007). For TAO, research shows that it is only appealing to a small number of college students while most of the students prefer face to face therapy (Travers & Benton, 2014). For the meta-analysis, it has been found that college students rated online therapy lower than face-to-face therapy (Holmes & Kozlowski, 2015). Those students also feel less comfortable, less emotionally connected, and less capable of understanding the content of online therapy. Even though results from Mitchell and Gordon also acknowledge the importance of the misconceptions these students may have towards teletherapy, and their preferences for face-to-face options are not due to teletherapy's ineffectiveness. Those findings of students' preference towards face-to-face therapy are still worthy of mentioning and including in a hypothesis of current research.

Asides from two main reoccurring themes, there are also other findings from previous studies that could be helpful for this research. One side finding is that online therapy has been found to have fewer hindering events when compared with face-to-face therapy (Richards & Timulak, 2012). Examples of hindering events researchers mentioned could be irritation or confusion during therapy. Another result was find by Palacios, based on the data he collected from their participants, internet-delivered CBT has been considered to have high feasibility for students (Palacios et al., 2018). Both of these two findings could help to support the idea that online therapy could have better effect than face to face therapy in reducing the emotional health related symptoms among college students at Trinity.

With sufficient understanding of previous research, we can see certain research gaps that we could fill in. First is that a large amount of prior research does not have a focus on college students. Therefore, difference between populations could lead to a different finding. The focus on college student is therefore, a new direction. Also, most of the research about online therapy was published around 2014 to 2019, which is before the outbreak of COVID-19. Certain changes could have been brought about by the pandemic. For example, data from more current research showed that during lockdown people showed a higher prevalence of common mental illnesses such as depression and anxiety (Goodwin et al., 2020). Also, during the pandemic, online therapy has been used more frequently. One data that research collected has showed that about the half of their participants never heard about online therapy before COVID (Feijt et al., 2020). After the outbreak, a majority of participants are using online therapy on a daily basis. Therefore, COVID-19 could have implications for people's emotional health status, the online therapy that people

received, and people's attitudes towards online therapy.

For this study, I will investigate the role that online therapy and face-to-face therapy have in influencing the emotional health among Trinity College's students. Considering findings from previous studies, this research will have two main research questions. The first question will be focused on online therapy's effect on reducing negative emotional health related symptoms and how it compares with face-to-face therapy. The second question will focus on students' attitudes towards online therapy and face-to-face therapy.

Based on the previous studies, this research will have two distinct hypotheses concerning therapy during COVID-19. For the first question, I hypothesize that online therapy and face-to-face therapy will be the same in effectiveness on reducing negative emotional health related symptoms. For the second part, I hypothesize that students will follow the same trend and still prefer face-to-face therapy.

Method

Participants

The participants of this study would contain undergraduate students in Trinity College who were in sophomore, junior and senior years. These participants were collected through distributed poster and emails. We collected 20 participants for this study. Among the participant we collected, The age of the participants is between 18-22 with $M= 20.80$, $SD = 1.24$. The participants we collected include 18 female and 2 male. For types of therapy participants had, 10 participants had experience in face to face therapy, 10 participants had experience in online therapy. For the type of diagnose participants had, 11 participants has been diagnose with

depression, 8 participants has been diagnose with anxiety, and 1 participant has been diagnose with eating disorder.

Materials

Mental health. Participant's mental health level was measured using the Depression, Anxiety, and Stress Scale (DASS-21) (Lovibond et al., 1995). This scale includes twenty one items in its deciding factor which assesses the participant's mental health in their levels of depression, anxiety and stress. (e.g., *I couldn't seem to experience any positive feeling at all*). The response scale ranged from 0 (*Did not apply to me at all*) to 3 (*Applied to me very much or most of the time*).

Satisfaction with treatment they received. Participant's satisfaction level for the treatment they received will be measured through Satisfaction with Treatment (SAT) Questionnaire(Richards et al., 2016). This scale includes fifteen items that help with assessing participants' satisfaction levels. (e.g., How did this online treatment compare to previous treatments?).

Procedure

Participants will be recruited through posters on campus and recruitment emails with a link or QR code that guided participants to the consent form. Inside the consent form, participants had the option to choose whether to give out their email in order to receive a gift card. Then, they had a link that led them to the questionnaire. The expected time for each participant to work on

their questionnaire are 30 minutes. Participants were given a 10 dollar Amazon gift cards if they chose to provide their emails.

