A Randomized Controlled Trial on Using Peer-Support Coaching to Improve Adherence to Online Self-Help for College Mental Health

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A RANDOMIZED CONTROLLED TRIAL ON USING PEER-SUPPORT COACHING 
TO IMPROVE ADHERENCE TO ONLINE SELF-HELP FOR COLLEGE 
MENTAL HEALTH 

by 

Korena S. Klimczak 

A thesis submitted in partial fulfillment 
of the requirements for the degree 
of 
MASTER OF SCIENCE 
in 
Psychology 

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UTAH STATE UNIVERSITY 
Logan, Utah 
2022
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ABSTRACT

A Randomized Controlled Trial on Using Peer-support Coaching to Improve Adherence to Online Self-help for College Mental Health

by

Korena S. Klimczak, Master of Science
Utah State University, 2022

Major Professor: Michael E. Levin, Ph.D.
Department: Psychology

College students are disproportionately more likely to experience mental health problems as compared to the general public. College counseling centers are an essential resource to address this problem, but often struggle with understaffing issues and provision of services that match varying levels of need. Alternative services to traditional weekly therapy can help, such as online self-guided mental health programs. While such programs have been generally supported as efficacious when used as intended, in natural use outside of research studies adherence rates are generally low. Peer-delivered coaching, using undergraduate students as coaches, is an innovative alternative to traditional coaching methods (i.e., coaching delivered by graduate students or paid mental health professionals) which may help to improve adherence.

To test the efficacy, feasibility, and acceptability of peer-support coaching for college students, we evaluated a novel ACT-based coaching protocol delivered by
undergraduate students, supplementing the 12-module self-help program ACT Guide. Thus, a randomized controlled trial with three conditions (phone coaching, text message coaching, and a no support control group; \( n = 230 \)) was conducted. Participants completed a baseline survey before being randomized to one of the three conditions, with all participants being instructed to use ACT Guide over the next 10 weeks. After 10 weeks had passed, participants completed a post-treatment survey. The primary outcome of interest was number of modules completed, with secondary outcomes including psychological distress, positive mental health, psychological inflexibility, psychological flexibility, program satisfaction, and dissatisfaction with coaching.

Participants who received either phone (\( M = 7.1, SD = 4.9 \)) or text (\( M = 5.7, SD = 5 \)) coaching completed significantly more modules than participants in the no support control condition (\( M = 1.6, SD = 3.3, p < .001 \)). Participants who received phone coaching experienced significant improvements across the majority of assessed outcomes as compared to the control group, with participants who received text coaching significantly improving only on outcomes related to psychological flexibility (\( ps < .05 \)). These results support peer-support coaching as an efficacious method for improving adherence to online mental health programs, with phone coaching being particularly well-received. Our findings call for the practical implementation of coaching supports as a supplemental service to online mental health programs, with evidence to support undergraduate students as feasible and efficacious coaches.

(115 pages)
A Randomized Controlled Trial on Using Peer-support Coaching to Improve Adherence to Online Self-help for College Mental Health

Korena S. Klimczak

Online self-help programs can serve as accessible mental health resources, allowing users to learn skills for improving their mental health at their own pace. The self-guided nature of these programs allows them to be cost-efficient as compared to traditional therapy and appealing to those who do not want to attend traditional therapy due to stigma or low-perceived need. However, these programs also struggle with low adherence rates, with typically only a small subset of users completing a given program in full. Coaching has been previously explored as a way to increase program adherence, adding a low-intensity human component to self-help programs. Typically, graduate students or mental health professionals serve as coaches, but this is a resource-intensive approach that is difficult to scale-up. The present study tested the efficacy, feasibility, and acceptability of peer-support coaching, which would be feasible to scale-up on account of using undergraduate volunteers as coaches.

We conducted a randomized controlled trial with 230 participants assigned across three conditions. All conditions were instructed to use the online self-help program ACT Guide, with one additionally receiving weekly phone coaching, one receiving weekly text coaching, and one receiving no additional coaching. Participants who received either format of coaching completed significantly more modules and were more satisfied with
ACT Guide than those who did not receive coaching. Significant improvements in mental health outcomes were observed within both coaching conditions, but a greater number of outcomes improved in the phone condition than the text condition. These findings shed light on peer-support coaching, particularly when delivered over phone calls, as a promising intervention for increasing adherence to and thus the effectiveness of online self-help programs.
ACKNOWLEDGMENTS

I would like to express my thanks and gratitude to my advisor Dr. Michael Levin, for his guidance that has promoted my grow as a researcher, and his support that has allowed me to prosper as a psychologist. Thank you to my committee members Dr. Michael Twohig and Dr. Gretchen Peacock, for their time and efforts in helping me refine this coaching intervention and elevate this study. I would also like to thank the ten students who volunteered as coaches: Amber, Amelia, Ashley, Drew, Gable, Haylie, Heather, Rachel, Ryne, and Sophie. Their hard work helped improve our participants’ lives, and they are hopefully the first of many peer-support coaches to come. Additionally, thank you to my partner Chase, and my brother Oliver, for giving me the strength to do this work. Thank you to my feline friends, Tungsten and Gambino, for filling my heart with love. Thank you to my dad, for inspiring my allegiance to science, and to my mom, for teaching me how to step back and take care of myself when I push myself too hard.
# CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
</tr>
<tr>
<td>PUBLIC ABSTRACT</td>
</tr>
<tr>
<td>ACKNOWLEDGMENTS</td>
</tr>
<tr>
<td>CHAPTER I: INTRODUCTION</td>
</tr>
<tr>
<td>Online Self-help Programs</td>
</tr>
<tr>
<td>Coaching for Online Self-help Programs</td>
</tr>
<tr>
<td>The Current Study</td>
</tr>
<tr>
<td>Aims and Hypotheses</td>
</tr>
<tr>
<td>CHAPTER II: METHOD</td>
</tr>
<tr>
<td>Study Design</td>
</tr>
<tr>
<td>Participants</td>
</tr>
<tr>
<td>Procedures</td>
</tr>
<tr>
<td>Intervention</td>
</tr>
<tr>
<td>Measures</td>
</tr>
<tr>
<td>Statistical Analyses</td>
</tr>
<tr>
<td>CHAPTER III: RESULTS</td>
</tr>
<tr>
<td>Preliminary Analyses</td>
</tr>
<tr>
<td>Feasibility of Peer-support Coaching</td>
</tr>
<tr>
<td>Adherence Effects</td>
</tr>
<tr>
<td>Treatment Effects</td>
</tr>
<tr>
<td>CHAPTER IV: DISCUSSION</td>
</tr>
<tr>
<td>Feasibility and Acceptability of Peer-support Coaching</td>
</tr>
<tr>
<td>Efficacy of Peer-support Coaching</td>
</tr>
<tr>
<td>Implications</td>
</tr>
<tr>
<td>Limitations</td>
</tr>
<tr>
<td>CHAPTER V: Conclusion</td>
</tr>
<tr>
<td>REFERENCES</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>APPENDIX A: COACHING FIDELITY RUBRIC: CALLS</td>
</tr>
<tr>
<td>APPENDIX B: COACHING FIDELITY RUBRIC: TEXT CONVERSATIONS</td>
</tr>
<tr>
<td>APPENDIX C: ACT GUIDE COACHING PROTOCOL</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

College students face an intersection of life circumstances such as school-induced stress, limited income, and common age of onset for psychopathology that place them at considerable risk for mental health problems. As a result, mental health problems are highly prevalent among college students, with 30% of students having been diagnosed or treated for a mental health condition in the past 12 months as compared to 19% of adults in the general U.S. population (ACHA, 2018; SAMHSA, 2019). This prevalence rate is even greater when accounting for students who have not sought services and thus have not received a diagnosis or treatment. One national survey using fully structured diagnostic interviews found a 12 month prevalence rate of 46% (ACHA, 2018; Blanco et al., 2008). High rates of 12 month suicidal ideation (13%), the significant association between poor mental health and GPA, and mental health problems accounting for 64% of college dropouts exemplify the impact of poor mental health on students (ACHA, 2018; Eisenberg et al., 2009; Luca et al., 2016; NAMI, 2012).

Both attitudinal and structural barriers to accessing therapy services exacerbates this issue; of the 46% of students struggling with a mental health concern, 82% do not seek treatment (Blanco et al., 2008). College students who do seek treatment encounter additional barriers that delay or minimize services, such as extended waitlists. There is a growing disparity between the number of students in need and the number of providers employed at college counseling centers (Xiao et al., 2017). For every mental health professional employed, there are 228 students seeking services (Gallagher, 2014).
Approximately half of these centers have addressed this problem through waitlists that often extend past 3 weeks, resulting in increased risk of attrition as well as perceived mental health stigma (Blau et al., 2015; Gallagher, 2011; Levy et al., 2005). Thus, the longer students must wait in order to receive treatment, the less likely treatment seeking is to be perceived as normalized and is instead perceived as stigmatized (Blau et al., 2015). Accessibility to services is limited even further for students who attend online, during the summer and winter breaks, or for students attending community college (American College Counseling Association, 2015). To address these limitations and help augment currently existing college mental health resources in addressing students’ needs, alternative resources are called for.

Mental health resources offered by universities to address student needs most often take the form of counseling/therapy services (Balon et al., 2015). These services are effective for a number of students in need, however service gaps still persist. The limited variability of services often leave little room for students who are either struggling but not experiencing clinical level symptoms, or perceive themselves as having low need (Gallagher, 2014). Indeed, students with depression symptoms that do not meet criteria for major depressive disorder are the least likely to seek treatment as compared to students with other conditions (Eisenberg et al., 2011). Thus, the structure of university mental health resources would benefit from provision of alternative service types for those with mild to moderate level symptoms. Alternative formats for services would also help address several attitudinal barriers commonly experienced by students, such as stigma either from self or others, low perceived need, as well as poor perceptions of
treatment effectiveness (Eisenberg et al., 2011). While it is unclear at this point as to whether offering alternative service formats (e.g., self-help options) addresses the barrier of low-perceived need, it is possible that such formats are more approachable to individuals who experience this than traditional face-to-face therapy.

Such alternative formats for mental health treatment are becoming increasingly implemented into college mental health settings. For example, revised stepped care models are being adopted with greater tailoring to student level of need (Cornish et al., 2017). Self-help interventions such as online informational programs and more interactive programs compose the bottom of the resource tier list, while more intensive services such as psychiatric consultation and case management reside at the highest tiers. More traditional college counseling services are left in the middle, such as group and individual therapy. Acceptance and Commitment Therapy (ACT) Guide, the intervention of interest for the present study, is one example of an online self-help program that would preside near the bottom of a stepped care model as a readily available and low-cost resource.

**Online Self-help Programs**

Online self-help is one alternate format for resources that can increase access to mental health services for college students (Lattie et al., 2019). Self-help apps or websites allow users to learn valuable skills for managing psychological problems, similar to a self-help book, while providing greater tailoring or engagement than what a self-help book can often provide (Andersson et al., 2008). They are broadly accessible and can
serve a range of functions, for example preventative care, low-intensity treatment, or as a resource used adjunctively with traditional therapy (Harrer et al., 2018; Levin et al., 2015). Such programs allow students to receive instant access to a mental health resource without increasing burden on providers or counseling centers. This allows for increased flexibility and accessibility regarding how students can receive help, as these programs can be accessed at one’s own convenience. Additionally, students are generally interested in these technology-driven interfaces for self-help, with 53% of college students having downloaded a mental health app at some point in time (Melcher et al., 2020).

The privacy allotted by these alternative resources may also be more appealing to students struggling with mental health stigma. For example, 17% of students are unwilling to see an in-person therapist but would be willing to use online self-help (Levin et al., 2018). Online self-help programs may also provide a service that better matches students’ own perceptions of their level of need, specifically for students who perceive their need to be too low to warrant therapy. In addition, online self-help can fill key service gaps by providing an additional resource that can be used while waiting to begin counseling (Levin et al., 2020b), as an adjunctive resource to enhance therapy (Levin et al., 2015; Zwerenz et al., 2017), or as a resource for use after therapy has been terminated to help maintain gains from therapy.

Online self-help has been shown to be highly effective for improving college student mental health, with meta-analyses targeting college samples having demonstrated significant improvements in stress, anxiety, depression, and interpersonal relationships (Conley et al., 2016; Davies et al., 2014). Both universal programs developed for use
with any students as well as programs tailored towards specific mental health conditions within students have been found to be effective, demonstrating the wide application of online self-help for students across varying levels of need. While most of these programs use a cognitive behavioral therapy (CBT) based framework, having an array of programs and theoretical modalities to choose from can benefit users’ satisfaction, engagement, and outcomes. Programs based in acceptance and commitment therapy (ACT) are becoming increasingly common with evidence supporting effectiveness (Brown et al., 2016; Sierra et al., 2018; Thompson et al., 2021).

ACT Guide is one publicly available online self-guided program that receives university support as a mental health program. It was launched in September 2019, serving as an online self-help program based on ACT. ACT Guide was developed by a lab at Utah State University (USU), and internal funding from the university allows ACT Guide to be freely available to USU students and $10 otherwise. Since launch, over 1,400 USU students have signed up for the program. ACT Guide targets acceptance, mindfulness, and values-based processes that have been consistently found to improve a wide range of mental health concerns relevant to college students (A-Tjak et al., 2015). Previous studies have supported the effectiveness of the modules hosted within ACT Guide, with student participants showing improvements in overall distress, general anxiety, social anxiety, depression, academic concerns, and positive mental health (Levin et al., 2017; Levin et al., 2020a; Peterson et al., 2021).

However, the impact of online self-help programs like ACT Guide on college student mental health is significantly reduced due to low rates of adherence (Donkin et
al., 2011; Fleming et al., 2018). College students may be particularly at risk for discontinuing use of these programs as engagement is also typically lower in younger participants. Older participants tend to spend more time in online programs, log-in more frequently, and overall complete more activities than younger participants, with 25 - 40 appearing to be the peak age bracket (Beatty & Binnion, 2016). Attrition rates for online mental health programs in randomized controlled trials (RCTs) commonly exceed 50%, as users are more likely to lose interest or forget about the program as compared to face-to-face treatment (Wangberg et al., 2008).

Rates of engagement are even poorer in natural use, with one systematic comparison finding adherence to be four times worse during natural use as compared to when the program was assessed in an RCT (Baumel et al., 2019). This difference in adherence rate can be attributed to several factors, including sample bias (e.g., individuals especially interested in the program are the ones who tend to enroll), additional support in trials (e.g., reminders, ongoing assessment), and accountability formed by upfront commitment to the trial. The naturalistic launch of ACT Guide, as a fully self-guided program without any personal contact, generally follows this trend of poor adherence. Only 9% of users who started the program have completed all 12 modules, with 21% completing 9 out of 12 of the modules (unpublished data). These low adherence rates in online self-help programs, including ACT Guide, impedes their potential impact on college student mental health.

Coaching for Online Self-help Programs
The gold standard approach to improving engagement in online self-help is through coaching delivered via phone calls or asynchronous messaging systems delivered by graduate students or staff. The most common functions of coaching are to provide reminders to use the program, reinforce program usage, and to provide information on how to use the program or on other resources (Shim et al., 2017). Initial examination through meta-analyses of differences between studies that used coaches, and studies that did not, suggested that coaching provides positive effects for improving engagement and mental health (Andrews et al., 2010). Additionally, online interventions implemented in real-world settings that include coaching or were used adjunctively with therapist support have evidenced significantly better adherence rates than those that have not (Baumel et al., 2019; Ristikari et al., 2019; Titov et al., 2010; Titov et al., 2017).

However, more recent RCT research directly comparing coaching to no-coaching have produced much more mixed results, with many studies failing to demonstrate that coaching improves adherence rates or mental health outcomes (Shim et al., 2017). These mixed results have been attributed to heterogeneity among the examined studies. Specifically, heterogeneity was present among the structure and degree of support provided by coaching, in participant characteristics (e.g., presenting problem, ability to work independently, etc.), and in the quality of the online self-help programs themselves. Specifically, it has been suggested that coaching is more effective for individuals experiencing depression as opposed to individuals experiencing anxiety, and that participants’ individual ability to work independently should be accounted for in the approach taken to coaching (Newman et al., 2003; Newman et al., 2011).
Furthermore, these coaching methods are often not feasible to implement on a wide-scale basis, due to the resources required to hire a large staff of graduate students or professional psychologists as coaches (Shim et al., 2017). Prior research has suggested that whether coaching is delivered by clinicians or lay technicians without post-graduate training does not influence the effectiveness of the coaching on treatment outcomes. This indicates that a high level of prior professional training in a mental health related field is not a necessary prerequisite to produce effective coaches (Johnston et al., 2011; Kobak et al., 2015; Titov et al., 2010).

One possible alternative would be the utilization of undergraduate volunteers as peer-support coaches. Undergraduate volunteers provide a cost-effective method for implementing phone coaching, making large-scale implementation feasible. Receiving coaching from another undergraduate student may also be more acceptable to undergraduate program users, given that college students typically prefer seeking help from a friend as compared to a mental health professional (Levin et al., 2018a). Coaching from peers could help to dispel stigma and normalize the process of help seeking. Additionally, peer-support coaches would benefit from the unique opportunity for developmentally appropriate applied training experiences. Becoming a peer-support coach could also benefit coaches’ mental health by reinforcing key concepts from ACT Guide, as well as by way of the helper-therapy principle (Salzer & Shear, 2002).

Despite this breadth of benefits, peer-support has rarely been studied as a tool for increasing adherence to online mental health programs. Instead, coaching is typically provided by graduate students or credentialed psychology staff, who are in much more
limited supply and more costly to scale-up. Peer-support to increase online mental health adherence has only been studied in a few trials for bipolar disorder, with results indicating peer-support increased adherence to the program (Proudfoot et al., 2012; Simon et al., 2011). Outside of online mental health programs, peer-support models have been successfully used in a variety of college mental health initiatives. These include peer health educator roles for the promotion of positive body image (McVey et al., 2010), peer-led small-groups for decreasing mental health stigma (Conley et al., 2020), and trainings facilitating peer-to-peer referral for mental health needs (Kalkbrenner, 2020). The success of such programs in their ability to reduce stigma and improve targeted outcomes indicates promise for the current study, which to our knowledge is the first to study peer-support in a college context to increase adherence to online mental health services.

