Official Title: Building mental health resilience in the COVID-19 pandemic.

Brief Title: Brief Video Interventions for Depression

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IRB Request for Review of Human Subjects Research
Research protocol: Building mental health resilience in the COVID-19 pandemic.
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Objectives

The present study intends to examine the impact of cognitive-behavioral analog video interventions on depressive symptoms and coping skills. Our primary interest lies in comparing the efficacy of interventions focusing on one domain of coping skills to an intervention focusing on multiple domains of coping skills. We have tailored this intervention to address issues specific to the COVID-19 pandemic.

Background and Rationale

Cognitive-behavioral therapy (CBT) reliably reduces depressive symptoms (Strunk et al., 2017), but the causes of symptom change in CBT remain unclear (Cuijpers et al., 2019). Several studies have addressed this gap in understanding by examining the impact of CBT's individual components.

Teasdale and Fennell (1982) compared the effects of focusing on changing dysfunctional thoughts to focusing on gathering information on dysfunctional thoughts. They hypothesized that changing dysfunctional thoughts would predict greater depressive symptom reduction, compared to gathering information on dysfunctional thoughts. Five female treatment-resistant clients concurrently undergoing CBT participated in both procedures at different points in therapy. Belief in the identified thought and depressed mood were assessed before and after the procedures were conducted. Focusing on changing dysfunctional thoughts predicted greater depressive symptom change, compared to focusing on gathering information on dysfunctional thoughts.

Bruijniks et al. (2018) examined the impact of a cognitive skill acquisition procedure on depressive symptoms and coping skills. Seventy-two healthy undergraduate students were assigned to complete either a cognitive skill acquisition procedure or no procedure. On a following day, all participants completed a social stress test. Afterwards, participants completed measures of cognitive-behavioral therapy skill use, mood, dysfunctional thinking, and distress. Participants who completed the cognitive skill acquisition procedure showed higher cognitive therapy skill use but failed to differ from the control group on mood, dysfunctional thinking, and distress.

Bruijniks et al. (2020) continued their examination by assessing the impact of a cognitive skill acquisition procedure on CBT skill use and credibility of dysfunctional thoughts. Fifty-two female participants with depression were randomly assigned to one of two conditions: a cognitive skill acquisition procedure or a control procedure focusing on the theory of automatic thinking. Following the class, all participants were exposed to a sad mood induction, followed by a test of cognitive therapy skills. Participants who completed the cognitive skill acquisition procedure showed higher cognitive therapy skill use but failed to differ from the control group on credibility of dysfunctional thoughts and the strength of emotion associated with such thoughts.

The literature examining the impact of individual components of CBT on depressive symptoms is mixed. One reason for this discrepancy may be due to the potency of the skill

acquisition procedures. Even when completing a full course of treatment, many clients do not respond to CBT (Cuijpers et al., 2014). It is plausible that a single course focusing on CBT skills would fail to significantly impact depressive symptoms. As such, increasing the potency of such an intervention is essential. One way to strengthen skill acquisition procedures may be associated with the extent to which each coping skill is taught. Those who receive CBT are encouraged to act as their own therapist (Beck et al., 1979), which is pursued by practicing coping skills. As such, a one-time course focusing on a singular coping skill may be more beneficial than a similar procedure focusing on multiple coping skills.

We are interested in examining the effects of two types of video interventions aimed at teaching cognitive-behavioral coping skills. The first condition focuses on teaching one coping skill in depth (i.e., the "depth condition"). The second condition focuses on teaching several coping skills with less depth (i.e., the "breadth condition"). The third condition is a no-intervention control condition. We hypothesize the depth condition will predict greater changes in self-reported coping skills, a performance measure of coping skills, loneliness, and change in depressive symptoms, compared to the breadth condition. We hypothesize the depth and breadth condition will outperform the control condition on the same measures.

Procedures

A. Research Design

Participants will begin by reading a brief description of the study and will be directed to an online survey if interested in participating. Prior to informed consent, participants will be asked to fill out a pre-screening measure of depressive symptoms. The pre-screening measure is used only for eligibility purposes and will not be retained for data analysis. If a participant meets inclusion criteria, they will be prompted to read and review the informed consent document. Upon agreement, participants will fill out baseline measures. Then, participants will be randomly assigned to one of three conditions: (1) a brief intervention focused on one domain of coping skills (i.e., the "depth condition") (2) a brief intervention focused on three domains of coping skills (i.e., the "breadth condition") or (3) a no-intervention control condition. If participants are randomly assigned to the depth condition, they will be further randomized into one of three brief interventions: (1) a brief intervention focused on cognitive coping skills, (2) a brief intervention focused on behavioral coping skills, or (3) a brief intervention focused on interpersonal coping skills.