Results

For the results of this study, I hypothesized that online therapy and face-to-face therapy will be the same in effectiveness on reducing negative emotional health (2007), which means students will prefer face-to-face therapy over online therapy.

With this expectation, I expected that the results for DASS-21 would not have a significant difference between the online therapy group and the face to face therapy group. Also, the score for SAT was be expected to have a difference between the online therapy group and the face to face therapy group with the score for face to face therapy group significantly higher than online therapy group.

Based on the developed hypothesis above, we find our results partially support the hypotheses. A Hotelling T square test was performed using SPSS. Results indicated that there is no significant difference between results of DASS-21 for participants with experience of face to face therapy ($M=24.30$, $SD=10.12$) and participants with experience of online therapy ($M=28.60$, $SD=10.54$), $F(1,18)=0.04$, $p=0.364$.

The score for stress also shows no significant difference between participants with experience of face to face therapy ($M=20.20$, $SD=7.26$) and participants with experience of online therapy ($M=22.20$, $SD=7.02$), $F(1,18)=0.08$, $p=0.786$.

Similar result were also find for the difference between participants with experience of face to face therapy ($M=8.60$, $SD=5.42$) and participants with experience of online therapy ($M=15.20$,

SD=10.55) for anxiety score, $F(1,18)=2.40$, $p=0.139$, and for difference between participants with experience of face to face therapy ($M=19.80$, $SD=10.69$) and participants with experience of online therapy ($M=19.80$, $SD=13.25$) for depression score, $F(1,18)=0.46$, $p=0.502$.

A Hotelling T square test was also conducted when evaluating participants' self-measured change after receiving therapy. The results shows that there are no significant difference between the online therapy group ($M=7.56$, $SD=1.67$) and the face to face therapy group ($M=6.13$, $SD=2.59$), $F(1,15)=0.18$, $p=0.678$.

To see the difference in attitudes of different groups, results of few questions in SAT are individually pulled out. The score indicate that there are no significant difference in the level of satisfaction between online therapy group ($M=7.56$, $SD=1.67$) and face to face therapy group ($M=7.56$, $SD=1.67$), $F(1,17)=0.05$, $p=0.759$.

Also, score shows that there are no significant difference in the level of feeling supported between online therapy group ($M=3.50$, $SD=0.71$) and face to face therapy group ($M=3.33$, $SD=1.12$), $F(1,17)=0.20$, $p=0.393$; Feeling therapy have long lasting effect between online therapy group ($M=3.60$, $SD=1.51$) and face to face therapy group ($M=3.22$, $SD=1.20$), $F(1,17)=0.51$, $p=0.600$; feeling therapy is helpful between online therapy group ($M=3.80$, $SD=1.32$) and face to face therapy group ($M=3.22$, $SD=1.09$), $F(1,17)=0.88$, $p=1.034$; feeling therapy is informative between online therapy group ($M=3.60$, $SD=1.17$) and face to face therapy group ($M=3.22$, $SD=0.67$), $F(1,17)=0.27$, $p=0.849$.

Lastly, to see the difference based on gender, another sets of t test was presented. Results shows that males ($M=15.00$, $SD=2.82$) and females ($M=27.72$, $SD=10.05$) have no significant

difference in results of DASS-21, $F(1,18)=1.69$, $p=0.210$. Groups also shows no significant difference in changes after therapy between males ($M=15.00$, $SD=2.82$) and females ($M=27.72$, $SD=10.05$), $F(1,18)=1.69$, $p=0.210$;

in long lasting effects between males ($M=3.00$, $SD=1.41$) and females ($M=3.47$, $SD=1.38$), $F(1,17)=0.027$, $p=0.872$; in level of changes after therapy between males ($M=7.00$, $SD=0.00$) and females ($M=6.87$, $SD=2.356$), $F(1,15)=1.39$, $p=0.257$; in level of feeling supported during therapy between males ($M=3.00$, $SD=1.41$) and females ($M=3.47$, $SD=0.87$), $F(1,17)=0.71$, $p=0.412$; in level of feeling therapy is helpful between males ($M=2.50$, $SD=0.71$) and females ($M=3.65$, $SD=1.22$), $F(1,17)=0.45$, $p=0.509$; in level of satisfaction between Males ($M=3.50$, $SD=0.71$) and females ($M=3.41$, $SD=1.12$), $F(1,17)=0.82$, $p=0.378$; and in level of feeling therapy is informative between Males ($M=3.00$, $SD=0.00$) and females ($M=0.47$, $SD=1.01$), $F(1,17)=3.713$, $p=0.071$.