Research seeking to develop innovative coaching protocols and methods of implementation that address these issues are lacking. Thus, the proposed study aims to test the feasibility and efficacy of an innovative peer-support coaching model using a novel ACT-based coaching protocol. Existing coaching protocols are relatively simplistic, focusing on basic expectation setting, problem solving, motivation, and social accountability factors (Mohr et al., 2011). These protocols have excluded more sophisticated, modern cognitive behavioral methods known to effectively target cognitive, affective, and motivational barriers to treatment adherence (Gershkovich et al., 2017). This has been in part for experimental control reasons in efficacy trials. Coaching protocols in such trials have explicitly excluded active cognitive behavioral treatment
procedures in order to support causal attributions for clinical improvement to the online
cognitive program, rather than adherence coaching.

This study uses a coaching protocol that explicitly integrates modern cognitive
behavioral methods from ACT to increase adherence to online self-help. ACT is an
established intervention that has been found to increase adherence to treatments including
prescribed medication (Moitra & Gaudiano, 2016), therapy attendance (Luoma et al, 2012), self-management of Type 2 diabetes (Gregg et al., 2007), and behavioral weight loss (Lillis & Kendra, 2014). The coaching protocol in the current study uses ACT principles found effective for other forms of treatment adherence such as connecting ACT Guide adherence to users’ deeply held values (to increase intrinsic motivation for program usage) and decreasing cognitive and affective barriers to program usage (e.g., excuses to procrastinate, low energy, discomfort with addressing mental health issues). This is the first study to apply these evidence-based ACT adherence methods to online self-help.

The Current Study

A novel ACT-based peer-support coaching model was tested using an RCT, in
which USU undergraduate students used ACT Guide for 10 weeks while being randomly
assigned to either receive peer-support phone coaching, text-message coaching, or a
control condition that received no additional support. This was tested using a novel ACT-
based coaching protocol, which leveraged key acceptance, mindfulness, and values-based
strategies that have been found effective in improving face-to-face treatment adherence
(Lillis & Kendra, 2014; Moitra & Gaudiano, 2016), but have not been previously applied to online self-help adherence. USU undergraduate peer coaches were trained to deliver the ACT coaching protocol, which makes the present coaching intervention scalable at a university wide level and possibly more acceptable and destigmatizing to students compared to traditional coaching.

Thus far, most online mental health programs evaluated in studies are not available for public use, and typically are only developed for research (Baumel et al., 2019). Similarly, coaching protocols used to increase adherence to online self-help programs are rarely developed in a format that can be replicated on college campuses, due to the extensive costs of hiring enough professional coaches or graduate students to meet the scale of natural implementation. This has led to a lack of publicly available evidence-based online mental health resources. Thus, a substantial gap exists between prototype programs that have been researched but are not publicly available, and commercial programs that have limited research evidence and low adherence rates. This study is intended to strengthen an online mental health program that is already widely available to the public, with a coaching model that can be readily employed on college campuses at a large scale.

Comparing peer-delivered coaching over the phone to briefer coaching via text messaging can help further determine differences in effectiveness between the two formats. Both synchronous and asynchronous formats have been used for coaching in previous studies, but none have directly compared the two through an RCT. We predicted that the personal contact and more elaborated coaching protocol afforded through
synchronous phone calls would be more effective than brief texts, as supported by prior research that has made similar comparisons (Clarke et al., 2005). However, it is possible that briefer, asynchronous texting is more feasible to deliver by undergraduate coaches (e.g., simpler protocol, templated messages, more time to formulate responses) and more acceptable to undergraduate users (e.g., more young adults engage in text messaging daily than phone calls daily; Harari et al., 2019). Thus, it could be possible that a simpler, asynchronous text messaging approach would not only be more resource efficient, but also more effective for increasing adherence due to greater feasibility and acceptability. Assessing whether synchronous phone coaching is feasible and more effective than asynchronous text coaching is imperative for guiding future coaching protocol development.

**Aims and Hypotheses**

We aimed to test the feasibility of peer-delivered phone coaching and text messaging protocols in a college student sample using ACT Guide. Specifically, we predicted the following:

1. Participants will adhere to coaching (80% completing ≥ 6 coaching calls; 80% responding to texts ≥ 6 weeks).

2. Participants receiving either modality of coaching will be equally satisfied with coaching \((M \leq 2\) “disagree” on 6-point self-reported coaching dissatisfaction items, as lower scores indicate greater satisfaction).
3. Coaching fidelity will be maintained (80% of audited coaching calls scoring a 9 out of 11 on the fidelity rubric; 80% of audited coaching text conversations scoring a 7 out of 9 on the fidelity rubric).

We additionally planned to test the efficacy of the ACT based peer-support phone coaching protocol relative to asynchronous text messages or no support on ACT Guide adherence (primary outcome) and mental health symptoms (secondary outcomes). In relation to this aim we predicted the following:

1. Participants who receive peer-support phone coaching will complete more ACT Guide modules and will report greater improvements in mental health relative to both the text messaging and no support conditions.

2. Participants in the text messaging condition will maintain better adherence and report greater improvements in mental health than the no support condition, but poorer outcomes than the phone coaching condition.

3. The number of modules completed will mediate the relationship between receiving coaching and improved mental health outcomes.

Qualitative data was additionally collected from participants to identify future revisions to the coaching protocol and structure. However, this qualitative data is not reported in the present manuscript.
CHAPTER II

METHOD

Study Design

The present study was preregistered through ClinicalTrials.gov (NCT04573465), and all procedures took place online. Data was collected throughout the 2020-21 academic school year during the COVID-19 pandemic, with data collecting staring on 9/28/2020 and ending on 3/17/2021. This end-date was selected so that participation would not continue into the academic summer, which could potentially alter participant behavior and influence results. To test the effects of peer-support coaching on ACT Guide adherence rates and outcomes, an RCT with three conditions was conducted. Participants were randomly assigned to either use ACT Guide while supported by weekly peer phone coaching, ACT Guide while supported by lighter peer coaching through text-messages, or ACT Guide with no additional support. Participants were block randomized in blocks of 15 to ensure balance across the three conditions.

Adherence was considered the primary outcome, measured by the number of ACT Guide modules completed which is automatically tracked by the program. Online self-report measures were administered at baseline and 10 weeks to assess total psychological distress and subsequent subscales (i.e., depression, anxiety, and stress), positive mental health, psychological inflexibility, psychological flexibility and subsequent subscales (i.e., openness to experience, behavioral awareness, and valued action), program satisfaction, and dissatisfaction with coaching.
Participants

In order to participate in the study, interested individuals must have 1) been a USU student, 2) been age 18 or older, and 3) have not used ACT Guide in the past. These broad inclusion criteria were intentionally selected to reflect the existing population of students seeking self-help resources who would naturally be offered coaching. A total of 237 participants completed enrollment, as compared to our targeted enrollment rate of 300. However, seven participants were excluded from analyses, on account of procedural errors or study withdrawals with specific requests from participants to not use their data. Thus, 230 participants were included in the current analyses, with 78 having been assigned to the control condition, 77 to the phone coaching condition, and 75 to the text messaging condition (see Figure 1).
Figure 1
Flow of participants in study

Enrollment

Assessed for eligibility (n = 441)

Excluded (n = 218)
  o Did not meet inclusion criteria
    • Used ACT Guide in the past (n = 44)
    • Not a current student (n = 2)
    • Under the age of 18 (n = 2)
  o Did not complete enrollment procedures
    • Did not complete consent (n = 120)
    • Did not complete baseline assessment (n = 21)
  o Declined to consent after learning more about the study (n = 3)

Completed enrollment procedures and randomized (n = 237)

Allocation

Control (n = 78)
Phone coaching (n = 79)
Text coaching (n = 80)

Early Coaching Alliance Assessment

Completed coaching alliance assessment (n = 42)
Completed coaching alliance assessment (n = 48)

Post Assessment

Completed post assessment (n = 53)
Completed post assessment (n = 62)
Completed post assessment (n = 63)

Withdraw from study (n = 2)

Analysis

Not evaluable (n = 2)
  • Procedural error in coaching assignment (n = 2)

Baseline analyzed (n = 78)

Baseline analyzed (n = 77)
Baseline analyzed (n = 75)

C. alliance not evaluable (n = 8)
  • Had more than two calls (n = 7)
  • Missing data (n = 1)

Coaching alliance analyzed (n = 54)
Coaching alliance analyzed (n = 31)

Post not evaluable (n = 7)
  • Completed too quickly, likely random responding (n = 7)

Post analyzed (n = 56)
Post analyzed (n = 60)
Post analyzed (n = 59)
USU students who began the registration process for the ACT Guide program, which is available as a free service to the USU student body, were offered the opportunity to take part in the present study. Of the 228 students who were invited into the study through the ACT Guide sign-up process, 90 (39%) expressed interest in the study, with 74 (32%) completing enrolling. Participants were additionally recruited through class announcements, digital signs, campus flyers, USU homepage advertisements, and a psychology department study participant pool (SONA). Of our 230 participants, 32% were recruited through the ACT Guide sign-up workflow, 8% were recruited through SONA, and 60% were recruited through other avenues such as class announcements or flyers. Participants’ main reason for enrolling in the study included wanting the offered monetary or extra-credit compensation (33%), to have the opportunity to receive peer-coaching and improve their mental health (26%), because it seemed interesting or because they wanted to help (27%), or another reason or had difficulty selecting one main reason (14%).

The sample was primarily female identifying (75%), with 23% identifying as male and the remaining 2% identifying as another gender identity. The median age of the sample was 21 ($M = 22.53$, $SD = 5.99$). Regarding race/ethnicity, a large majority identified as White (90%), 2% identified as Hispanic/Latinx, 1% identified as Asian, 1% identified as Black/African American, 1% identified as Native Hawaiian/Pacific Islander, and 5% identified as multiracial, with less than 1% preferring not to share their racial identity. Regarding employment status, 15% were employed full-time, 59% employed part-time, and 26% were unemployed; for student status, 87% were enrolled full-time,
12% were enrolled part-time, and less than 1% were not currently enrolled in classes. Participants were relatively dispersed in terms of academic year, with 28% having been in their first year of college, 27% in their second year, 22% in their third year, 15% in their fourth year, 4% in their fifth year or higher, and 4% being graduate students. Most students were taking at least one class at the college’s main campus (75%), and only 6% were taking at least one class at a regional class. Most students were taking at least one class online (84%), and 20% were taking classes exclusively online. A minority of students were first-generation (i.e., the first in their family to attend college; 12%), and less than 1% of students were international students. Participants varied in their history with therapy, as 20% were working with a mental health professional at the time of enrolling in the study, 40% had worked with a mental health professional in the past, and 40% had never worked with a mental health professional before. See Table 1 for a full listing of demographics by treatment condition. It should be noted that these demographics, specifically regarding age and race, approximately match on to the broader USU campus demographics (College Factual, 2021).

Table 1

*Baseline demographics by condition*

<table>
<thead>
<tr>
<th></th>
<th>Control (n = 78)</th>
<th>Phone coaching (n = 77)</th>
<th>Text coaching (n = 75)</th>
</tr>
</thead>
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<td>22 (4.9)</td>
<td>21.7 (5.2)</td>
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<tr>
<td><strong>Gender (%)</strong></td>
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<td>76</td>
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<td>1.3</td>
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<tr>
<td><strong>Race/Ethnicity (%)</strong></td>
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</tbody>
</table>
Participants could select more than one option

Note. MH = mental health professional

<table>
<thead>
<tr>
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<th>Proportion 1</th>
<th>Proportion 2</th>
<th>Proportion 3</th>
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<td>Black/African American</td>
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<td>2.6</td>
<td>0</td>
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<td>Native Hawaiian/Pacific Islander</td>
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<td>1.3</td>
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<td>5.3</td>
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<tr>
<td>Preferred not to share</td>
<td>0</td>
<td>1.3</td>
<td>0</td>
</tr>
</tbody>
</table>

| Employment status (%)          |              |              |              |
| Full-time                      | 12.8         | 22.1         | 9.3          |
| Part-time                      | 59           | 54.5         | 62.7         |
| Unemployed                     | 28.2         | 23.4         | 28           |

| Student enrollment status (%)  |              |              |              |
| Full-time                      | 92.3         | 84.4         | 85.3         |
| Part-time                      | 7.7          | 15.6         | 13.3         |
| Not enrolled in classes        | 0            | 0            | 1.3          |

| Academic year (%)              |              |              |              |
| First year                     | 23.1         | 32.5         | 29.3         |
| Second year                    | 32.1         | 22.1         | 26.7         |
| Third year                     | 19.2         | 23.4         | 22.7         |
| Fourth year                    | 15.4         | 15.6         | 14.7         |
| Fifth year or higher           | 6.4          | 2.6          | 4            |
| Graduate student               | 3.8          | 3.9          | 2.7          |

| Student status* (%)            |              |              |              |
| Taking classes on the main campus | 74.4       | 75.3         | 74.7         |
| Taking classes at a regional campus | 9          | 6.5          | 2.7          |
| Taking classes online           | 82.1         | 84.4         | 86.7         |
| First generation student        | 17.9         | 11.7         | 6.7          |
| International student           | 0            | 0            | 1.3          |

| Treatment seeking status* (%)  |              |              |              |
| Currently working with a MHP   | 23.1         | 19.5         | 18.7         |
| Have worked with a MHP in the past | 35.9      | 42.9         | 41.3         |
| Have never worked with a MHP   | 41           | 41.6         | 38.7         |

*Participants could select more than one option

Note. MH = mental health professional

Procedures
To enroll in the study, prospective participants were instructed to complete an eligibility screener, informed consent, a baseline assessment, and to create an ACT Guide account. Upon completion of baseline assessment, participants were provided with further instructions and expectations for the study given their randomly assigned condition. Participants then gained access to ACT Guide, and received either no coaching, weekly synchronous phone coaching, or weekly synchronous text coaching based on their assigned condition. Those who were assigned to a coaching condition were randomly matched with an available coach, who would initiate contact through text message to either schedule the first coaching call or engage in the first text coaching conversation. Participants were not made aware of which coach they were matched with until this first contact, and so if a coach recognized that they were matched with a student they knew, the participants would be matched again with a different coach. This occurred only two times throughout the study.

Participants were then instructed to use ACT Guide over the following 10 weeks, and those in one of the two coaching conditions received up to 10 weeks of coaching. Those in a coaching condition were also instructed to complete a brief survey on coaching alliance after they had completed their first contact with their coach (i.e., completing their first coaching phone call, or first text message conversation). After 10 weeks, participants completed a post-treatment assessment. Incentives included $5 upon completion of baseline assessment and $10 upon completion of post-treatment assessment, or 1 SONA credit for completion of baseline assessment and 1 SONA credit for completion of post-treatment assessment.
**Intervention**

ACT Guide (accessible at https://actguide.usu.edu) is an online, self-guided mental health program delivered over a website that helps users learn ACT skills to be practiced in daily life. Participants in all three conditions were instructed to work on ACT Guide over the course of 10 weeks, completing one to two modules a week in order to complete the full 12 modules. Specific content covered within ACT Guide includes skills on identifying avoidance behaviors, setting values consistent goals, and learning how to relate to negative thoughts in a mindful manner. As no specific problem or diagnosis is targeted by the program, the overall goals of ACT Guide are to improve emotional well-being and help individuals address mental health issues such as depression, anxiety, and stress.

Modules are completed linearly, with each module taking approximately 20-40 minutes to complete. Each module focuses on learning specific ACT skills (e.g., identifying personal values, defusing from difficult thoughts, accepting difficult emotions) and receiving homework to practice learned skills before continuing to the next module. ACT skills are taught in modules through a combination of interactive exercises (e.g., multiple choice prompts, sorting tasks, short writing activities), text, and multimedia (e.g., videos, audio-guided exercises), which are tailored to users based on responses in interactive exercises. Participants in the present study also received automatic weekly emails containing tips for using ACT Guide, with one email being sent per week for the first four weeks upon registration.
**Phone peer-support coaching condition.** Participants assigned to the phone coaching group received weekly, 10-15 minute phone coaching from a trained peer-support coach over the ten weeks that they used ACT Guide. The content of coaching excluded discussing specific problems the participant may have been struggling with, in order to differentiate coaching from therapy. Instead, coaching consisted of reinforcing adherence, identifying and problem-solving non-adherence, strengthening and generalizing ACT skills, and using ACT skills to increase commitment to ongoing program adherence.

Coaches used an ACT-based protocol to guide their coaching, which included general guidelines for ACT consistent coaching (e.g., respond to participants’ unhelpful thoughts with defusion; use participants’ values as a source of motivation) as well as content specific to each module a participant may have completed (see Appendix C). The first coaching call was to be made prior to the participant starting ACT Guide, in which the coach would introduce themselves, explain the purpose and format of coaching, explain privacy and confidentiality limitations, discuss what the participant would like to get out of using ACT Guide, and problem-solve anticipated barriers to using ACT Guide.

Each subsequent peer-coaching phone call, aside from the last call, was to follow the same format of asking the participant what modules were completed, if the participant completed the associated practice assignment(s), asking questions related to the modules that were completed, addressing any remaining questions from the participant, and confirming how many modules the participant plans to complete before the next call. If the participant did not complete any modules, the coach was to address non-adherence
using the “Choice Point” model (Harris, 2018), and/or use problem-solving strategies. If the participant completed at least one module but did not do any associated practice assignments, the coach was to do a brief version of the practice assignment together with the participant. Final coaching calls were intended to serve as an opportunity to review what the participant had learned from ACT Guide and reflect on how the participant may continue to implement the skills they had learned.