All participants will be administered measures assessing depressive symptoms, coping skills, problem-solving preferences, loneliness, demographics, and the impact the COVID-19 pandemic has had on participant's lives. Participants in the intervention conditions will watch a series of videos describing coping strategies to deal with depressive symptoms. Following the videos, participants will be asked to fill out a measure assessing the perceived credibility of the brief intervention. Participants in the intervention conditions will be asked to practice the coping skills learned over the next seven days. Seven days after initial contact, all participants will be asked to fill out two measures assessing the quality of participant's coping skills, a measure of depressive symptoms, and a measure of loneliness.

B. Sample

Utilizing Amazon's Mechanical Turk (MTurk) website, we will recruit approximately 501 participants who: (1) are 18 years of age or older, and (2) who score 10 or above on the Patient Health Questionnaire (PHQ-9). This cut-off was previously designated as being associated with moderate depression (Kroenke et al., 2001). Those employed on MTurk are paid to complete tasks offered online they voluntarily sign up for. Participation in this study will be restricted to those living in the United States. The study will be administered via Qualtrics. Participants will read an electronic copy of the consent form and will be required to indicate their consent to participate in the study. Participants will access the intervention and the follow-up portion of the study via an electronic device of their choosing.

C. Measurement / Instrumentation

Attention Questions. Attention questions are basic knowledge questions to assess the level of participant engagement. Three attention checks will be administered in the first portion of the study. Two attention checks will be administered in the second portion of the study.

Breadth/Depth Questionnaire (BDQ). The BDQ is a 10-item self-report scale measuring the extent to which participants prefer learning either single or multiple problem-solving strategies.

COVID-19 Pandemic Interference. This 6-item self-report questionnaire measures the extent to which the COVID-19 pandemic has interfered with participant's functioning, with responses ranging from "not at all" to "extremely". Item content was derived from the PROMIS Pain Interference item bank (Amtmann et al., 2010).

Demographics Questionnaire (DEM). The DEM consists of items regarding sex, age, ethnicity, education level, and income.

Credibility/Expectancy Questionnaire (CEQ). The CEQ (Devilly & Borkovec, 2000) is a 6-item self-report scale that measures the participant's perceived credibility of their current therapy. The questionnaire will be adapted to match the language of our brief intervention. The CEQ has demonstrated good internal consistency (α = .84-.85).

Feedback Survey. The feedback survey is a 6-item self-report questionnaire that assesses the perceived quality of the video intervention.

Patient Health Questionnaire (PHQ-9). The PHQ-9 (Kroenke et al., 2001) is a 9-item self-report scale that measures depressive symptom severity. Internal consistency estimates for the PHQ-9 have been good (α = .84-.95; Kroenke et al., 2010).

Quick Inventory of Depressive Symptoms-Self Report (QIDS-SR). The QIDS-SR (Rush et al., 2003) is a 16-item self-report scale that measures depressive symptom severity. Internal consistency estimates for the QIDS have been good (α = .86; Rush et al., 2003).

Styles of Emotion Regulation Questionnaire (SERQ). The SERQ (Murphy et al., manuscript in preparation) is a 36-item self-report scale that measures the extent to which

respondents endorse four different domains of coping skills: cognitive, behavioral, interpersonal, and mindfulness.

UCLA Loneliness Scale, Version 3. The UCLA Loneliness Scale, Version 3 (Russell, 1996) is a 20-item self-report scale that measures subjective feelings of loneliness and isolation. Internal consistency estimates for the scale have been excellent (α = .89-.94), along with good test-retest reliability over the course of a year (*r* = .73).

Ways of Responding Scale (WOR). The WOR (Barber & DeRubeis, 1992) is a performance measure intended to assess the quality of coping skills. Participants respond to six hypothetical stressful situations and are given initial thoughts regarding the stressful situation. Participants are asked to describe and rate the intensity of their mood, along with rating how vividly they imagine the stressful situation. Participants also rate how vividly they imagine having the initial thoughts provided, describe any further thoughts and presumed behaviors, and then re-rate the intensity of their mood. The WOR is rated by third party coders for the extent of coping skills endorsed. Intraclass correlation coefficients for WOR judgments have been good (ICC = .71; Strunk, DeRubeis, Chiu, & Alvarez, 2007).