Table 1

Online therapy group and face to face therapy group on DASS and SAT scales

	Online therapy		Face to Face Therapy		df	t
	M	SD	M	SD		
Dass-21	28.60	10.54	24.30	10.12	18	.93
Change	7.56	1.67	6.13	2.59	15	1.37
Long-lasting	3.60	1.51	3.22	1.20	17	.60
Felt supported	3.50	.71	3.33	1.12	17	.39
Helpful	3.80	1.32	3.22	1.09	17	1.03
Satisfaction	3.60	1.35	3.22	.67	17	.76
Informative	3.60	1.17	3.22	.67	17	.85

Table 2

Performance of the male group and female group on the DASS scales and SAT

	Male		Female		df	t
	M	SD	M	SD		
Dass-21*	15.00	2.83	27.72	10.05	18	-1.74
Change	7.00	.00	6.87	2.36	15	.08
Long-lasting	3.00	1.41	3.47	1.38	17	-.46
Felt supported	3.00	1.41	3.47	.87	17	-.69
Helpful	2.50	.71	3.65	1.22	17	-1.28
Satisfaction	3.50	.71	3.41	1.12	17	.11
Informative	3.00	.00	3.47	1.01	17	-.64

Discussion

Based on past research, this study hypothesized that online therapy would have similar effects to face-to-face therapy in reducing emotional health related symptoms, and people will prefer face-to-face therapy. While the results of this study were not significant, they did align with our hypothesis that there is no significant difference between the score in DASS-21 of the online therapy group and the face-to-face therapy group. Meanwhile, our second hypothesis about people's preferences was not supported due to the lack of significant difference from the score of SAT between the two therapy groups. Past research has concluded that online therapy effectively reduces emotional health-related symptoms, while people prefer face-to-face therapy. This study took these findings one step further by comparing online therapy and face-to-face therapy groups' effectiveness and popularity while focusing on Trinity College students during the COVID-19 pandemic.

For the result of our research study, there are two main directions that our findings are related with. The first is that our results involving comparing the effectiveness of online therapy and face-to-face therapy in our study align with the findings about the effectiveness of online therapy. Previous studies such as Attridge et al. (2020) reported that online therapy is effective in reducing various emotional health related symptoms. More specifically, they found out in their study that about half of the participant's stress and anxiety can be reduced by online therapy. This study developed Attridge et al.'s findings further by comparing online therapy's effect with face-to-face therapy while focusing on Trinity College students during the COVID-19 pandemic. Results support our hypothesis that there is no significant difference between the DASS-21 score

between participants who had experience in online therapy and participants who had experience in face-to-face therapy.

For the second result, other studies such as Mitchell & Gordon (2007) show different results with our finding that populations show no preference between online therapy and face-to-face therapy. The Mitchell & Gordon article discusses people's preferences in therapy types and possible influences on their choices. They found out that 47.5% of their participant's first choice would be face-to-face therapy, which is higher than 31.9% of the population prefer online therapy first. However, in this study, when applying the research question to Trinity College students, it reveals that there is no significant difference between the score of SAT for the online therapy group and the face-to-face therapy group, which shows that students in Trinity do not have preferences on face to face therapy over online therapy. Possible explanations for the differences in findings could be the change in the time period. In Mitchell & Gordon's study, they mentioned that a lack of understanding of online therapy could cause fewer people to choose it as their first option. Since Mitchell & Gordon's study was conducted 15 years before, it could be that the public's understanding of online therapy and general technology used in online therapy has already improved, which causes people to prefer online therapy more.

Aside from the central hypothesis, there are also other side findings. One finding revealed through the data aligns with the findings from Palacios et al.'s (2018) interview, where participants had mentioned that online therapy has more accessibility. Multiple students have responded to the question "What did you most like about the online treatment?" from SAT questionnaire that they find online therapy is easy to access and can be done anywhere. Another

direction that the data analysis takes is the difference based on gender. The result shows no significant difference between males and females in their DASS-21 score and their satisfaction with the treatment.

As this study was developed using past research, certain strengths and importance were maintained within it. One strength in this study that was considered to be critical to our findings is the adaption of the COVID-19 outbreak and to see the potential difference it caused. Due to the profound changes that happened through the outbreak of COVID-19, including physical changes like quarantine and psychological changes like stress and anxiety during a pandemic, people's daily life has been drastically changed. Changes like this could lead to further changes on other factors that have been previously tested. Therefore there is necessary to research the influence of pandemics.