**Text message peer-support coaching condition.** Participants assigned to the text messaging condition received weekly text messages from their peer-support coach. These text messages reflected the content delivered in the phone coaching group, but through a briefer protocol that accounted for the abbreviated, asynchronous nature of texting. Text messages similarly focused on reinforcing adherence, problem solving non-adherence, strengthening ACT skills, and using ACT to increase program adherence. However, these areas were covered in brief messages and with more limited exchanges between participants and coaches. Coaches would message their assigned text condition participants once a week, with no communication occurring in-between these messages. However, text-message conversations frequently occurred over a span of multiple days on account of the asynchronicity of text messaging.

The first text coaching conversation consisted of the coach introducing themself, providing a link to a document that explained the purpose and format of coaching as well as privacy/confidentiality limitations, and problem-solving anticipated barriers to using ACT Guide. Subsequent text message conversations followed a consistent format of asking the participant which modules they were able to complete along with a simple
question related to the modules that were supposed to be completed (e.g., what thoughts
did you notice yourself getting hooked on throughout the week?), followed by confirming
how many modules the participant intends to complete within the next week. The final
text message conversation would involve reviewing what skills the participant intends to
keep using and practicing.

**Control condition.** The control condition received no coaching intervention, and
no additional contact from the research team aside from prompts to complete the post-
treatment assessment. Thus, the only intervention provided was access to the same ACT
Guide program that was provided to the phone and text peer-support coaching conditions.
Also, the control condition received the same four weekly automated emails containing
tips for using ACT Guide that the other two conditions received as a built-in feature of
ACT Guide.

**Peer-support coach training and fidelity monitoring.** Peer-support coaches
were recruited through contacts with student organizations (e.g., the USU Student
Association, Psi Chi Psychology Honor Society), department listservs (e.g., psychology,
social work, human development and family studies, and honors college listservs) and the
CAPS REACH Peers program in which students volunteer for the university counseling
center. All prospective coaches provided a resume and letter of recommendation, before
potentially being invited to an interview.

Throughout the entirety of the study, a total of 35 undergraduate students emailed
the study coordinator to express interest or ask for further information. Of these students,
22 applied to be a peer-support coach, 18 were interviewed, and 12 were selected. These
peer-support coaches were recruited and trained in cohorts of four students each, with the first cohort being recruited the summer prior to participant recruitment, the second being recruited early in the fall semester, and the third early in the spring semester. However, typically only eight students at a time were providing coaching given that two coaches withdrew from the study between the fall and spring semester, and two withdrew approximately one month into the spring semester.

Selected coaches were trained online through Zoom in the form of 6 hours of synchronous training spread over two to four weeks (training schedules varied between cohorts), consisting of didactic lectures on coaching principles, discussion on questions and concerns regarding coaching, and reviewing recorded coaching practice calls in order to provide feedback. Synchronous training sessions were supplemented by CITI research ethics trainings and readings on ACT (i.e., chapters one and two of *ACT Made Simple*; Harris, 2019). Coaches additionally each completed ACT Guide as part of the training process, as having coaches complete the self-help program themselves proved useful in a previous study (Levin et al., 2015). While working through the program, coaches took turns practicing the coaching protocol on one another in both call and text format for each individual module.

All coaching calls and text message conversations were recorded to monitor coaching fidelity. To maintain fidelity and prevent drift from the protocol throughout the study, coaches attended weekly 45-minute group meetings with the first author, a graduate student with expertise in ACT and technology-based interventions. This time was used to discuss concerns or questions coaches had about specific participants they
were working with, and to review and provide feedback on coach’s recorded calls and texts. Three random coaching calls and three random text conversations per week were audited and evaluated in order to confirm fidelity to the coaching protocol, scored using a rubric to reduce bias and preserve consistency (Appendix A & B). The rubric used to score fidelity was created specifically for the present study, with items reflecting specific components of the coaching protocol as well as overall quality.

**Measures**

**ACT Guide Adherence.** Adherence to the ACT guide program served as the primary outcome. This was automatically recorded by the program, defined as the number of modules completed at the end of week 10. The following self-report data was collected from participants at both baseline and the 10-week post-treatment assessment.

**Mental Health Continuum Short Form (MHC-SF).** The MHC-SF is a 14 item measure of positive mental health, consisting of the subscales emotional, psychological, and social well-being (Keyes, 2005). Items are rated on a 6-point Likert scale from 0 (never) to 5 (every day). A total score is summed, ranging from 0 to 70, with higher scores indicating greater emotional wellbeing.

The three factor model of positive mental health used by the MHC-SF has been supported in college students (Lamers et al., 2011; Robitschek & Keyes, 2009). Items within the MHC-SF also display good internal consistency, with Cronbach alphas of at least 0.80 across multiple studies (Keyes, 2005; Lamers et al., 2011). Our sample demonstrated an excellent Cronbach alpha of 0.92 for the total score. Additionally, the
MHC-SF has demonstrated appropriate test-retest reliability while maintaining sensitivity to change, evidenced by correlations of 0.65, 0.70, and 0.70 between MHC-SF scores taken across three-month time spans (Lamers et al., 2011).

**Depression/Anxiety/Stress Scale (DASS-21).** The DASS-21 is a 21 items measure of general psychological distress, consisting of the subscales depression, stress, and anxiety (Lovibond & Lovibond, 1995). Items are rated on a 4-point Likert scale from 0 (*did not apply to me at all*) to 3 (*applied to me most of the time*). Responses are summed and then multiplied by two for each subscale to produce subscale scores, with a composite total summed from subscales to represent negative affectivity (Kia-Keating et al., 2017; Osman et al., 2012). Prior evidence has suggested that the DASS-21 is sensitive to clinically relevant change in response to intervention (Ronk et al., 2013). The DASS-21 has demonstrated good internal consistency among U.S. college populations, with a previous study finding McDonald’s omega-coefficients of 0.87 for the composite total, and 0.86, 0.82, and 0.88 for the depression, anxiety, and stress subscales respectively (Osman et al., 2012). Our sample demonstrated good to excellent Cronbach alphas of 0.9, 0.85, 0.84, and 0.93 for the depression, anxiety, stress, and full scale respectively.

**The Acceptance and Action Questionnaire (AAQ-II).** The AAQ-II includes 7 items that measure psychological inflexibility with a primary focus on experiential avoidance, rated on a 7-point Likert scale from 1 (*never true*) to 7 (*always true*) (Bond et al., 2011). Items are summed to produce a total score ranging from 7 to 49, with higher scores indicating greater psychological inflexibility. Previous analysis of the AAQ-II’s factor structure suggests that it measures a unidimensional construct, in that
psychological inflexibility and psychological flexibility are conceptualized as opposite poles of one single construct (Bond et al., 2011). This same validation study found acceptable internal consistency within the AAQ-II, demonstrated by a Cronbach alpha of 0.78 when the measure was validated within a U.S. college sample. We had found an excellent Cronbach alpha score of 0.91 within our own sample.

However, the AAQ-II has shown limited treatment sensitivity as compared to other measures of psychological inflexibility (Benoy et al., 2019). This was exhibited by one study testing an online ACT intervention for burnout, which found the AAQ-II to exhibit a reliable change index of 24.2% as compared to the Open and Engaged State Questionnaire (OESQ) exhibiting a reliable change index of 47.4% in response to the delivered intervention (Benoy et al., 2019; Hofer et al., 2018). Despite this and other limitations, the AAQ-II remains the most common measure for psychological flexibility, and thus provides a useful point of reference for comparison with other studies (Ong et al., 2020).

**Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT).** The CompACT is a 23 item measure of psychological flexibility, consisting of three subscales including openness to experience, behavioral awareness, and valued action (Francis et al., 2016). Items are rated on a 7-point Likert scale from 0 (strongly disagree) to 6 (strongly agree) and contain both negatively and positively valanced items. Negatively valanced items are reverse scored, and items are then summed to produce the openness to experience subscale score (ranging from 0 to 60), the behavioral awareness subscale score (ranging from 0 to 30), the valued action
subscale score (ranging from 0 to 48), and a total scale score (ranging from 0 to 138). Higher scores indicate greater psychological flexibility. Like the AAQ-II, the CompACT conceptualizes psychological flexibility and the processes subsumed under it as unipolar constructs (e.g., high psychological flexibility is equated with low psychological inflexibility).

The CompACT has demonstrated good to excellent internal consistency in a general adult sample, with a Cronbach’s alpha of 0.90 for the openness to experience, 0.87 for behavioral awareness, and 0.90 for valued action subscales, and 0.90 for the total measure score (Francis et al., 2016). Our own sample demonstrated acceptable to good Cronbach alphas of 0.74, 0.81, 0.84, ad 0.85 respectively. Additionally, the CompACT has exhibited good discriminant validity, as previous analyses have failed to find any cross-loading between CompACT factors and DASS-21 factors within a college student sample (Ong et al., 2020). Both discriminant validity and treatment sensitivity of the CompACT appear to be better than that of the AAQ-II (Ong et al., 2020; Rogge et al., 2019).

The following self-report data was additionally collected from participants at the 10-week assessment point, with the VTAS-R Short Form only being administered to participants who received coaching. The VTAS-R Short Form was also administered at a week one timepoint, sent to participants after completion of their first call or text conversation with their assigned coach to measure early alliance.

**Client Satisfaction Questionnaire – Internet-Based Interventions (CSQ-I).**
The CSQ-I includes eight items that measure user satisfaction in the context of online mental health interventions, rated on a 4-point Likert scale from 1 (does not apply to me) to 4 (does totally apply to me; Boß et al., 2016). Wording was slightly altered so that “training” was changed to “program”, and “attended” was changed to “used”. Items are summed to produce a total score ranging from 8 to 32, with higher scores indicating greater user satisfaction with ACT Guide. Excellent internal consistency has been demonstrated by a McDonald omega of 0.95 and 0.93 in studies where participants used either an online intervention for depression prevention or stress management respectively (Boß et al., 2016). We had found excellent internal consistency for the CSQ-I within our own sample as well, with a Cronbach’s alpha of 0.95. Appropriate convergent validity was exhibited in both of these studies, with greater CSQ-I scores being associated with reliable reduction in relevant symptoms \( p < .001; \) Cohen’s \( d = 0.52; p < .001; d = 1.01 \). Average variance extracted values in each study evidenced discriminant validity, differentiating the satisfaction construct measured by the CSQ-I from depression and stress.

**Revised Vanderbilt Therapeutic Alliance Scale, Short form (VTAS-R Short Form).** The original five item VTAS-R Short Form is used to assess therapeutic alliance between client and therapist (Shelef & Diamond, 2008). Therapeutic alliance is represented as a single factor within the measure, with items reflecting the bond, agreement upon goals, and agreement upon tasks facets of this construct. The wording of items was altered for a coaching context as opposed to a therapeutic context, to assess the alliance between participants and peer-coaches. Items are rated on a 6-point Likert scale,
from 0 (not at all) to 5 (a great deal) and summed to produce a total score ranging from 0 to 25, with higher scores representing greater alliance.

The VTAS-R Short Form has exhibited excellent internal consistency, with a Cronbach alpha coefficient of 0.90 in a sample of adolescents in treatment for cannabis substance abuse or dependence, and 0.91 with their parents (Shelef & Diamond, 2008). However, we had found only acceptable internal consistency within our own sample with a Cronbach’s alpha of 0.77. Greater therapeutic alliance with adolescent treatment completers was associated with greater outcomes at three month follow up, indicating predictive validity ($F(1, 50) = 6.76, p < .05$). While the VTAS-R Short Form has not been validated in a college or general adult sample, its items carry greater face validity for a coaching alliance context as opposed to alternative alliance measures.

**Qualitative data on coaching experience.** Participants assigned to either the phone or text coaching conditions were asked a series of open-ended questions to evaluate how peer-support coaching was received, which may guide future revisions in the coaching protocol and other elements of the coaching intervention. Questions included “What was helpful about the coaching process?”, “What was unhelpful about the coaching process?”, “How did having another USU undergraduate be your coach affect the coaching process?” and “How can the coaching process be improved in the future?” Such questions have proven to be an efficient method of identifying program revisions in previous studies (Levin et al., 2020a; Levin et al., 2015).

**Semi-structured Interviews.** To collect qualitative data/feedback on participants' experiences with the coaching process, one third of participants from each of the two
coaching groups were randomly invited to participate in a 20-30 minute semi-structured interview. A total of five participants from the call condition and seven from the text condition participated in this portion of the study. Interview questions addressed adherence, alliance, coaching content, the format of coaching, acceptability, and overall general impressions of the coaching program.

**Coaching Fidelity.** All communication between coaches and participants were recorded, including audio recordings of phone calls and screenshots of text exchanges. Three coaching phone calls and three text conversations were randomly selected from each week of the study to be evaluated and coded for fidelity to the coaching protocol. Calls and text conversations were scored using a rubric (Appendix A & B), with call scores ranging from 0 to 11, and text conversation scores ranging from 0 to 9.

**Statistical Analyses**

Statistical analyses were conducted with R (v 4.1.2; R Core Team, 2021) in RStudio (v 2021.09.0; RStudio Team, 2021). We took an intention-to-treat approach to data analysis, including all participants who had been randomized to a condition. Thus, participants who never logged into their ACT Guide account after enrolling in the study were still included (n = 22).

A Shapiro-Wilk test and Levene’s test was conducted with each outcome to test whether normality and homoscedasticity assumptions necessary to conduct many parametric tests were met. The majority of outcomes violated these assumptions, as the only variables following a normal distribution across conditions included positive mental
health, psychological inflexibility, and psychological flexibility. Rather than transforming non-normal variables to fit a normal distribution, non-parametric tests (i.e., Mann-Whitney U, Kruskal-Wallis) were used when appropriate (Changyong et al., 2014; O’Hara & Kotze, 2010). This approach was chosen on account of the number of modules completed variable following a bimodal distribution, given that transformation for correcting normality is only effective with unimodal distributions.

Descriptive statistics related to coaching adherence, dissatisfaction with coaching, coaching fidelity, coaching alliance, and program adherence were examined to assess the feasibility and acceptability of peer-support coaching. Mann-Whitney U tests were conducted to test whether participants’ reason for enrolling in the study had an effect on number coaching sessions attended. Mann-Whitney U tests were also conducted to test for differences among conditions regarding dissatisfaction with coaching, satisfaction with ACT Guide, early coaching alliance, post-treatment coaching alliance, and number of modules completed. Simple linear regression was used to test whether early coaching alliance predicted post-treatment coaching alliance, as well as whether post-treatment coaching alliance predicted the number of modules completed.

**Multilevel models.** Multilevel models (MLM) were used to test whether assigned condition had an effect on mental health outcomes when controlling for baseline scores using the lmerTest package and lmer() function (Kuznetsova et al., 2017). A separate model was run for each individual outcome. Post-hoc analyses were conducted using the emmeans package and emmeans() function, to compare the phone and text coaching conditions as an additional contrast (Lenth, 2021). All p-values were corrected using the
Benjamini-Hochberg procedure to prevent family-wise error. Time on its own was found to have no effects on evaluated outcomes ($p > .05$ for all outcomes), indicating that significant time by condition effects can be attributed to the effects of the assigned coaching intervention.

**Reliable change index.** We also analyzed the effect of coaching on mental health outcomes through a clinical significance lens, using the reliable change index (RCI) to evaluate whether individual participants showed clinically relevant change (Wise, 2004). RCIs were calculated using Ley’s formula through the rci() function in the ClinicalSig package (Ley, 1972; Ziegler, 2016). RCIs could not be evaluated for the compACT measure, given that test-retest reliability has not yet been evaluated in a non-clinical sample. Chi-square tests were used to determine whether rate of reliable change differed between conditions for each outcome, followed by post-hoc analyses using a Bonferroni correction for p-values.