Worksheets. In between watching videos, participants will be instructed to fill out relevant coping worksheets. These worksheets include: a thought record (Beck et al., 1979), a pleasure and accomplishment record (Beck et al., 1979) and a communication record, modeled on the DEAR skill used in DBT (Linehan, 1993). Participants will also be asked to fill out a relevant worksheet within the week between study participation.

D. Detailed study procedures

Access to the study will be provided via the MTurk website. After reading and reviewing a brief description of the study, those interested in participating will be directed to Qualtrics. Participants will be asked to fill out a pre-screening measure of depressive symptoms, which will take approximately 60 seconds to fill out. If a participant meets inclusion criteria, they will be presented the consent form. Upon agreement, participants will fill out baseline measures. Then, participants will be randomly assigned to one of three conditions: (1) a brief intervention focused on one domain of coping skills, (2) a brief intervention focused on three domains of coping skills, or (3) a no-intervention control condition. If participants are randomly assigned to the first condition, they will be further randomized into one of three brief interventions: (1) a focus on cognitive coping skills, (2) a focus on behavioral coping skills, or (3) a focus on interpersonal coping skills.

All participants will be administered measures assessing depressive symptoms, coping skills, problem-solving preferences, loneliness, and the impact the COVID-19 pandemic has had on participant's lives. All participants will be administered measures assessing depressive symptoms, coping skills, problem-solving preferences, loneliness, demographics, and the impact the COVID-19 pandemic has had on participant's lives. Filling out these measures will take approximately 30 minutes.

Each brief intervention consists of watching a series of videos. After each video, participants in the intervention conditions will be prompted to answer a series of questions to

practice the skills explained in the videos. Watching all videos and filling out all worksheets will take approximately 30 minutes.

Participants in the intervention conditions will then be asked to work on a coping skills worksheet over the next seven days. A coping skill worksheet will take approximately 10 minutes to fill out. Participants will receive an email seven days after participating in the brief intervention, asking them to take part in the following portion of the study. Before beginning the follow-up activity, participants in the intervention conditions will be asked to fill out an appropriate coping skills worksheet. An appropriate coping skills worksheet involves clear effort in filling out each of the components of the coping skill worksheet. Seven days after initial contact, all participants will be asked to fill out two measures assessing the quality of participant's coping skills, a measure of depressive symptoms, and a measure of loneliness.

Compensation

Incentives for those assigned to videos are $0.75 for responding to the first portion of the study. If participants fill out an appropriate copy of a coping skill worksheet, they will receive an incentive of $0.50. For responding to the second portion of the study, participants would receive $1.25 as an incentive. The total incentive possible for participants assigned videos is $2.50. Participants not assigned videos will receive $0.50 as an incentive for responding to the first portion of the study. For responding to the second portion of the study, participants would receive $1.00 as an incentive. The total incentive for both portions of the study would be $1.50 for participants not assigned videos. As an incentive to participate, those who fill out the pre-screening measure will be eligible to win 1 of 2 $50 Amazon gift cards. The odds of winning depend on the number of participants who fill out the pre-screening measure. If a participant begins but does reach the last survey page the brief intervention or follow-up activity, they will not be compensated for that portion of the study. If a participant does not correctly answer any attention questions, they will not be compensated for that part of the study.

Minimization of risks

Data will be collected via Qualtrics. Once the data is obtained, it will be stored electronically on Qualtrics, Box, or University computers. Any identifiable information will be deleted after data collection and compensation is complete.

The proposed study poses minimal risk to participants. During the study, participants may experience mild discomfort from test instruments or videos. Participants will be allowed to withdraw from the study at any point and omit answers to any items for whatever reason. Any identifiable information will only be used to determine the proper amount of compensation. No identifiable information will be accessible in research published from this study. Participants have the option to not provide answers to any individual items during the study.

E. Internal Validity

To maximize internal validity in our study, we included conditions that involved coping skills in three domains and skills in each domain. With this form of design, we can be confident in attributing differences to either difference in time spent on a skill or the specific content with

the conditions. We also included attention checks to ensure participants maintain focus and that the study is not being filled out by automated systems.

F. Data Analysis

We will conduct a series of general linear models to examine if condition predicts differences in depressive symptoms, coping skills, and loneliness.

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