While our study successfully compares the effectiveness and people's attitude between online therapy and face-to-face therapy, there are still certain aspects of this research that can be improved. One most crucial limitation of this study is the need for more participants. Originally this study was designed to have 50 participants. However, in reality, only 20 participants were collected, less than half of the plan. This could contribute to the lack of significant differences between the results. For instance, having fewer participants could have less chance of confirming potential significant differences for both the DASS-21 scale and the SAT scale. This limitation may contribute to the lack of significant difference between effectiveness and participant's attitude. Also, the limited number of participants limits the diversity of participants in gender and ethnicity. For example, this study didn't get any non-binary participants, and only 2 out of 20 of

the participants are male, while the rest of the participants are all female. In this case, our results will be unable to be applied to non-female students in Trinity due to the lack of participants. A potential solution for this problem is to extend the time of participant collection meanwhile trying to reach out to potential non-female participants directly.

Another limitation of this study would be the measurement. Since both the DASS-21 and the SAT questionnaires are self-reported questionnaires, they may not be inaccurate and could produce errors. This questionnaire form can only collect the information from the participants' perspective, which could cause potential errors. For example, a participant may be unable to notice their current emotional status or purposely want to conceal their emotional health status. This limitation could be avoided by adding other disguised 'questions into the questionnaire to get a more accurate answer from participants.

Lastly, this study is also limited by the lack of counterbalancing techniques in the design of the questionnaire. Within our questionnaire, the questions were delivered through the fixed order of basic information, DASS-21, and SAT. Therefore, it could cause a certain error from the order of the question to become unnoticed. For example, if the participants receive DASS-21 before SAT, it could cause certain confounding variables and influence the results. For example, putting DASS-21 before SAT could cause participants to be more aware of their mental status and cause their SAT scores to change. However, this is still just speculation, and we cannot confirm what influence the lack of counterbalancing brings to the results. For future research, this limitation can be avoided by using the counterbalancing technique by giving participants randomized questionnaires, which removes the influence that the order of the question may have.

For future research, besides repeating the study without the limitation to get more accurate results, one direction that it could take on would be about the potential correlation between the influence of outbreak of COVID-19 and student's attitude toward online therapy. This research revealed that participants' attitude toward online therapy and face-to-face therapy does not show a significant difference. However, previous research from Mitchell & Gordon shows that more people consider face-to-face therapy as their first choice. The difference between these findings brings interesting questions about what could be the cause of this change. One potential correlation could be with the influence of the COVID-19 outbreak. The pandemic has forced people's life to change from various perspectives and could simultaneously cause people's attitudes toward online therapy to change. The participants in this future study will be selected through existing data on a database about people's attitudes towards online therapy. Then, a questionnaire with counterbalancing will be handed out to them. The questionnaire will contain three main parts: basic information collecting, participants' current attitudes on online therapy, and to what degree they feel their life has been influenced by COVID-19. After collecting all the data, researchers could try to see whether there is any correlation between the change in participants' attitudes toward online therapy and to what degree they feel their life has been influenced by COVID-19. For the result of this study, first, the data allows researchers to see whether there is any change in people's attitudes toward online therapy pre-COVID and post-COVID. Second, when there is a difference, if the results show a correlation between these factors, it supports the idea that people's opinion on online therapy has changed with the outbreak of COVID-19. If results show no difference, further consideration about potential

reasons for changing people's attitudes toward online therapy is needed. Future research like this could help explore more influences that COVID-19 has brought on people mentally.

Conclusion

In previous literature, researchers tended to focus on the effect of online therapy without the limit of population and influence of COVID-19. However, past research like that could be antiquated and not always suitable for current social situations. Therefore, I designed this study to fill in the previously existing gap and set the focus on college students at Trinity College during the COVID-19 pandemic. After accordance with previous literature about online therapy having similar effect to traditional therapy and people tend to prefer face to face therapy, this finding reveal that there is no difference between the effect and student's preferences between online therapy and face to face therapy within the population of Trinity college students during COVID-19 pandemic. While our study faced limitations like lack of control over participant's responses as well as a small and less diverse group of participants, this study is important because it analyzed its effectiveness and people's attitude towards online therapy in the environment of a college campus during the pandemic.

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