**Mediation analyses.** While peer-support coaching for ACT Guide serves multiple functions, we had hypothesized that greater adherence to ACT Guide (i.e., a greater number of modules completed) would be the primary intermediate process explaining the effects that peer-coaching has on mental health outcomes. A linear regression-based approach to mediation analyses was used to test this, with assigned condition serving as the predictor, module completion as the mediator, and mental health variables as measured at post-treatment as the outcomes. Baseline observation of the analyzed outcome were added as a covariate to each model. This was chosen over a gain score approach given that assigned condition was randomized for each individual, and number
of modules completed was not significantly correlated with any baseline measurements of outcomes (all $p > .05$; Farmus et al., 2019). Two separate models were run for each individual mental health outcome, excluding subscales, in order to analyze both phone coaching and text coaching treatment effects. The mediate() function from the mediation package was used to run each individual model (Tingley et al., 2014). Unstandardized indirect effects were calculated for each of 1,000 bootstrapped samples for each model.
CHAPTER III

RESULTS

Preliminary Analyses

All baseline demographic (gender, age, race, employment status, student status, and academic year) and outcome variables (depression, anxiety, stress, psychological distress, positive mental health, psychological inflexibility, openness to experience, behavioral awareness, valued action, and psychological flexibility; see Table 2) were assessed for potential differences between conditions using chi square tests and one-way ANOVAs. No significant differences were detected between conditions (\( p > .05 \) for all comparisons).
Table 2

Descriptive statistics of outcome variables by condition

<table>
<thead>
<tr>
<th>Measure</th>
<th>Control (n = 78)</th>
<th>Phone coaching (n = 77)</th>
<th>Text coaching (n = 75)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td></td>
<td>BL</td>
<td>PT</td>
<td>BL</td>
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<tr>
<td>DASS-21 Depression</td>
<td>16.6 (11.2)</td>
<td>14.6 (9.6)</td>
<td>15.3 (10)</td>
</tr>
<tr>
<td>DASS-21 Anxiety</td>
<td>13.9 (10.7)</td>
<td>12.8 (8.8)</td>
<td>13.3 (9.6)</td>
</tr>
<tr>
<td>DASS-21 Stress</td>
<td>20.3 (9.5)</td>
<td>18 (9.6)</td>
<td>20.5 (9.6)</td>
</tr>
<tr>
<td>DASS-21 Total</td>
<td>50.8 (27)</td>
<td>45.4</td>
<td>49 (25.1)</td>
</tr>
<tr>
<td>MHC-SF</td>
<td>40.5 (13.1)</td>
<td>44 (13.2)</td>
<td>41.3 (12.9)</td>
</tr>
<tr>
<td>AAQ-II</td>
<td>28.2 (8.8)</td>
<td>25 (8.7)</td>
<td>27.3 (8.9)</td>
</tr>
<tr>
<td>compACT Openness to</td>
<td>23.8 (8.4)</td>
<td>26.8 (9.8)</td>
<td>24.1 (9.5)</td>
</tr>
<tr>
<td>Experience</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>compACT Behavioral</td>
<td>12.9 (6.1)</td>
<td>13.8 (5.7)</td>
<td>12.1 (5.8)</td>
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<tr>
<td>Awareness</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>compACT Valued Action</td>
<td>34.9 (8.1)</td>
<td>36 (8.3)</td>
<td>34.7 (7.4)</td>
</tr>
<tr>
<td>compACT Total</td>
<td>71.6 (16.5)</td>
<td>76.5 (18.4)</td>
<td>71 (16.9)</td>
</tr>
</tbody>
</table>

Note. BL = baseline; PT = post-treatment; DASS-21 = Depression/Anxiety/Stress Scale; MHC = Mental Health Continuum Short Form; AAQ-II = Acceptance and Action Questionnaire; compACT = Comprehensive Assessment of Acceptance and Commitment Therapy Processes.
An acceptable proportion of participants completed the post-treatment assessment (76%; see Figure 1). There was no significant difference in completion rate between conditions ($\chi^2(2) = 1.21, p = .547$). However, using a generalized linear model, we did find that individuals who completed more modules of ACT Guide were more likely to complete the post-treatment assessment ($p < .001$). Only 59% of participants in a coaching condition completed the week-one coaching alliance assessment. This was reduced to 43% after excluding surveys in which participants indicated that they have had more than two contacts (e.g., phone calls or text conversations) with their coach at the time of completing the assessment. Week one coaching alliance was not significantly different for those who completed one contact as opposed to two contacts at the time of assessment ($U = 442, p = .478$), thus we decided it would be appropriate to include both as measures of early alliance.

**Feasibility of Peer-Support Coaching**

**Adherence to coaching.** Participants could complete up to 10 coaching sessions (e.g., calls or text conversations) with their coach throughout their 10 weeks of participation in the study. However, given that two weeks of flexibility were built into the coaching schedule, a participant who completed eight coaching sessions could be considered to be taking full advantage of the coaching program. On average, participants who received phone coaching completed 5.1 coaching calls ($SD = 3.4$) while those who received text coaching completed 4.2 ($SD = 3.1$) coaching text conversations. Thus, 55% of participants who received phone coaching and 36% of participants who received text
coaching completed 6 or more coaching sessions, notably less than the 80% adherence that we had expected.

Participants who enrolled because they wanted the opportunity to receive coaching or to improve their mental health completed significantly more phone coaching sessions (\(Mdn = 7\)) on average than participants who enrolled for other reasons (\(Mdn = 4; U = 716, p = .046\)). When subsetting to the former group, 71% of participants who received phone coaching completed 6 or more coaching sessions. This effect was not found in the text coaching condition (\(U = 590, p = .216\)).

**Dissatisfaction with coaching.** Regarding participants’ dissatisfaction with peer-support coaching, participants in each coaching condition were asked three items on a 6-point scale, with greater responses indicating a higher level of dissatisfaction. Response means generally fell within the range of 3 “slightly disagree” and 4 “slightly agree” across items, with relatively large spread (standard deviations ranging from 1.3 to 1.7), indicating participants’ perceptions of the coaching they received varied widely (see Table 3). Average dissatisfaction with coaching was therefore higher than anticipated, as we had predicted scores of 2 “disagree” or less across items. A total of 43% of the phone condition group and 27% of the text condition group met this benchmark for the item “I would have preferred using ACT Guide without a coach,” a total of 32% of the phone condition and 22% of the text condition for the item “ACT Guide would have been just a helpful to me without a coach,” and a total of 30% of the phone condition and 12% of the text condition for the item “I would have preferred to receive coaching from a mental health professional.”
Table 3

Descriptive statistics for coaching dissatisfaction items (scale of 1 - strongly disagree to 6 – strongly agree)

<table>
<thead>
<tr>
<th>Item</th>
<th>Phone coaching (n = 60) M (SD)</th>
<th>Text coaching (n = 59) M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would have preferred using ACT Guide without a coach.</td>
<td>3.2 (1.7)</td>
<td>3.7 (1.6)</td>
</tr>
<tr>
<td>ACT Guide would have been just as helpful to me without a coach.</td>
<td>3.4 (1.5)</td>
<td>4 (1.5)</td>
</tr>
<tr>
<td>I would have preferred to receive coaching from a mental health professional.</td>
<td>3.5 (1.4)</td>
<td>4.2 (1.3)</td>
</tr>
</tbody>
</table>

When comparing the two coaching conditions, participants in the text condition (Mdn = 4) were more likely than those in the phone condition (Mdn = 3) to agree that ACT Guide would have been just as helpful without a coach (U = 1382, p = .036). Additionally, those in the text condition (Mdn = 4) were more likely than the phone condition (Mdn = 4) to prefer help from a mental health professional instead of a peer-support coach (U = 1269, p = .006). No significant difference was found between conditions in regard to whether they would have preferred to not have coach (U = 1458, p = .093).

Participants were also asked to rate the acceptability of various potential formats for coaching on a 5-point scale, from 1 “unacceptable” to 5 “strongly preferred,” with 3 being “acceptable.” Among the phone coaching condition, the phone call format was generally rated as the most acceptable (M = 3.5, SD = 1.2), followed by video conferencing (M = 3.3, SD = 1.2), text messaging (M = 3, SD = 1.1), and email (M = 2.5,
Among the text coaching condition, the video conference format was generally rated as the most acceptable ($M = 3.5, SD = 1.3$), followed by text messaging ($M = 3.5, SD = 1.3$), phone calls ($M = 2.7, SD = 1.03$), and email ($M = 2.8, SD = 1.2$).

While not a measure of coaching dissatisfaction specifically, participants also completed the CSQ-I to indicate satisfaction with the ACT Guide program itself. Assigned condition had a small effect on program satisfaction ($H(2) = 11.87, p = .003, \eta^2 = .043$), with those in the phone coaching condition ($Mdn = 28$) reporting significantly higher program satisfaction than those in the text coaching ($Mdn = 24.5; p = .023$) and control ($Mdn = 23, p = .004$) conditions.

**Coaching fidelity.** Three coaching calls and three text conversations were scored for fidelity per week at random, resulting in 93 scored calls and 93 scored text message conversations total. The number of times each coach had a call or text conversation scored for fidelity varied and was dependent on how long they served as a coach, with those who volunteered as a coach for longer being audited more frequently throughout the course of the study. Thus, each coach was audited for fidelity approximately eight times on average for phone calls ($SD = 4.09$) and text conversations ($SD = 5.95$) respectively. Phone calls were considered to meet criteria for fidelity to the protocol if at least 9 out of 11 points were scored on the rubric, with text conversations meeting fidelity if at least 7 out of 9 points were scored. Coaching calls scored a 9.6 ($SD = 1.2$) on average, with 80% of phone calls meeting criteria for fidelity. Text message conversations scored a 7.6 ($SD = 1.2$) on average, with 81% of phone calls meeting criteria for fidelity.
**Coaching alliance.** Both early coaching alliance (measured prior to third contact with coach) and coaching alliance at post-treatment were observed (see Table 4). Early alliance was not found to be significantly different between the phone ($Mdn = 21$) and text conditions ($Mdn = 20$). However, coaching alliance was significantly greater in the phone condition ($Mdn = 22.5$) than the text condition ($Mdn = 18.5$) at post-treatment. It is also worth noting that variability was higher for post-treatment alliance (Phone $SD = 5.1$; Text $SD = 6.4$), as opposed to early alliance which was relatively consistent across reports (Phone $SD = 2.6$; Text $SD = 4.3$). Early alliance was not found to be a significant predictor of post-treatment alliance ($F(3, 54) = 7.92, p = .254, R^2 = .27$). Greater post-treatment alliance was a significant predictor for greater module completion ($F(3, 114) = 11.29, p < .001, R^2 = .23$) with a medium effect size ($f^2 = .30$).

<table>
<thead>
<tr>
<th>Measure</th>
<th>Phone coaching (n = 44)</th>
<th>Text coaching (n = 48)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AFC</td>
<td>PT</td>
</tr>
<tr>
<td>VTAS-R</td>
<td>20.5 (2.6)</td>
<td>20.5 (5.1)</td>
</tr>
</tbody>
</table>

*Note. AFC = after first contact; PT = post-treatment; VTAS-R = Revised Vanderbilt Therapeutic Alliance Scale, Short form*

**Adherence Effects**

Participants could complete up to 12 modules of ACT guide in total, with those in the control condition completing $1.63 (SD = 3.3)$ modules on average, $7.1 (SD = 4.9)$ for the phone condition, and $5.7 (SD = 5)$ for the text messaging condition. A total of $5.1\%$ of
the control condition completed all 12 modules, as compared to 35.1% of the phone condition and 28% of the text condition. A total of 66.7% of the control condition completed no modules at all, compared to 19.48% of the phone condition and 26.7% of the text condition. Assigned condition had a large effect on number of modules completed, with participants in the phone call (Mdn = 8; p < .001) and text messaging (Mdn = 6; p < .001) conditions completing significantly more modules than participants in the control condition (Mdn = 0; H(2) = 52.1, p < .001, η² = .221). A significant difference in module completion between the phone call and text message conditions was not detected (p = .39).

**Treatment Effects**

**MLM analysis.** Participants receiving coaching through phone calls generally experienced greater gains in mental health than the control group for depression (p = .035), anxiety (p = .025), stress (p = .045), psychological distress (p = .011), positive mental health (p = .007), psychological inflexibility (p = .035), openness to experience (p < .001), behavioral awareness (p = .007), and psychological flexibility (p < .001). No significant difference between phone coaching and the control group was found for valued action (p = .134). For those receiving coaching through text messages, the outcomes openness to experience (p = .025), behavioral awareness (p = .035), and psychological flexibility (p = .035) experienced significant improvement compared to the control condition. Text coaching had no significant effect on depression, anxiety, stress, psychological distress, positive mental health, psychological inflexibility, or valued
action (all $p > .05$). No significant differences were found between the phone and text coaching conditions (all $p > .05$). However, results consistently indicated greater outcomes for the phone coaching condition as compared to the text coaching condition, potentially suggesting an effect size too small to detect with the current power afforded by our study design and sample size. For a full listing of MLM results, see Table 5.
Table 5

*Time by condition multilevel models for mental health outcomes*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Control vs. Phone coaching</th>
<th>Control vs. Text coaching</th>
<th>Phone coaching vs. Text coaching</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>Standardized $\beta$</td>
<td>Corrected $p$-value</td>
</tr>
<tr>
<td>DASS-21 Depression</td>
<td>-3.97</td>
<td>-0.38</td>
<td>.035*</td>
</tr>
<tr>
<td>DASS-21 Anxiety</td>
<td>-4.16</td>
<td>-0.43</td>
<td>.025*</td>
</tr>
<tr>
<td>DASS-21 Stress</td>
<td>-3.55</td>
<td>-0.37</td>
<td>.045*</td>
</tr>
<tr>
<td>DASS-21 Total</td>
<td>-11.81</td>
<td>-0.44</td>
<td>.011*</td>
</tr>
<tr>
<td>MHC-SF</td>
<td>5.41</td>
<td>0.41</td>
<td>.007**</td>
</tr>
<tr>
<td>AAQ-II</td>
<td>-3.02</td>
<td>-0.33</td>
<td>.035*</td>
</tr>
<tr>
<td>compACT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>6.77</td>
<td>0.68</td>
<td>&lt;.001***</td>
</tr>
<tr>
<td>Behavioral Awareness</td>
<td>3.36</td>
<td>0.53</td>
<td>.007**</td>
</tr>
<tr>
<td>Valued Action</td>
<td>1.87</td>
<td>0.25</td>
<td>.134</td>
</tr>
<tr>
<td>compACT Total</td>
<td>12.31</td>
<td>0.66</td>
<td>&lt;.001***</td>
</tr>
</tbody>
</table>

*Note.* $^*p < .05; **p < .01; ***p < .001. BL = baseline; PT = post-treatment; DASS-21 = Depression/Anxiety/Stress Scale; MHC = Mental Health Continuum Short Form; AAQ-II = Acceptance and Action Questionnaire; compACT = Comprehensive Assessment of Acceptance and Commitment Therapy Processes
Clinical Significance. Assigned condition had a clinically significant effect on reliable improvement in depression ($X^2(2) = 15.6, p < .001$), stress ($X^2(2) = 7.8, p = .021$), psychological distress ($X^2(2) = 9.3, p = .009$), positive mental health ($X^2(2) = 8, p = .018$), and psychological inflexibility ($X^2(2) = 7.6, p = .023$). Post-hoc analyses suggest that participants in the phone condition were significantly more likely to experience a reliable improvement in depression (33%; $p < .001$), stress (28%; $p = .023$), psychological distress (57%; $p = .007$), and psychological inflexibility (20%; $p = .018$) as compared to the control condition (rates of reliable improvement ranging from 5-29%, see Table 6). No significant differences were found between the phone and text conditions, or the text and control conditions (all $p > .05$).
<table>
<thead>
<tr>
<th>Measure</th>
<th>Control (n = 56)</th>
<th>Phone coaching (n = 60)</th>
<th>Text coaching (n = 58)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>DASS-21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>3 (5%) 4 (7%)</td>
<td>20 (33%) 4 (7%)</td>
<td>9 (16%) 1 (2%)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>5 (9%) 3 (5%)</td>
<td>10 (17%) 2 (3%)</td>
<td>6 (10%) 1 (2%)</td>
</tr>
<tr>
<td>Stress</td>
<td>5 (9%) 2 (4%)</td>
<td>17 (28%) 2 (3%)</td>
<td>9 (16%) 0 (0%)</td>
</tr>
<tr>
<td>Total</td>
<td>16 (29%) 14 (25%)</td>
<td>34 (57%) 5 (8%)</td>
<td>21 (35%) 4 (7%)</td>
</tr>
<tr>
<td>MHC-SF</td>
<td>9 (16%) 5 (9%)</td>
<td>21 (35%) 2 (3%)</td>
<td>9 (16%) 1 (2%)</td>
</tr>
<tr>
<td>AAQ-II</td>
<td>2 (4%) 2 (4%)</td>
<td>12 (20%) 1 (2%)</td>
<td>7 (12%) 3 (5%)</td>
</tr>
</tbody>
</table>

Note. RI = reliable improvement; RD = reliable deterioration; NC = no change; DASS-21 = Depression/Anxiety/Stress Scale; MHC = Mental Health Continuum Short Form; AAQ-II = Acceptance and Action Questionnaire
Adherence as a Mediator. Regression analyses demonstrated that those who received phone or text coaching completed significantly more ACT Guide modules on average than the control condition ($F(2, 172) = 35.43, p < .001, R^2 = .29$), meeting the assumptions for path ‘a’ of our mediation analyses. Regarding the assumptions for path ‘b’ when comparing the phone and control conditions, number of modules completed was found to predict post-treatment psychological distress ($p = .036$) and psychological flexibility ($p = .001$) when controlling for baseline scores and assigned condition. No significant relationship between module completion and positive mental health ($p = .263$) or psychological inflexibility ($p = .113$) was found for the phone condition. When comparing the text and control conditions, no significant relationship between module completion and post-treatment psychological distress ($p = .300$) or positive mental health ($p = .061$) was found.

See Table 7 for a full listing of mediation results. Module completion was found to partially mediate the relationship between phone coaching and psychological distress (Mediation effect = $-6.21$, 95% C.I. = $[-13.32, -0.21]$) as well psychological flexibility (Mediation effect = $6.59$, 95% C.I. = $[3.13, 10.84]$). Module completion was also found to partially mediate the relationship between text coaching and psychological flexibility (Effect = $2.62$, 95% C.I. = $[0.05, 5.74]$). Phone coaching was not found to have a direct or indirect effect on positive mental health and psychological inflexibility (both $p > .05$), despite a significant total effect being found ($p < .001$). This suggests that the analysis was simply underpowered, and a greater sample size is called for in order to parse out the source of these effects. Text coaching was found to have a significant direct effect on
psychological distress \((p = .006)\), indicating that text coaching was helpful for improving distress for reasons aside from increasing ACT Guide compliance. However, this is somewhat difficult to interpret alongside other results provided by our study. No text coaching mediation effects were found for positive mental health and psychological inflexibility, however this is in line with the lack of total effects found for these outcomes \((p < .05)\).
Table 7

**Mediation analyses with module completion as mediator between coaching and outcomes**

<table>
<thead>
<tr>
<th>Measure</th>
<th>ACME estimate</th>
<th>ACME p-value</th>
<th>ADE estimate</th>
<th>ADE p-value</th>
<th>Total effect estimate</th>
<th>Total effect p-value</th>
<th>Proportion mediated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control vs. Phone coaching</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DASS-21 Total</td>
<td>-6.21</td>
<td>.048*</td>
<td>-6.06</td>
<td>.174</td>
<td>-12.27</td>
<td>&lt; .001***</td>
<td>51%</td>
</tr>
<tr>
<td>MHC-SF</td>
<td>1.65</td>
<td>.240</td>
<td>3.93</td>
<td>.110</td>
<td>5.58</td>
<td>&lt; .001***</td>
<td>-</td>
</tr>
<tr>
<td>AAQ-II</td>
<td>-1.51</td>
<td>.074</td>
<td>-1.78</td>
<td>.200</td>
<td>-3.29</td>
<td>&lt; .001***</td>
<td>-</td>
</tr>
<tr>
<td>compACT Total</td>
<td>6.59</td>
<td>&lt; .001***</td>
<td>5.55</td>
<td>.064</td>
<td>12.14</td>
<td>&lt; .001***</td>
<td>54%</td>
</tr>
<tr>
<td><strong>Control vs. Text coaching</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DASS-21 Total</td>
<td>-1.57</td>
<td>.226</td>
<td>-8.37</td>
<td>.066**</td>
<td>-9.94</td>
<td>&lt; .001***</td>
<td>-</td>
</tr>
<tr>
<td>MHC-SF</td>
<td>0.28</td>
<td>.652</td>
<td>2.35</td>
<td>.152</td>
<td>2.63</td>
<td>.076</td>
<td>-</td>
</tr>
<tr>
<td>AAQ-II</td>
<td>-0.09</td>
<td>.800</td>
<td>-1.19</td>
<td>.370</td>
<td>-1.28</td>
<td>.240</td>
<td>-</td>
</tr>
<tr>
<td>compACT Total</td>
<td>2.62</td>
<td>.048*</td>
<td>5.11</td>
<td>.096</td>
<td>7.73</td>
<td>.006**</td>
<td>34%</td>
</tr>
</tbody>
</table>

*Note. *p < .05; **p < .01; ***p < .001. ACME = Average Causal Mediation Effect (i.e., indirect effect); ADE = Average Direct Effect (i.e., direct effect); DASS-21 = Depression/Anxiety/Stress Scale; MHC = Mental Health Continuum Short Form; AAQ-II = Acceptance and Action Questionnaire; compACT = Comprehensive Assessment of Acceptance and Commitment Therapy Processes*
CHAPTER IV

DISCUSSION

This study assessed the feasibility and efficacy of undergraduate delivered peer-support coaching as an aide to an online ACT self-help program, ACT Guide. Both coaching via phone calls as well as coaching through text messaging were tested against a control condition which received no coaching, with participants of all three conditions being given 10 weeks to use ACT Guide. Results generally supported the feasibility of peer-support coaching, however adherence to coaching was not as high as we had expected. Satisfaction with coaching was acceptable, and peer-coaches adhered to the coaching protocol with fidelity, supporting the acceptability and feasibility of peer-support coaching. Phone and text coaching were effective interventions for increasing adherence to ACT Guide as compared to the control. Both phone and text coaching had a significant effect on an array of mental health outcomes, however phone coaching had an effect on a greater number of outcomes.

Feasibility and Acceptability of Peer-support Coaching

Regarding coaching adherence, participants who received phone coaching completed 51% of ten possible coaching sessions on average, while those who received text coaching completed 42%. Adherence within our phone coaching group was significantly higher when examining only participants who primarily enrolled because they would like the opportunity to receive coaching and/or improve their mental health,
attending an average of 66% of possible sessions. While similar studies on coaching as an aide to online self-help programs have rarely reported rate of coaching adherence, our observed rates were notably lower than those found in one study which reported an average coaching adherence rate of 8.5 phone sessions out of 12 (71%; Mohr et al., 2013). However, all participants in the compared study had major depressive disorder and assessment compensation was much higher, making this a somewhat inequivalent comparison.

Responses to dissatisfaction items suggested greater satisfaction with phone coaching as compared to text. Additionally, those who received phone coaching were significantly more satisfied with the ACT Guide program than those who received text or no coaching, suggesting that the phone coaching intervention helped to enhance participants’ overall experience with the ACT Guide program in full. Coaching alliance at post-treatment was also significantly higher for those receiving phone coaching as compared to text coaching. These findings are consistent with prior research suggesting that program satisfaction is higher for guided as opposed to unguided programs (Shim et al., 2017). However, prior research comparing differing formats for coaching have not examined participant satisfaction (Clarke et al., 2005; Renfrew et al. 2020a; Renfrew et al., 2020b). Thus, the present study sheds new light on how different formats may be perceived by program users, with phone coaching being generally better received.

**Efficacy of Peer-support Coaching**

Phone and text coaching both appeared to be effective interventions, having a
significant effect on ACT Guide program adherence as well as multiple mental health outcomes in comparison to a control group. Adherence to ACT Guide was significantly higher for both coaching conditions in comparison to the control condition, but no significant difference was found between coaching conditions. We had found peer-support coaching to have a stronger effect on program adherence than the small effect suggested by a prior meta-analysis (Musiat et al., 2021). It is possible that this is due to high completion rates witnessed within prior studies across both coaching and control conditions, potentially on account of differences in study design such as inclusion criteria, participation incentives, etc. The program adherence rates exhibited by our control group approximately reflect the low rates found in naturalistic settings outside of studies (Baumel et al., 2019), suggesting that our study offers high external validity affording a realistic view of program use. It is likely that the low adherence rates found within the control group are responsible for the minimal treatment response found within this group, demonstrated by the high percentage of control group participants who experienced no reliable change, and rates of reliable improvement approximately matching rates of reliable deterioration (see Table 6).

While we found coaching to have a significant effect on outcomes, both when using multilevel modeling as well comparing reliable change indices, it is noteworthy that phone coaching had an effect on a greater number of outcomes as compared to text coaching. When investigated using multilevel modeling, phone coaching had a significant effect on all outcomes except for valued action, while text coaching only had a significant effect on openness to experience, behavioral awareness, and psychological flexibility.
When investigating reliable change indices, phone coaching produced clinically significant improvements across all outcomes except for anxiety and psychological flexibility subscales, while text coaching produced no clinically significant improvements as compared to the control group.

This may suggest that synchronous phone coaching is an effective intervention, but the effectiveness of text coaching is unclear or at least weaker, congruent with previous literature in which findings on the effectiveness of coaching overall across multiple formats is mixed (Shim et al). Prior reviews and meta-analyses have not parsed out differences in outcomes between differing formats of coaching (Shim et al., 2017; Baumeister et al., 2014), and trials that have directly compared synchronous versus asynchronous modes of coaching have not found significant differences in outcomes (Clarke et al., 2005; Renfrew 2020a). However, it is possible that a more complex relationship exists between format of coaching and effect on outcomes, and that further investigation regarding under which circumstances (e.g., when format is self-selected, if there are moderation effects) different formats are effective is warranted (Renfrew, 2021).

Regarding mediation effects, results were somewhat mixed. While we expected increased adherence to the ACT Guide program to consistently account for any treatment effects, module completion only partially mediated two outcomes (psychological distress and psychological flexibility) for the phone coaching condition, and one outcome for the text coaching condition (psychological flexibility). This provides preliminary evidence for program adherence being the primary mechanism of change when online mental
health programs are accompanied by coaching. No previous studies to our knowledge have conducted similar mediation analyses in the context of coaching as a supplemental intervention for an online program. Further research is called for to understand the extent to which differing mechanisms (e.g., skills review, increased program adherence, coaching alliance, etc.) are contributing to change in online mental health interventions that include coaching.

**Implications**

The present study offers important implications regarding coaching as a supplement to online self-help programs, and its effects on program adherence and program effectiveness. Given the feasibility, acceptability, and efficacy of implementing undergraduate students as peer-support coaches, this could be very practical intervention to offer to college students alongside online self-help. Relevant training and implementation materials could be readily disseminated for use by universities seeking to implement this service alongside ACT Guide or a similar program, given the only required personnel that calls for a professional training background (i.e., a graduate student or mental health professional) is a coordinator. College campuses may be incentivized to implement such a program, given that prior economic analyses have found online interventions to be a cost-effective resource (Mitchell et al., 2021) with one study supporting guided online interventions to be particularly efficient (Buntrock et al., 2021). Undergraduate student volunteers themselves are relatively easy to recruit, evidenced by the number of undergraduates contacting us to express interest in a
coaching volunteer position. Additionally, serving as a peer-support coach provides valuable training experience to undergraduate students, with two out of six of our senior-class peer support coaches using letters of recommendation from this experience as part of graduate school applications.

At present, distinctions between phone and text coaching are somewhat unclear, but our results appear to provide greater support for the former, both regarding participant satisfaction with coaching as well as effect on mental health outcomes. This could be potentially attributed to the greater coaching alliance afforded by phone coaching, and more contact time with the coach facilitating deeper discussion of ACT related content as compared to text coaching. Further research delineating differences between differing modalities for coaching (e.g., phone or text message), as well as mechanisms of change driving the effectiveness of coaching, is called for.

Limitations

Several limitations should be taken into consideration when evaluating the results of the present study. The purity of the phone condition was potentially compromised at certain points, as while coaches were instructed not to text participants in the phone condition aside from scheduling the coaching calls themselves, some coaches did report answering a few questions that participants texted them. Additionally, several coaches reported throughout the study that text coaching was more difficult to administer than phone coaching, on account of texting being asynchronous. This resulted in variance among the quality of text coaching across coaches, as some coaches may have been quick
to answer back texts throughout the day, while others took an approach that resulted in greater delay between texts (e.g., setting aside one time a day to answer texts). Future research on peer-support coaching should collect additional data from coaches that may be formally reported, and implementations of text coaching may want to set additional guidelines for reply-back times.

Completion rates for post-treatment assessment were also not ideal, with 76% of participants completing this step of the study. Given that participants who less modules of ACT Guide were significantly less likely to complete the post-treatment assessment, non-adherers may be underrepresented within our results. Our sample also disproportionality represents those identifying as female (75%) as well as White (90%). This was expected given that women are more likely to engage in help-seeking behaviors than men (Seidler et al., 2017), and that 84% of Utah State University students are White (College Factual). Thus, further research is warranted regarding the efficacy of peer-support coaching with more diverse samples.
CHAPTER V
CONCLUSION

The results of the present study support peer-support coaching as a viable intervention to increase the adherence and effectiveness of online self-help programs in a college student sample. Peer-support coaching delivered over weekly phone calls are particularly promising, given that higher program adherence rates and improvements among a greater number of mental health variables were observed as compared to coaching delivered over text messaging. Online self-help programs in combination with peer-support coaching is thus a promising intervention to integrate into the resources offered by college counseling centers. Implementing this type of intervention is feasible to scale-up and may be particularly helpful for students waiting to receive in-person services or students with mild to moderate symptoms. Future research should continue to investigate mechanisms of coaching, as well as potential avenues for improving coaching such incorporation of additional communication between coaching sessions, allowing users choice between coaching formats, or providing users with a choice on which coach they are matched with.
REFERENCES


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APPENDIX A

COACHING FIDELITY RUBRIC: CALLS
## Coaching Fidelity Rubric: Calls

<table>
<thead>
<tr>
<th>Coaching element</th>
<th>Description</th>
<th>Points possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress check-in</td>
<td>The coach should monitor their participant's progress by asking what progress was made in the program this week. The goal is not to shame the participant into adherence, but to assess how the coach can be most helpful throughout the coaching call (e.g., discussing module content or addressing adherence.)</td>
<td>0 = Not discussed; 1 = Discussed</td>
</tr>
<tr>
<td>Practice assignment check-in</td>
<td>The coach should monitor the participant's experience with the practice assignment assigned by the module in order to make the outcome of the assignment more meaningful/memorable. If the practice assignment was not completed, the coach should try to complete a brief version of the practice assignment with the participant as outlined in the coaching protocol. If the practice assignment was completed or partially completed, the coach should discuss with the participant what they noticed while completing the assignment.</td>
<td>0 = Not discussed; 1 = Discussed adequately; 2 = Discussed thoroughly/NA due to lack of module completion</td>
</tr>
<tr>
<td>Addressing adherence</td>
<td>If the participant struggled with adherence to the program or to completing the practice assignment, the coach should address adherence using an ACT consistent strategy or skill as outlined in the coaching protocol.</td>
<td>0 = Not discussed; 1 = Discussed adequately; 2 = Discussed thoroughly/NA due to module completion</td>
</tr>
<tr>
<td>Module specific questions</td>
<td>If the participant completed a module this week, the coach should use the remaining time (leaving room for 2-3 minutes) to discuss questions specific to the completed module(s) in the coaching protocol. If multiple modules were completed, the coach should manage time appropriately to cover content from both modules. The coach should keep the discussion conversational and reflective, as opposed to asking a question, receiving a response, and then following with the next question as if it were a job interview. Reflections and comments from the coach should tie back to ACT concepts. The coach should take care to redirect the conversation if it starts to revolve around the content of the participant's problem.</td>
<td>0 = Not discussed; 1 = Discussed adequately; 2 = Discussed thoroughly/NA due to lack of module completion</td>
</tr>
<tr>
<td>Questions and expectations for next call</td>
<td>The coach should ask if the participant has any unanswered questions, come to an agreement with the participant on what module(s) should be completed next, and set/remind the participant when their next call will be.</td>
<td>0 = Not discussed; 1 = One or two elements discussed; 2 = All three elements discussed</td>
</tr>
<tr>
<td>Overall quality</td>
<td>The coach should manage time well, be ACT-consistent in their speech, and exhibit good judgment in how the call is managed overall.</td>
<td>0 = Poor quality; 1 = Adequate quality; 2 = Excellent quality</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>X/11</td>
</tr>
</tbody>
</table>
APPENDIX B

COACHING FIDELITY RUBRIC: TEXT CONVERSATIONS
## Coaching Fidelity Rubric: Text Conversations

<table>
<thead>
<tr>
<th>Coaching element</th>
<th>Description</th>
<th>Points possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress check-in</td>
<td>The coach should monitor their participant's progress by asking if they completed the modules they had planned to this week. The text message should specifically reference the modules by their number and name, as opposed to asking about module completion in a more general manner.</td>
<td>0 = Not discussed; 1 = Discussed</td>
</tr>
<tr>
<td>Module specific questions</td>
<td>At least one module specific question from the coaching protocol should be asked. This may be done within the same text message as the progress check-in, or directly after, based on the coach's discretion. A module specific question does not need to be asked if the coach conducted the progress check-in first and no ACT Guide progress was made. The question may be modified to be more general if the participant engages better with simpler interactions.</td>
<td>0 = Not discussed; 1 = Discussed/NA due to brief check-in preference from participant</td>
</tr>
<tr>
<td>Addressing responses</td>
<td>The coach should address the participant's response(s) using (1) affirmation to encourage continued use of the program, and (2) validation to respond to the participant’s answer to the module specific questions.</td>
<td>0 = Not discussed; 1 = One element is present; 2 = Both affirmation and validation are present/NA due to lack of module completion</td>
</tr>
<tr>
<td>Addressing adherence</td>
<td>If the participant struggled with adherence to the program, brief problem solving should be discussed as outlined in the coaching protocol.</td>
<td>0 = Not discussed; 1 = Discussed/NA due to module completion</td>
</tr>
<tr>
<td>Expectations for next texts</td>
<td>The coach should come to an agreement with the participant on what module(s) should be completed next (or state what modules will be completed next if a schedule such as two modules a week as already been determined), and set/remind the participant what day of the week they will text next.</td>
<td>0 = Not discussed; 1 = One elements discussed; 2 = Both elements discussed</td>
</tr>
<tr>
<td>Overall quality</td>
<td>The coach should appropriately manage the pacing of the conversation, be ACT-consistent in their speech, and exhibit good judgment in how the conversation is managed overall. Good judgment includes tailoring the length and depth of the conversation to the participant (e.g., maintaining shorter conversations for participants who take longer to reply).</td>
<td>0 = Poor quality; 1 = Adequate quality; 2 = Excellent quality</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>X/9</td>
</tr>
</tbody>
</table>
APPENDIX C

ACT GUIDE COACHING PROTOCOL
Your role as a peer-support coach

The goal of coaching is to increase users’ engagement with the online ACT Guide program. There are several components to engagement, including adherence (completing the program in a timely manner), using the program to its greatest capacity (e.g., following through when the program prompts for written responses), and applying learned content in real-life contexts (e.g., completing “homework” assigned by the program). Out of these facets of engagement, adherence is the most critical for coaches to support.

As a coach, your job is to facilitate greater engagement with your assigned participants (the fellow college students that you coach), either through weekly phone calls or through briefer text messages, depending on the condition that the participant has been assigned to. Your job is not to provide therapy. While therapists may introduce new concepts and strategies and discuss personal problems in order to improve their clients’ mental health, an ACT Guide coach will only use concepts and strategies presented in this protocol in order to improve participants’ engagement with the ACT Guide program. Coaches may additionally provide motivational support, but focus should be maintained on participants’ use, understanding of, and experience with ACT Guide.

Adherence: Reasons why users don’t engage

The most common reason why some users who start ACT Guide do not experience benefits is that they haven’t used it enough. Only 31% of USU students who sign-up for ACT Guide complete the welcome module, and only 29% of USU students who complete the welcome module get to module 3. Thus, only 9% of students who sign-up get through at least a quarter of the program, with even less completing subsequent modules and the program in full. This is why adherence is the most critical facet of engagement, and what coaching primarily seeks to impact. These are some of the most common reasons why students might not adhere to the program:

<table>
<thead>
<tr>
<th>What might get in the way of using ACT Guide?</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not having enough time</td>
<td>72%</td>
</tr>
<tr>
<td>Not feeling motivated to use the program</td>
<td>59%</td>
</tr>
<tr>
<td>Forgetting to use the program</td>
<td>58%</td>
</tr>
<tr>
<td>Feeling stressed, sad, anxious, or other difficult emotions</td>
<td>47%</td>
</tr>
<tr>
<td>Getting distracted while using the program</td>
<td>46%</td>
</tr>
<tr>
<td>Putting off using the program</td>
<td>44%</td>
</tr>
<tr>
<td>Being unsure of whether the program will help me</td>
<td>37%</td>
</tr>
</tbody>
</table>
While coaching may not prevent or solve all of these problems, research suggests that it may help. Coaching adds a human support element to self-help which can help keep users accountable, tailor the program experience to the user, and invigorate program content through social contact. The coaching you will provide will be further augmented by ACT principles and strategies embedded into the portions of the coaching protocol that follow. This will allow users to experience ACT “in action” in order to overcome barriers to engagement like the ones listed above, while simultaneously modeling how ACT skills can be useful for getting “unstuck”.

Guidelines and Strategies for ACT Consistent Coaching

So that coaching does not contradict what participants are learning through ACT Guide, it is important to be conscientious of the messages and assumptions you are conveying through your speech as a coach. Some general guidelines as well as strategies specific to working with ACT are presented below.

Open-oriented guidelines

1. **Respond to a participant’s unhelpful thoughts with defusion.** Unhelpful thoughts can include ones like “I’m too stupid for this” or “This will never work out”. A knee jerk reaction to hearing unhelpful thoughts may be reassurance (“You’re not stupid!”) or rational logic (“What makes you think you’re stupid?”), however defusion is a more ACT consistent approach. Although it is a seemingly practical thought, one unhelpful thought you might hear the most as a coach is “I can’t do ACT Guide because I don’t have enough time.” Even if it is likely true that time is a precious limited resource for the participant, it is also likely true that this thought (rather than the time constraint itself) is stopping the participant from doing the valued action of using ACT Guide, making this thought a prime target for defusion.

   Reflecting with defused language can help the participant step back from this thought, for example saying “So you’re having the thought that you don’t have enough time.” This principle can also be taught as a quick strategy, for example by saying “what if you just added the label ‘I’m having the thought that’ to each of these thoughts right now.”

   Another option is helping set a defused goal with the program, for example saying “what if you just tried out doing the program for 10 minutes today, even while your mind says ‘I can’t do that. I have too much to do’, just to play around with this idea of doing things even when your mind says you can’t.” By defusing the participant from the unhelpful thought, it becomes more apparent that the thought is simply a thought rather than absolute truth. For unhelpful thoughts regarding time concerns specifically, it is recommended to integrate some practical problem solving as well; read more on this in the general principles for coaching section.

   *For more information, review “Module 5: Being flexible” and “Module 6: Stepping back”*
2. Be careful not to reinforce the idea that negative thoughts/feelings need to be eliminated before one can engage in valued actions/life. One way to detect this in participants is if they use the word “but”. For example, a participant may say something like “I want to do ACT Guide, but I feel so overwhelmed.” Rather than reinforcing the idea that the feeling of being overwhelmed would need to be gone before they could use ACT Guide, for example by talking about how they might reduce their stress, you could present the idea of rephrasing the statement using “and”. A statement like “I want to do ACT Guide and I’m so overwhelmed” can help a participant take control of their actions despite what they are thinking or feeling. For more information, review “Module 8: Carrying emotions with you”

Engaged-oriented guidelines

3. Instead of telling participants what they “should” do, use their values as a source of motivation. When encouraging participants to use ACT Guide, using words like “should” or “have to” might naturally come up, for example “Maybe working on ACT Guide this week didn’t work out, but you should give it another try next week.” However, thinking in “shoulds” can be inconsistent with ACT’s focus on valued choice and defused thoughts, and thus can lead to participant’s missing out on seeing why the actions they do or want to do matter to them. Seeing an action as a “should” can also lead to avoidance. Try your best to navigate encouragement without using “should” statements, and instead orient to the participant’s values as a source of motivation.

For example, saying “Maybe working on ACT Guide this week didn’t work out, but I know that you chose to sign up for ACT Guide for a good reason and that something about it matters to you” to spark a discussion on how using ACT Guide connects to the participant’s values. Some examples of values that can be connected to ACT Guide include valuing health (ACT Guide was designed to improve mental health/functioning) or valuing family (ACT Guide teaches skills that can help the participant get back to spending time with people who matter), but be creative in identifying other ways to connect ACT Guide with other values. For more information, review “Module 4: Finding values” and “Module 11: Making commitments”

4. Remember that values and actions are the participant’s choice; don’t try to correct the participant or use language/tone that imposes what you think is the right answer. For example, you might be discussing with the participant how they have applied what they learned about valued actions, and they cite getting drunk with friends as a valued action towards a commitment to strengthen their friendships. Even if you might disagree with getting drunk as a valued action, you can still validate the participant’s experience with a focus on them having connected an action with a value, as opposed to a focus on the action of getting drunk on its own. Remember that actions and values are ultimately every individual’s choice. If you impose your own thoughts on the “correct”
actions/values, the participant may begin to fuse with your expectations, leading to thinking with “should” or “have to” statements.
General Guidelines for Coaching

There are some general guidelines that should be kept in mind as you coach participants.

1. **Talk about actions as concrete and achievable goals as opposed to talking about actions in the abstract.** A participant talking about an action in the abstract might sound something like “I know I didn’t do the module yet, but I plan on doing it this week.” You can help the participant make this plan more concrete by turning it into a SMART goal. Remember that SMART goals are (1) specific, (2) measurable, (3) adaptable, (4) realistic, and (5) towards values. Review module 10 for more information.

2. **Be flexible to the participant when structuring your coaching calls or texts.** While the recommended duration of coaching calls is 10 to 15 minutes, the optimal duration for coaching calls is whatever serves the participant best. If the participant seems disengaged during calls, and using strategies to further engage them are ineffective, the best move might just be to offer shorter calls in which you briefly check-in on if they completed the module, and reinforce this if they did or offer to help problem-solve barriers if they didn’t. Similarly, if a participant is seems disengaged from coaching texts with you, for example offering only brief texts like “OK” or “Yea”, you can offer to keep your texts to just brief check-ins.

3. **But also manage coaching time appropriately.** If the participant is assigned to phone coaching, calls should be no more than 15 minutes. While it is encouraged to cover all elements of the coaching call, you can use your best judgement to decide how many questions to ask, or whether there is enough time to do the brief practice assignment together if the participant had not complete it before the coaching session (this is especially relevant if the participant completed two modules that week, but did not complete the practice assignment for either of them). Try not to spend too much time discussing any one topic or question. If there are only three minutes remaining for the call, and there is still plenty of content to cover, you can warn the participant about the time remaining and ask what they would be most interested in covering before wrapping up.

4. **Validate the participant’s experience without digging deep.** Validation does not have to look like asking more about what the participant shared with you. For example, if a participant shares that they have been sad about a breakup, you can say something like “It sounds like you’re feeling really sad about losing your relationship.” with a sympathetic tone and move on. Another way to provide validation is framing the participant’s experience or feeling as making sense given their circumstances, for instance “Of course you’d feel sad, you are going through a breakup.” You can additionally ask if they were able to use what they learned in ACT Guide to help them during this tough time. You should not “dig deeper” to show interest and sympathy for the participant, for example asking, “What
happened during the breakup?” This can put you outside of the scope of your coaching responsibilities and take time away from covering planned items from the coaching agenda.

5. **Treat non-adherence compassionately, while still maintaining accountability.** If the participant did not complete modules or practice assignments, model curiosity as to why rather than asking why with a judgmental tone.

6. **Offer affirmation for any progress made within the program, as well as for real life application of program content.** Affirming progress can be relatively straightforward, for example, saying “It’s good to hear that you were able to complete the module.”

7. **Talking about your own experience briefly can be helpful.** If the participant doesn’t know how to answer a question, or provides a vague answer, you can answer the question in reference to yourself to model what this might look like. This may help decrease stigma as well and increase rapport. Talking about your own experiences can also act as a form of validation, for example, “I know I’ve felt devastated when I’ve gone through breakups too.” Note that self-disclosure can be used to share your experiences with both ACT Guide and life in general, as well as with both successes and struggles. However, be sure to *not* treat this as an opportunity to vent about your own problems; keep any self-disclosure brief and shift the focus back to your participant immediately after.

8. **Be honest if you aren’t sure about the answer to a question.** If a participant has a question about the module’s content or about ACT, and you aren’t sure about the answer, tell the participant that you will consult with your supervisor and can get back to them about the answer in a few days through text messaging or a brief call. Of course, it is expected that you will be adequately familiar with the ACT Guide program content so that you can answer basic questions from the participant, but it’s also fine to just say if you don’t know an answer and to follow up later if it’s an important question once you check in with us.

9. **Use a collaborate approach.** People generally don’t like to be told what to do, and simply telling someone what to do without their input or own suggestions is often ineffective. Work together with your participant to figure out what would be most helpful for them. Listen to what your participant has to say; they have known themselves for much longer than you have known them and may offer valuable input on what works and what doesn’t work for them.

**Emergency procedures for high-risk disclosures**

While it is highly unlikely that this will happen, if the participant discloses that they have been abusing, neglecting, or intending to harm another or themself, further steps are to be taken in order to ensure the participant’s safety. Note that the majority of suicidal
ideation disclosures will be passive in nature, meaning that suicide or an expressed wish for death is mentioned without a specific plan (e.g., “I want to go to sleep and never wake up”). In order to determine whether a disclosure warrants the following emergency procedures, respond to any passive disclosures by asking about it with a compassionate tone. For example, “That sounds really hard. Have you had thoughts of committing suicide? I’m asking because I want to make sure you’re safe.”

If a potentially high-risk disclosure occurs, immediately contact Dr. Michael Levin at (541) 531-3892 and Korena Klimczak at (561) 673 9258. If neither answer, contact Dr. Michael Twohig at (435) 265 8933. Tell the participant that, as they were told during the initial first call, you are required to report this to your supervisor so that we can make sure they are getting the level of support that they need. If the disclosure was suicidal in nature, Korena will perform a suicidal risk assessment with the participant once she is contacted. Korena and Dr. Levin will then consult together regarding next steps. Depending on the severity of the disclosure, the participant may be referred to in-person services. If appropriate, you may continue the call after contacting Dr. Levin and Korena before the risk assessment is administered.

Weekly Coaching Phone Calls

Table 2. ACT Guide Intervention Schedule for Phone Calls

<table>
<thead>
<tr>
<th>Week</th>
<th>Planned Module(s)</th>
<th>Phone coaching time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Module 1</td>
<td>Module 2</td>
</tr>
<tr>
<td>1</td>
<td>Welcome orientation</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1: Away moves</td>
<td>2: Your mind is like…</td>
</tr>
<tr>
<td>3</td>
<td>3: Your values</td>
<td>4: Finding values</td>
</tr>
<tr>
<td>4</td>
<td>5: Being flexible</td>
<td>6: Stepping back</td>
</tr>
<tr>
<td>5</td>
<td>7: Siting with emotions</td>
<td>8: Carrying emotions with you</td>
</tr>
<tr>
<td>6</td>
<td>9: How you want to act</td>
<td>10: Setting goals</td>
</tr>
<tr>
<td>7</td>
<td>11: Making commitments</td>
<td>12: Returning to commitments</td>
</tr>
<tr>
<td>8</td>
<td>Moving forward</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>[Week allotted for flexibility]</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>[Week allotted for flexibility]</td>
<td></td>
</tr>
</tbody>
</table>

Over a span of 8-10 weeks, you’ll engage in weekly coaching calls with each of your assigned participants as you provide support throughout their use of the ACT Guide program. The outlines below provide a general script to be followed, in which each key point should be touched on. However, while these scripts model what your “lines” as a coach should look like, they do not have to be read word for word. In order to develop rapport with participants, your speech should sound fluent and natural as opposed to sounding as if it is being read out loud.

Welcome call

1. Check-in
“Hi, is this ________? Is now still a good time to talk about ACT Guide?”

2. Introduce yourself

“Good to hear! My name is _______, and I’ll be your peer-support coach throughout the ACT Guide program. I’m an undergraduate at USU, and [state any other information you’d like to introduce yourself with, such as major, any leadership positions, etc.] Before we begin, can you tell me a little bit about yourself?”

3. Set the agenda for the call

“Great! I’m glad that you decided to sign up for ACT Guide. For our call today, I wanted to take some time to talk some more about ACT Guide. That way, you can know what to expect from the program, and I can be in a better position to support you as your coach.”

“I’m hoping that we can go over what you would like to get out of the program, what we can expect from each other, and any other questions you may have. Does that sound good to you?”

4. Explain your role as a coach and establish expectations

“As your coach, I’m here to help support you as you work through ACT Guide over the next 10 weeks. What do you currently know about my role as a coach?”

“My job as your peer-support coach is to help you get the most out of ACT Guide and stick to it. I do want to emphasize that I am absolutely not a therapist, and this is not therapy, so we won’t be discussing your problems in depth. If we ever feel like this is starting to go in that direction, I’ll catch it and shift gears, not because I don’t want to help but because I want to stick to what I’m trained for in helping you. If you do want therapy, just let me know and we can give you referrals and help you find resources. Most of the help you’ll be receiving will be coming directly from ACT Guide, while my job is to help keep you accountable, reinforce what you learn, and help you apply what you learn in ACT Guide to other areas of your life.”

“Each week I’ll ask if you completed your sessions, and if you didn’t, I’ll help you troubleshoot ways to get back into using the program. Each session will include a practice assignment so I’ll also check in on how that went. If you didn’t get a chance to do it, I’ll help you try out a simple version of the practice assignment over the phone with me. We’ll also talk about what you learned in the session and we might try out a few related skills to help you explore and understand ACT Guide more and how to apply it in your life. I’ve used ACT Guide too and got a lot out of it, so I’ll...
also be sharing about my experiences as they are helpful for you using it too. If you ever have any questions about how ACT Guide or any of the skills you’ll learn in it have applied to my own life, always feel free to ask and I would be happy to share.”

✓ “We’ll be keeping in touch through scheduled phone calls once a week. You can expect each call to be around 10-15 minutes long.”

✓ “That’s what you can expect from me. As for what I can expect from you, I’d like to ask you to complete one or two modules a week. We’ll start with the expectation of two modules a week and can tone this down to one module a week as we see how things go. Really, it’s up to you how you want to go through the program, and my goal is to help you stick to your goals and get the most out of it. Because I’ll only be your coach for 10 weeks though, I’d like to aim for you completing the program within that span of time. Does this pacing sound okay?”

✓ “In addition to that, I’d like to ask you to keep with the phone calls that we schedule. I’ll be the one making the call, you don’t have to worry about calling me. If you realize that you won’t be able to make it to a meeting, please text me to let me know so we can reschedule. That wraps it up for what I expect from you, so that includes completing two modules per week, having one scheduled phone call with me a week, and letting me know if you’re going to cancel. Do you have any questions about any of that?”

5. Explain level of privacy/confidentiality

✓ “Next, let’s go over the privacy and confidentiality of this and future calls. Calls are recorded and may be listened to by research staff in order to assess coaching fidelity. As a coach, I will also be attending weekly supervision meetings with research staff and other peer-support coaches. So it’s possible that specific issues that may come up during coaching calls will be discussed during these supervision meetings.”

✓ “Other than that, our calls are private and what we talk about will be confidential, but if you disclose that you intend to harm yourself or someone else, this will have to be reported for safety reasons, and so that we can make sure you have the support you need. In that case, Korena Klimczak will follow up with you and/or Dr. Mike Levin to help figure out the best level of care for you to support you and make sure you are safe.”

6. Elicit the participant’s goals for using ACT Guide [Estimated time: 4-5 minutes]

✓ “One thing I’m wondering is why you decided to sign-up for ACT Guide.”

✓ “Is there anything specific you’re hoping to get out of using the program?”
“How might things be different for you after completing ACT Guide if it worked exactly how you hoped it would work?”

Try to elicit goals and/or values when you see the opportunity. For example, if the participant says, “I just want to be happy”, you may respond by asking “how would your life be different and what would you be doing differently if you felt happy?” You might also ask what else they would like to get out of the program. If this proves difficult, you can simply validate their goal without encouraging it, for example “I can see why you’d like that.”

Link the participants goals/values to what ACT Guide has to offer. For example, if the participant says that they are hoping to better their personal growth, you can tell them that ACT Guide was designed with this in mind and could help. You could also share how ACT Guide has helped you with your own personal growth to reflect, summarize, and extend what the participant shares.

7. Discuss barriers to participation [Estimated time: 4-5 minutes]

“Now that you have an idea of how things will go for the next 10 weeks, I’d like see if there is anything we can anticipate that might get in the way. Can think of anything that might keep you from using ACT Guide as planned? You may want to think back to what you selected when you were answering the initial questions in ACT Guide.”

- If the participant can’t think of any barriers, try offering some of the ones listed below.

Address any concerns using collaborative problem-solving. Here are the most common concerns that may come up and how you might address them:

- **Not having enough time/forgetting.** You can remind the participant that ACT Guide modules are only expected to take 20 to 40 minutes each and isn’t intended to be a time-consuming process. Scheduling out time and setting a reminder, such as putting it on their calendar, could help. If this is a significant concern, you can use the “Problem-solving barriers” steps listed in the “Addressing adherence” section below.

- **Not feeling motivated to use the program.** You can tell the participation that motivational issues are normal, and that one solution might be to build motivation through promising themselves a reward for completing the module. If this sounds appealing to the participant, you can work with them to help them decide what they might use as a reward and ensure that this can be
easily done (e.g., watching an episode of a show on Netflix might be a more realistic and immediate reward than going to the movie theatre).

- *Feeling stressed, sad, anxious, or other difficult emotions.* You can remind the participant that these are the kind of feelings that ACT Guide is designed to help you work with. The skills you learn in ACT Guide can help you live your best life despite these difficult emotions. It might also be helpful to go over the strategy of turning “but” statements into “and” statements: “You may have a thought like ‘I want to use ACT Guide, **but** I feel stressed. What might happen if you modify this thought to “I want to use ACT Guide, **and** I feel stressed’?”

8. Summarize and set a time for weekly calls

- Give a comprehensive summary of what was discussed, including the participant’s goals for using ACT Guide, your role as a coach, and possible barriers as well as how to address them.

- Set a time and day of the week for which the two of you can have a coaching call every week. It is recommended to choose a consistent time for every week, but if this is not possible for the participant going week by week is okay too. Try to have this time paired with something they already do each week, for example right after a specific class.

- Wrap-up the call by asking if they have any other questions that weren’t answered in the call and reminding them to complete Module 1 and 2 before the next coaching call.

Once the call is completed, email Korena Klimeczak at k.klimczak@aggiemail.usu.edu to let her know so that we can keep track of which participants have begun the coaching process and which ones haven’t.

**Weekly calls**

Weekly coaching calls should discuss the module specific content relevant to the one or two modules completed by the participant that week. Follow the agenda listed below and refer to the questions and content listed in the “Module specific content” section. Keep in mind that the practice assignment review (or brief version of the practice assignment, if they did not complete the practice assignment) is intended to help strengthen the participants ability to use the learned skill in the future. The specific questions you will ask are then intended to reinforce the learned content and help the participant generalize the skill to their own life, increasing an awareness of when and how this skill would be pertinent to use.

*Weekly coaching call agenda:*
1. What progress did the participant make this week?
   - If the participant did not make progress, or struggled with making progress, refer to “Using ACT to Address Nonadherence”.

2. Has the participant completed the practice assignment from this week’s module(s)?
   - If the participant completed the practice assignment, discuss what they noticed while doing it.
   - If the participant did not complete the practice assignment, complete a brief version of the practice assignment together with them.

3. Ask specific coaching questions respective to the module(s) completed.

4. Address any of the participant’s questions or concerns.

5. Set expectations for next session (modules to be completed; date/time of next call).

6. After completion of the call, record the date, participant name, modules completed, and length of call in your log.

7. Upload the call recording to Box. Delete the call recording from your phone directly afterward.

Note: If multiple modules were completed this week by the participant, focus on only module one at a time. Rather than trying to cram in discussion of all completed modules, it is preferred to give adequate attention to one module, and then only discussing other modules if there is still time. Allow participants to pick which module they would like to talk about first. If no preference is given, discuss the most recent module completed.
Figure 1. Coaching call flowchart

**Module specific content**

1. Away Moves

   *Practice assignment review*
   
   You were asked in session 1 to practice noticing when you were doing an away move and considering how it worked. Was it easy or difficult to notice away moves? How did the away move work in the long run?

   ✓ *Did not complete assignment:* An away move is something you do to get away from an inner experience like an emotion, thought, urge or memory. What’s one away move you’ve experienced in the past two weeks, even if you didn’t realize it was an away move in the moment? What happened as a result of the
away move? What might have happened if you did the opposite of the away move instead?

Questions to enhance engagement

✓ Looking back, what are some areas or situations in your life in which you tend to respond with away moves?
✓ How might noticing away moves in these situations affect what happens?

Note: Sometimes coaches find it helpful to use the Choice Point to help explain or give context to away moves. Feel free to use the Choice Point model while discussing module 1 with your participant.

2. Your Mind is Like…

Practice assignment review
Your practice assignment from session 2 was to practice working with the perspective of either viewing your mind as an overeager assistant, a computer, or a sportscaster. Which one did you choose? What did you notice when you took on this perspective?

✓ Did not complete assignment: Remember that you can choose to view your mind as either an overeager assistant, a computer, or a sportscaster, leaving you in control in how you respond to your mind. Based on what you learned in the module, which perspective would be most helpful to you? What is one situation you can use this perspective in? How might you remind yourself to take this perspective on your mind?

Questions to enhance engagement

✓ Tell me about a time this week where you noticed that [choose based on the perspective they practiced: your overeager assistant was at work; you were really close to the screen; or all your attention was on the announcer]
✓ What are some thoughts that tend to come up for you which you might [choose based on the perspective they practiced: simply thank your mind for; lean back from; or simply notice before “returning back to the game”]

3. Your Values

Practice assignment review
You were asked in session 3 to practice noticing how your actions might fit with your values. What did you notice about the connection between your values and actions?

✓ Did not complete assignment: Break down an average day in your life for me. With each activity you list, also tell me why it matters to you (if the participant says “because I have to” or “I should”, probe gently for a deeper meaning).

Questions to enhance engagement
Why does what you’re doing right now, talking to me about how ACT Guide has been going, matter to you?

What are some other areas of your life in which you’ve noticed values showing up?

4. Finding Values

*Practice assignment review*

Your practice assignment from session 4 was to try out a value and see if it was helpful. What value did you try out and how? How did it go?

*Did not complete assignment:* Tell me a value that you’d like to try working with. What’s one, brief way you can work with this value immediately or shortly after this phone call? For example, if the value you’d like to try working with is connection, you can shoot a friend you haven’t talked with in a long time a text message. Based on what you do, how can you know if this value is important to you?

*Questions to enhance engagement*

Are there any values that you would like to be living by, but haven’t?

If there are, what can you do to try working with this value to see how it works for you?

5. Being Flexible

*Practice assignment review*

You were asked in session 5 to practice the a flexibility strategy from the module. Which strategy did you choose, and what did you notice when you did it?

*Did not complete assignment:* Let’s practice one of the flexibility strategies from the module with a thought that you might have been struggling with lately. What’s one thought that you have been struggling with? It might seem a little silly, but let’s try singing the thought together to the tune of ‘Happy Birthday’. If you’re in a public area or around other people and wouldn’t feel comfortable doing this one, we can try a different exercise.

*If the participant doesn’t want to sing:* That’s okay, how about we try painting a picture of the thought together? First tell me what color the thought would be. What shape would you give it? What details would be on it? [try to elicit details, rather than moving on with one or two word answers]

Does this thought seem as true as before we did the exercise? Is it as distressing?

*Questions to enhance engagement*

Are there any distressing thoughts that tend to come up when you’re working on ACT Guide? [If there aren’t any, ask about a situation that does elicit distressing thoughts]

How might you use a flexibility exercise next time this thought comes up when you’re using ACT Guide (or another situation specified)?
6. Stepping Back

Practice assignment review

Your practice assignment from session 6 was to practice either the ‘leaves on a stream’ or the ‘labeling mindfulness’ exercise. What did you notice while completing the practice assignment?

✓ Did not complete assignment: Let’s take a moment to practice the ‘leaves on a stream’ exercise. In this exercise you’ll be to turning your attention to your thoughts, looking at your thoughts as opposed to from your thoughts. You’ll simply be noticing your thoughts, placing them on leaves and then letting them flow by. If possible, sit in an upright, but not rigid, position with your feet squarely on the ground. Close your eyes or find a place to fix your gaze on the floor. Notice the sounds in the room … Notice the sensations of sitting in the chair … of your feet contacting the ground … of breathing in and out.

Imagine a flowing stream with leaves floating down it. Focus on your thoughts, and as each thought comes to mind, imagine putting the thought onto a leaf flowing by … These might even be thoughts you’re having about the exercise itself, for example ‘I’m not doing it right’ or ‘This is stupid’. Just take those thoughts and place them on a leaf … when you notice yourself getting caught up in a thought, gently and compassionately return to imagining the stream and placing your thoughts on leaves … [allow 2 minutes to pass] Now you can let your awareness expand, and notice your breathing, the sensation of each inhale and exhale. Notice the contact your feet make with the floor. Notice the sounds around you. When you’re ready, you can open your eyes.

Questions to enhance engagement

✓ When do you think you’re most likely to get hooked on unhelpful thoughts?
✓ When this comes up for you, what might unhooking yourself and ‘stepping back’ look like?

7. Sitting with Emotions

Practice assignment review

You were asked in session 7 to practice sitting with a specific emotion. What emotion did you pick, and what was the experience like for you?

✓ Did not complete assignment: Let’s practice sitting with an emotion. What’s an uncomfortable emotion you feel right now, or maybe felt earlier today, that we can practice with? To start, close your eyes or find a place to fix your gaze on the floor. First acknowledge that emotion, notice it in a manner that accepts what is there. Now, carefully notice what it feels like to have this emotion right now. Attending to every detail with a sense of curiosity, as if you were experiencing it for the first time. Where do you feel the emotion? Stomach, head, shoulders, chest, etc… What sensations are associated with it? Tension, temperature, pit in stomach, nausea, etc… Take a breath and imagine
you are breathing into this emotion and where you feel it in your body… Take a few breaths in this way… As you continue breathing, imagine opening up around the feeling… Making space for the feeling and just allowing it to be there… If you feel an urge to fight or push it away, just acknowledge the urge without acting on it. Returning to breathing into the emotion. Start noticing other sensations in your body… The rise and fall of your chest/stomach as you breath… The sensations of your body contacting the chair…. Notice the sounds you can hear…. And opening your eyes to finish.

Questions to enhance engagement
✓ In what future situations might you want to try sitting with an emotion?
✓ What might get in the way of sitting with an emotion when a difficult emotion comes up for you?

8. Carrying Emotions with You

Practice assignment review
Your practice assignment from session 8 was to complete a goal that would require you to carry your emotions with you. What goal did you choose? How did it go?
✓ Did not complete assignment: What is an action you’d like to do today, but would find it difficult to do because of an emotion? Let’s plan for you to do at least a ‘lite’ version of this action right after our call (e.g., working on a procrastinated assignment for 10 minutes, instead of the full assignment), or shortly after our call if you have something coming right up afterwards. How will you respond to your ‘passengers’ as you do this action?

Questions to enhance engagement
✓ When might it be helpful to remember that you always have the choice to carry your emotions, instead of leaving them behind?
✓ What might choosing to carry your emotions look like?

9. How You Want to Act

Practice assignment review
You were asked to pick a value and bring it into an action. What value and action did you pick? How did it go?
✓ Did not complete assignment: What is a value you would like to bring into your actions today? So you would like to act [name adverb form of value; e.g., “compassionately” if value was compassion]. What might acting in line with that value look like as you go through the rest of your day?

Questions to enhance engagement
✓ How could you bring intention regarding your values to the action of using ACT Guide?
✓ How could you continue to bring intention regarding your values to your actions, even after you complete ACT Guide?
10. Setting Goals

*Practice assignment review*

Your practice assignment from session 10 was to work towards a SMART goal. What was your goal? How did it go?

✓ *Did not complete assignment:* What was the SMART goal you wrote for yourself in ACT Guide? What is one brief step toward that goal you can take immediately or shortly after this phone call? What will you measure to determine if you’ve made progress toward that goal? How will you measure this? For example, you could record your progress in a note on your phone.

*Questions to enhance engagement*

✓ What is a goal you often try to work towards where “should” statements often come up? For example, “I should be working out five times a week.”

✓ How could you modify this goal so that it is more oriented towards your values and what you want to be doing, rather than what you should be doing?

11. Making Commitments

*Practice assignment review*

You were asked in session 11 to make a commitment and work towards it. What did you do to work towards your commitment? How did it go?

✓ *Did not complete assignment:* What was the commitment you made while completing the ACT Guide module? Even if you didn’t actively do the practice assignment of working toward this commitment, can you think of how any of your actions throughout the work still served that commitment? What is something you can do immediately or shortly after this phone call that is in service of that commitment?

*Questions to enhance engagement*

✓ How might you remind yourself that your commitment is a whole-hearted choice, so that it doesn’t slip back into a “should”?

✓ Has the way you’ve thought about or chosen your actions changed since you made your commitment?

12. Returning to Commitments

*Practice assignment review*

Your practice assignment from session 12 was to continue working towards your commitment, noticing when you drifted from it, and recommitting even when the urge to fall into a ‘fail-give up’ pattern came up. Were you able to notice when you drifted from your commitment? How did recommitting go?

✓ *Did not complete assignment:* What was the commitment you chose to work on? What can you do to keep an eye out for when you start to drift from it, and resist the urge to fall into a ‘fail-give up’ pattern?

*Questions to enhance engagement*

✓ What might get in the way of maintaining your commitment over time?
Why is recommitting, even when you have the urge to give-up, important to you?

Exit call
This will be the last call you have with your participant, with the purpose of debriefing the participant, discussing how the participant plans to keep using what they learned, and as a reminder to complete the post-test survey they have received or will receive by email. If the participant hasn’t completed ACT Guide by now, you can additionally help them develop a plan for finishing the remaining modules without your support.

- What are some of the main takeaways the participant learned from ACT Guide?
- What parts of ACT Guide were less helpful, or didn’t work out? For example, maybe the practice assignments were difficult to remember to do, or maybe they were disappointed that ACT Guide addressed mental health from a general perspective instead of tackling their specific problem (e.g., anxiety, depression, OCD, PTSD, etc.).
  - Address any concerns that came up. If the participant was disappointed with any aspects of ACT Guide, you can refer the participant to other resources. You might direct them towards the USU Student Wellness webpage, where they can see what mental health services are available to them as a USU student (e.g., face-to-face therapy) or suggest trying a different self-help program (https://onemindpsyberguide.org/apps/).
- How does the participant plan to continue using the skills they learned in ACT Guide? Which skills might be most helpful, and for what scenarios? Are there any skills that the participant wishes to practice more?
- Thank the participant for their time in participating in the study, and remind them that if they complete the emailed post-test assessment survey they will receive a $10 gift-card.
- Ask the participant if they have any other questions, and wrap-up on a positive note with a hope instilling message such “It was great getting to know you over the past couple of months. I hope ACT Guide has helped give you the tools to live your best life!”

Weekly Coaching Text Messages

<table>
<thead>
<tr>
<th>Week</th>
<th>Planned Module(s)</th>
<th>Text coaching time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Module 1</td>
<td>Module 2</td>
</tr>
<tr>
<td>1</td>
<td>Welcome orientation</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1: Away moves</td>
<td>2: Your mind is like…</td>
</tr>
</tbody>
</table>
Coaching over text messages will be similar to coaching through phone calls, in that you’ll be communicating with a participant over a course of 8-10 weeks as they go through the ACT Guide program. However, the content of communication will be briefer. You will also have pre-written messages to use in order to decrease the time required to coach through text messages, given that coaching through text messages is intended to be a less resource-intensive modality for coaching as opposed to coaching over the phone.

The specific messages that you can simply copy and paste will be available in a separate pdf as well, so that you can easily pull up the pdf on your phone or computer, copy the message, and paste it to send it to the participant (https://bit.ly/2QkBxpK). The messages are additionally highlighted grey in this document.

If you have an Android, the app Google Messages can be used to send text messages from your computer, which may be easier for copying and pasting. If you have an iPhone and a Mac, iMessage can be used to send texts from your computer. If you will be sending text messages directly from your phone, it is recommended that the previous pdf link is saved to your home screen for easy access.

Welcome text message sequence

1. Introduce yourself

   ✓ Hi, my name is ________, and I’ll be your peer-support coach throughout the ACT Guide program. I’m an undergraduate at USU, and [state any other information you’d like to introduce yourself with, such as major, any leadership positions, etc.] Before we continue, take a moment to read through the following document that will explain a little more about coaching: https://bit.ly/3aPTTIz
   ✓ Once you finish reading, can you let me know if you have any questions about anything you read? It would also be great if you could tell me a little bit about yourself!

   [Wait for reply]

   ✓ Thanks [participant’s name], I’m so glad you decided to sign up for ACT Guide! I’ve used ACT Guide too and got a lot out of it, I’m so excited to help you get the most out of it too!
Now that you have an idea of how things will go for the next 10 weeks, I’d like to see if there is anything we can anticipate that might get in the way. Can think of anything that might keep you from using ACT Guide as planned?

- Address any concerns using problem-solving. Here are the most common concerns that may come up and how you might address them:

  - **Not having enough time/forgetting.** You can remind the participant that ACT Guide modules are only expected to take 20 to 40 minutes each and isn’t intended to be a time-consuming process. Scheduling out time and setting a reminder, such as putting it on their calendar, could help. If this is a significant concern, you can use the “Problem-solving barriers” steps listed in the “Addressing adherence” section below.

  - **Not feeling motivated to use the program.** You can tell the participation that motivational issues are normal, and that one solution might be to build motivation through promising themselves a reward for completing the module. If this sounds appealing to the participant, you can work with them to help them decide what they might use as a reward and ensure that this can be easily done (e.g., watching an episode of a show on Netflix might be a more realistic and immediate reward than going to the movie theatre).

  - **Feeling stressed, sad, anxious, or other difficult emotions.** You can remind the participant that these are the kind of feelings that ACT Guide is designed to help you work with. The skills you learn in ACT Guide can help you live your best life despite these difficult emotions. It might also be helpful to go over the strategy of turn “but” statements into “and” statements: “You may have a thought like ‘I want to use ACT Guide, but I feel stressed.’ What might happen if you modify this thought to “I want to use ACT Guide, and I feel stressed”?”

[Wait for reply]

- So that’s pretty much all I have for you today! Do you have any questions about anything we talked about?

[Wait for reply]

- Great! I won’t text you again until [day of the week you plan to text] next week to see if you’ve completed modules 1 and 2, but feel free to text me with any questions any time.

Once the welcome text sequence is completed, email Korena Klimczak at k.klimczak@aggiemail.usu.edu to let her know so that we can keep track of which participants have begun the coaching process and which ones haven’t.
**Weekly text messages**

Weekly texts provide accountability and can help participants apply what they learn in ACT Guide to other areas of their life. Follow the agenda listed below, copying and pasting messages in the “Module specific text messages” section to send to participants. Once initial conversations are started with the copy and pasted message, and the participant then answers, you can then answer back with your own written message.

However, keep conversations brief and do not extend the conversation more than necessary. Tailor the length of the conversation to the participants’ texting patterns. For example, if a participant usually takes over a day to respond, it may be more workable to keep the conversation as brief as possible even if there are opportunities for extending the conversation.

You should aside a time in the week to send your coaching text messages for that week, for example Monday mornings. This will allow your participants some consistency in when they can expect their check-in text, increasing accountability.

**Weekly coaching text agenda:**

1. **Ask about the module(s) the participant had planned to complete that week. Use the pre-written messages from the “Module specific text messages” section below.**
   - If the target for that week was two modules, copy and paste the message for the first module as directed above, but also adding in the second module. Do not add an additional question about the second module.
     - **EXAMPLE:** This week you planned on completing “Module 1: Away Moves” and “Module 2: Your Mind is Like…”, how did that go? Were you able to notice any ‘away moves’ in your own life?

2. **Address the participant’s response.**
   - Use affirmation to encourage continued use of the program, and validation to respond to the participant’s answer to the module specific questions.
     - If the answer to the module specific question was vague or unengaged, try offering your own response to the question to model what application of the idea looks like.
   - If the participant did not make progress, or struggled with making progress, refer to “Using ACT to Address Nonadherence”. Due to the brevity afforded by text messaging, use only problem solving and do not use choice point.

3. **Set expectations for next session (modules to be completed; day of the week you’ll be checking in next).**

4. **Record the text exchange in your log, including how many modules were completed.**
5. Upload the recorded text exchange as a PDF to Box. As soon as possible, delete the file from the text recording app as well the screenshots saved to your phone.

**Module specific text messages**
The following messages can be copy and pasted to coach participants through text messages. Responses to this initial message should be typed out manually, individualized to how the participant responds. See the separate “Example Text Coaching Transcripts” file for examples of how to execute coaching through text message.

1. **Away Moves**
   This week you planned on completing “Module 1: Away Moves”, how did that go? Were you able to notice any ‘away moves’ in your own life?

2. **Your Mind is Like…**
   Last time we talked about you completing “Module 2: Your Mind is Like…”, were you able to do it? How might viewing your mind like an assistant, computer, or sportscaster help you in the future?

3. **Your Values**
   How did working on “Module 3: Your Values” go? How might using ACT Guide be an action that fits in with your values?

4. **Finding Values**
   Did you get a chance to do “Module 4: Finding Values”? Are there any values that you would like to be living by, but haven’t been?

5. **Being Flexible**
   Were you able to do “Module 5: Being Flexible”? What happens when you react to your thoughts flexibly instead of rigidly?

6. **Stepping Back**
   Just checking in if you did “Module 6: Stepping Back”. If you did, how did it go? What thoughts did you notice yourself getting hooked on throughout the week?

7. **Sitting with Emotions**
   This week you planned on completing “Module 7: Sitting with Emotions”, how did that go? In what future situations might you want to try sitting with an emotion?

8. **Carrying Emotions with You**
   Last time we talked about you completing “Module 8: Carrying Emotions with You”, were you able to do it? Is there an upcoming situation where you could carry your emotions with you instead of leaving them behind?
9. How You Want to Act
How did working on “Module 9: How You Want to Act” go? How have you acted in line with one of your values this week?

10. Setting Goals
Did you get a chance to do “Module 10: Setting Goals”? What’s one thing you can do today to work towards your smart goal?

11. Making Commitments
Were you able to do “Module 11: Making Commitments”? What’s one thing you can do today in service of your commitment?

12. Returning to Commitments
Just checking in if you did “Module 12: Returning to Commitments”. If you did, how did it go? What do you think might get in the way of maintaining your commitment over time?

Exit text message sequence
This will be the last conversation you will have with your participant, with the purpose of debriefing the participant, discussing how the participant plans to keep using what they learned, and as a reminder to complete the post-test survey they have received or will receive by email. If the participant hasn’t completed ACT Guide by now, you can additionally help them develop a plan for finishing the remaining modules without your support. Below is an outline for the conversation, including messages you can copy and paste throughout the conversation. Supplement these pre-written messages with your own messages that are individualized to the participant’s responses.

✓ It’s been a whole 10 weeks since you first started ACT Guide! This means that your time in the study is coming to a close, and that this will be our last conversation together. The purpose of this last conversation is just to wrap up any loose ends and talk through your overall experience. One question I have for you is what parts of ACT Guide were less helpful? If I know what didn’t work for you, I can better understand if other resources might be a better fit for you.

- Concerns that may come up include practice assignments being too difficult to remember to do, or maybe being disappointed that ACT Guide addressed mental health from a general perspective instead of tackling their specific problem (e.g., anxiety, depression, OCD, PTSD, etc.).

- Address any concerns that came up. If the participant was disappointed with any aspects of ACT Guide, you can refer the participant to other resources. You might direct them towards the USU Student Wellness webpage, where they can see what mental health services are available to them as a USU student (e.g., face-to-face therapy) or suggest trying a different self-help program (https://onemindpsyberguide.org/apps/).
I’m also wondering about your plans going forward. How do you plan to continue using the skills you learned in ACT Guide? Which skills do you think will be most helpful for you, and in what scenarios? Are there any skills you’d like to work on?

Thanks for taking this time to talk all this over with me, and for participating in this study in general! I do want to remind you that there is one more part to this study. You should have either already received or be receiving soon an email with a link to a post-assessment survey. If you do the survey, you’ll receive a $10 gift-card! Before we say our goodbyes, do you have any questions for me?

It was great getting to know you over the past couple of months. I hope ACT Guide has helped give you the tools to live your best life!

Addressing Non-adherence

When participants fail to complete any modules of ACT Guide in a given week, it is important to address this in coaching. By using strategies informed by ACT principles to address nonadherence, you can use the content a participant is learning in ACT Guide to help get them back on track with program completion. Strategies discussed in the previous “Guidelines and Strategies for ACT Consistent Coaching” can be implemented when relevant to the participant’s non-adherence, but additional strategies will be described below. In addition to using ACT principles to discuss adherence, simple problem-solving can be helpful as well to address practicalities.

The Choice Point as a strategy for nonadherence

If a participant isn’t adhering to ACT Guide and you’re not sure what to do about it, briefly assess why. This can especially apply when the participant isn’t sure why they didn’t adhere or says that they simply forgot about it. Going through the Choice Point with your participant is one way to do this, which can give some insight as to whether it is internal mental experiences/being open (e.g., avoidance and/or cognitive fusion) or external behaviors/being engaged (e.g., values and/or committed action) that is keeping them from doing ACT Guide. With a better understanding of strengths and weaknesses in their psychological flexibility, you can then decide what strategies might be most relevant to employ, or if there is a specific module to recommend to the participant to complete next that speaks more to their current struggle. A different module should be recommended for completion if the participant hasn’t completed a module of ACT Guide in two weeks.
Figure 2. Choice Point diagram

The Choice Point

(https://www.actmindfully.com.au/upimages/Choice_Point_2.0_A_Brief_Overview_-_Russ_Harris_April_2017.pdf) can be used for a variety of scenarios with varying focus, which makes it a useful tool for assessing ACT Guide use specifically. It is typically executed through a simple drawn diagram, but since coaching is conducted either through phone calls or texts, you can substitute this by instead walking through the Choice Point verbally. It might be helpful to you though to fill out the Choice Point diagram based on the participant’s responses as they go along. Listed along with steps 6, 7, 8, and 9 are recommendations on actions to take if this happens to be a weakness. You do not have to do all of the recommendations, but rather treat these as possible moves you can make based on how the exercise goes. You may also want to keep an eye out for strengths, and capitalize on these if relevant (e.g., emphasizing the connection between ACT Guide and strongly held values). These recommendations should be executed after completion of the exercise. Note that while specific steps are listed in a relatively procedural manner, the Choice Point may alternatively be delivered in a more organic, conversational pattern. Use the approach that suits your own style of coaching.

1. **Discuss whether the participant wants to do ACT Guide or not. Choice Point is not appropriate if the participant no longer wants to do ACT Guide.** “So you haven’t been working on ACT Guide lately, and that’s totally okay! As your peer-support coach, my job isn’t to make you do ACT Guide, but to support you if you choose to do ACT Guide. How have you been feeling about ACT Guide, is this still something you’d like to do?”
2. **Invite the participant into the exercise.** “Sounds great! In that case, would you be okay with running through an exercise together that might help?”

3. **Introduce the concept of towards moves.** “All day long, humans do things. Cooking dinner, playing with the kids, watching movies… We’re always doing something, even if it’s just sleeping in bed. Now some thing we do move us towards the life we want to live, acting effectively, behaving like the sort of person we want to be, and we call these ‘towards moves.’ Can you think of any towards moves in your own life?”

4. **Introduce the concept of away moves.** “Now some things we do move us away from the life we want to live, like acting ineffectively, behaving unlike the sort of person we want to be, and we call these ‘away moves.’ What are some away moves you notice coming up in your own life?”

5. **Explain the Choice Point.** “When life is easy, it’s usually fairly easy for us to choose towards moves and do the things that make life better in the long term. But unfortunately, life isn’t that easy most of the time, and unhelpful thoughts and feelings arise. It’s when these unhelpful thoughts and feelings hook us, control us, that we start doing all those ‘away moves.’ However, we always have the choice to respond differently instead, to unhook and do towards moves. In any given situation, you have a choice in what action you take, whether that action is an away move or a toward move. These are called choice points.”

6. **Explain the Choice Point in relation to ACT Guide.** “One choice point you may have been facing lately is using ACT Guide. It sounds like you’re in this situation of wanting to use ACT Guide but haven’t been doing it regardless. Is that right?”

7. **Ask about thoughts and feelings to gauge fusion/defusion.** “So when you think about using ACT Guide, or start using ACT Guide, what thoughts and feelings come up for you?”
   a.) If the participant seems too fused with their feelings to engage with ACT Guide, you can respond to their unhelpful thoughts with defused language (see ACT guideline 1 above).
   b.) Recommend *Module 6: Stepping back* and explain why you think it might be helpful.

8. **Ask about away moves to gauge avoidance/acceptance.** “What away moves do you do when faced with the choice of using ACT Guide? In other words, when you think about using ACT Guide but then don’t, what do you end up doing instead?”
   a.) Ask the participant how this away move(s) has worked in the short-term and in the long-term.
b.) Ask the participant if they would be willing to feel these uncomfortable emotions and use ACT Guide at the same time, in order to elicit acceptance. You can try something like “It can feel like this uncomfortable or difficult feeling is just going to keep getting worse. Usually they are more like waves that come and go. And people often find once they’ve approached this hard feeling, it’s easier to stick with it. Would you be up for trying to do ACT Guide AND feel bad as an experiment to see what happens?”

c.) Recommend *Module 7: Sitting with emotions* and explain why you think it might be helpful.

9. **Ask about values.** “Let’s shift gears a little. I already know you want to use ACT Guide; why does doing ACT Guide matter to you? What values are motivating you?

   a.) If the participant struggles with answering this, for example being unable to list more than one or two thing, you can help them clarify their values through the tombstone exercise. Have the participant imagine that their tombstone is being prepared and ask what they would want to have it say, reminding them that this is how they’re going to be remembered. The tombstone should start with “Here lies [participant’s name], they…” You can then connect what they say to possible values (e.g., “Here lies John, he was a loving father.” could be connected to valuing family).

   b.) Recommend *Module 3: Your values* and explain why you think it might be helpful.

10. **Ask about planned behaviors to gauge committed action.** “And so what steps could you take towards using ACT Guide? This is where towards moves come in.”

   a). If or once values have been identified, you can connect using ACT Guide to the participant’s values (see ACT guideline 3 above).

   b.) Recommend *Module 9: How you want to act* and explain why you think it might be helpful.

11. **Summarize the exercise.** EXAMPLE: “It sounds like this choice point of whether or not to use ACT Guide sometimes presents itself. While doing ACT Guide would be a towards move for you, you tend to get hooked by thoughts like “I don’t have enough time” or feelings like guilt over being slightly behind schedule. These thoughts are small and happen more in the background for you, but as a result, it feels too overwhelming to do ACT Guide and you choose to an away move like scrolling through Facebook instead. You still really want to do ACT Guide though, because it can help you get back to spending time with friends and family again. You recognize that setting aside time on your calendar might help. Does that sound right?”

12. **Exercise the closing recommendations.** EXAMPLE: “Okay, so based on all that it’s sounding like these unhelpful thoughts and feelings that come up when you
think about ACT Guide are small, but have been having a big impact on your behavior, since they lead you to do an away move instead of ACT Guide. That totally makes sense though, I mean you already have a lot on your plate so adding ACT Guide on top of that sounds really difficult. It might even seem like doing ACT Guide isn’t even an option. How do you feel about doing a little exercise with me that might help open up your options next time you’re faced with that choice point? [conduct sitting with emotions exercise] Next time you’re at the choice point of whether or not to use ACT Guide, such as when you see a reminder to use it, try this out and see if it helps.

Any of the questions in steps 7, 8, 9, or 10 can be probed further if it is helpful to assessing the participants functioning in the corresponding facet of psychological flexibility. If the participant struggles with coming up with an answer, or answers seem “canned” or to lack vitality (e.g., “I guess studying…” in response to asking about things that are important to them), this area may be a weakness, and so it might be helpful to execute one of the corresponding recommendations. The area might also be a weakness if answers seem distressing or excessively avoidant/fused. If none of the areas seem to be a weakness, don’t push hard on “finding” a weakness. You can tell the participant that it sounds like things are going well and move on to briefly problem-solving barriers.

**Problem-solving barriers**

Addressing practical barriers to using ACT Guide can be helpful, especially if the participant isn’t adhering because they haven’t made it a priority if they’re doing well without it. Use the following steps to help participants address practical barriers to using ACT Guide, such as not having enough time.

1. **Ask what barriers have gotten in the way of using ACT Guide.** The most common one that will come up is “I was too busy” or “I forgot”. If the barrier is more psychological than practical, such as “I felt too anxious to use it”, using the Choice Point and guidelines for ACT consistent coaching might make more sense than problem-solving. However, problem-solving could still be relevant, for example helping them schedule a time when anxiety is least likely to get in the way.

2. **Schedule a time for the participant to use ACT Guide that works around this barrier.** For example, if a barrier is that they don’t feel comfortable using ACT Guide around their family, you can help them schedule a time when they anticipate being alone. If the main concern was that they didn’t have enough time, you can ask if it would be more helpful to do the session in small parts, so that they only have to put in 10 minutes a day, as opposed to doing a whole module all at once. While it is recommended that participants complete modules in one sitting to get the most out of the program, it is more important that the participant is given the opportunity to use ACT Guide in a way that works best for them. It is also likely that once participants actually sit down and start using ACT Guide, they become less fused with the thought “I don’t have enough time” and end up completing the module in one sitting.
One useful strategy for scheduling is to pair using ACT Guide with an activity that is already integrated into their daily routines. For example, you might suggest using ACT Guide right after breakfast, during a lunch break, or right when they get home from work. Having the participant describe an average day for them could be helpful for identifying an “opening” in their schedule to make time for ACT Guide.

3. Help the participant set up a reminder for using ACT Guide at the determined time. Asking the participant how they usually remember to do things they’ve planned, like attend class or plans with friends, can be helpful. This can take the form of putting it in their calendar or setting an alarm on their phone for example.

When a participant misses a call/text message
If a participant misses a phone coaching appointment or hasn’t replied to a text message within the past four days, you should follow-up to check-in and remind the participant about the missed call or text.
- If the participant is assigned to phone coaching, send a text message to reschedule the appointment.
- If the participant is assigned to coaching through text messaging, send a text message such as “Hi! I just wanted to remind you about this” after four days of not having heard back.

Regardless of whether the participant is receiving coaching through phone calls or text messaging, do not do two coaching sessions/conversations within a single week to “catch up”. The two flexibility weeks integrated into the schedule are meant to accommodate for this. If a participant completes more than two modules in a week in order to catch up, just cover content in your session from the two modules they are most interested in discussing or have most recently completed if they have no preference.

When a participant ceases communication
It is possible that a participant will stop answering calls or text messages all together. As a coach, the only thing that can be done is to ask how you can better support them, and let them know that they are free to continue receiving coaching at any time as long as it is within 10 weeks of them having begun the study. Regardless of whether the participant is assigned to the phone call coaching or text messaging coaching condition, this should be communicated through text message as opposed to voicemail, as text messaging is generally more accessible to college students and gives the participant to text back their thoughts (e.g., if they are no longer interested in study) without the pressure of calling back to communicate this. However, if the participant is assigned to the phone call condition, do not engage in/switch to coaching through text messaging.

The following message should be used to follow-up with a participant who has ceased communication (has not contacted you back within the past two weeks):
“Hi [participant’s name], I hope you’ve been doing well! I wanted to check-in and see how things are going since I haven’t heard from you in a while. If you’re no longer interested in coaching, that is completely up to you, but it would be helpful to hear back if that’s the case or if anything’s changed. If there is anything I can do to better support you as you work through ACT Guide, just let me know. I am flexible and we can keep our coaching conversations to just brief check-ins that are only a few minutes long if that would be more helpful to you. Your participation in the study ends on [date of study completion, 10 weeks after beginning participation], so feel free to get back in touch with me any time before then.”

If the participant does express interest in receiving briefer coaching, coaching should then be limited to you simply asking if they had completed any modules. If they did, reinforce this. If not, briefly problem-solve barriers to completion. You can then end with asking if they have any questions.

When a participant loses interest or wants to drop out
It is important to keep in mind that all aspects of being a participant are voluntary, including being a participant all together. The process to stop any part of participation should be made as easy as possible for the participant, and participants should never feel pressured to continue. Following are some brief steps to take in situations where participants lose interest in an aspect of the study.

The participant no longer wants coaching or ACT Guide
If a participant no longer wants to receive coaching in either form (phone call or text messages), assure the participant that this is completely fine, and that they will no longer receive communication from you. Let them know that they are still more than welcome to continue using ACT Guide. Ask if they would still be interested in filling out the final assessment survey once they reach their 10 week mark, and let them know that they are still eligible to receive the $10 reward for completing this survey even if they have ceased using ACT Guide or coaching services. If they are not interested in filling out the final assessment survey, see procedures below for dropping out.

These same steps apply if they say they are no longer interested in doing ACT Guide, just let them know that they will no longer receive communication from you, that they are free to continue using ACT Guide if they change their mind at any point, and ask if they would still like to do the final assessment survey. After the call or text message exchange, note their decision regarding coaching/ACT Guide in your participant tracking log.

The participant wants to drop out of the study
To drop out of the study means that the participant would like to no longer receive any assessment surveys. If the participant expresses this to you, let them know that you will notify your supervisor and they will not receive any more communications regarding the study. Let them know that they are more than welcome to continue using ACT Guide
even if they drop out of the study. Notify Korena Klimczak at k.klimczak@aggiemail.usu.edu about the drop out after the conversation with the participant has ended.